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Vol. XXX No. 1 (January 2016)

**CONTENTS**

**ARTICLES**

India's National Higher Education Policy Recommendations since  
Independence: An Ontological Analysis 5  
*Arkalgud Ramaprasad, Chetan B. Singai, Tanveer Hasan,  
Thant Syn and Mohan Thirumalai*

Evidences of Linkage between Secondary Education and Socio-Economic  
Outcomes in India 25  
*Charu Jain and Narayan Prasad*

Education and Earnings: A Study of Kenya 45  
*P.K. Gupta and Abdirahman A. Issack*

**SPECIAL LECTURE**

Abul Kalam Azad: An Epitome of Culture 59  
*Kapila Vatsyayan*

**RESEARCH ABSTRACT**

Assessment, Curriculum, Pedagogy: Towards Conceptualising an Alternative  
Framework of Assessment 67  
*Garima Bansal*

**BOOK REVIEWS (See overleaf)** 71

## **BOOK REVIEWS**

Using the results of a National Assessment of Educational Achievement (Thomas Kellaghan, Vincent Greaney & Scott T. Murray) <i>Amruth G. Kumar</i>	71
Fixing the Broken Promise of Education for All: Findings from the Global Initiative on Out-of-School Children (Sheena Bell, Friedrich Huebler, Albert Motivans, Hiroyuki Hattori, Mark Waltham and Angela Hawke) <i>Madhumita Bandyopadhyay</i>	73
Principal of Distance Education (I. Sundar) <i>Ashok K. Gaba</i>	76
Drawing the Line: Parental Informal Payments for Education Across Eurasia (Education Support Program/Network of Education Policy Centers) <i>V. Kalyan Shankar</i>	79
Committee on Corporate Participation in Higher Education (Report of Narayana Murthy Committee Recommendations) <i>G. Kamalakar</i>	82

# India's National Higher Education Policy Recommendations since Independence

## — An Ontological Analysis

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Arkalgud Ramaprasad\*  
Chetan B. Singai  
Tanveer Hasan  
Thant Syn  
Mohan Thirumalai

### Abstract

We present an ontological analysis of India's National Higher Education Policy recommendations since its independence. The ontology provides a systemic framework for the analysis. The analysis systematically highlights the aspects that have been heavily emphasized, lightly emphasized, and not emphasized. It highlights the dominant focus of the recommendations on governance, personnel, and regulation, secondary emphasis on funding, infrastructure, and location, and tertiary emphasis on information and temporal policies. It concludes with a critique of the recently proposed Ministry of Human Resource Development's (MHRD) themes for formulating new policies and proposes a framework of logically developing the themes.

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## Introduction

Children At a time when India is seeking to assess and redirect its national higher education policies (NHEP)(Ministry of Human Resource Development, 2015; Tilak, 2012), it would be appropriate to study the landscape of the recommendations on which its policies have been based since independence. A systematic analysis of the past recommendations can provide feedback on the historical emphases, lack of emphases, and oversights of the consequent policies, and hence help rebalance the policies in the future. A systemic analysis of the recommendations can also help put the foundations of the past policies in perspective and avoid selective focus on a few areas to the exclusion of others. Such mapping can help avoid errors of commission – continuing to do more of the same despite lack of results, and errors of omission – continuing to overlook other ways of achieving the goals.

A review of the recent “Themes and questions for Policy Consultation on Higher Education” (Ministry of Human Resource Development, 2015) does not surface a coherent underlying framework (Kumkum, 2015). No underlying logic is evident – the list appears to be ad hoc. There is an urgent need for a comprehensive framework, for without one neither the retrospective analysis nor the prospective projection can be systemic or systematic. The policy makers will continue to replay the story of the five blind men and the elephant – each grasping a segment of the problem and calling it the whole, none having the vision to see the whole.

Many authors have used ontological analysis to conceptualize a world-class university system for India(Ramaprasad, 2011), analyze the states-of-the-aspiration of the higher education institutions in Karnataka, India (Hasan, Ramaprasad, & Singai, 2014)and Chile(Coronado, La Paz, Ramaprasad, & Syn, 2015), analyze the state-of-the-realization of the aspirations of higher education institutions in Karnataka, India(Ramaprasad, Niranjana, Hasan, Singai, & Dhanaraju, 2012), and empowering a state’s development of a knowledge society (Ramaprasad & Sridhar, 2011). The method itself is described by Ramaprasad and Syn (2015) – they apply it to meta-analyze and synthesize research in a domain. Here we apply it to meta-analyze and synthesize policy recommendations in higher education.

In this paper we present an ontology for analyzing India’s NHEP recommendations, drawing upon earlier research in the domain of higher education and knowledge society. An ontology is the logic of being as opposed to an epistemology which is the logic of knowing. It represents the conceptualization of a domain (Gruber, 1995, 2008). We will present the construction and underlying logic of the NHEP ontology, and discuss how it can make the higher education policies ‘elephant’ visible to the policy makers and other stakeholders. Next, we will present a mapping of all the key post-Independence higher education policy recommendations on to the ontology, and highlight what they have emphasized heavily, lightly, and not at all. Thus, we will articulate the gaps – both positive (overemphasis) and negative (under emphasis) – in the recommendations. We argue that these gaps should be the focus of the future higher education policies. Lastly, we will discuss how the ontological framework can be used to articulate the key themes and questions systematically and systemically.

## Ontology of National Higher Education Policies (NHEP)

In the following, we present the construction of the ontology of NHEP (Figure 1). The terms in the ontology are defined with examples in the glossary (Table 1). The ontology will serve as a lens to map all the post-Independence higher education policy recommendations.

We have deconstructed Higher Education in NHEP into three dimensions – its Level, Focus, and Entity. (Note: We capitalize all the dimensions and elements of the ontology when referring to them individually, to distinguish them from the common usage of the same terms. We will not capitalize them when they are concatenated to form a phrase/sentence representing a fragment/component of the object under study.) Each dimension is articulated by a taxonomy and represented by a column. The taxonomies are based on common usage and related bodies of knowledge. They may be extended by adding categories, reduced by eliminating categories, refined by adding sub-categories, and coarsened by combining categories/sub-categories. Thus, one can zoom-in or -out to study the policies at different levels of granularity.

FIGURE 1

### Ontology of National Higher Education Policy

Policy	Objective	Higher Education				
		Level	Focus	Entity	Outcome	
Funding	Accessibility	Baccalaureate	Sciences	Institutes	Scientific	
Personnel	Geographical	Masters	Professions	National	Technical	
Infrastructural	Physical	Doctoral	Technical	Regional	Economic	
Informational	Online	Post-doctoral	Medical	Universities	Social	
Temporal	Equity	Diploma	Legal	State	Cultural	
Locational	Regional	Continuing	Vocations	Deemed		
Governance	Social		Fine Arts	Private		
Regulatory	Economic		Humanities	Colleges		
	Gender		Languages	Autonomous		
	Ability		Social Sciences	Affiliated		
	Excellence					
	Research					
	Teaching					
	Service					

The Level of Higher Education that is the focus of a policy may be Baccalaureate, Masters, Doctoral, Post-doctoral, Diploma, Continuing, or a combination of these. Similarly, the focus of a Higher Education policy may be the Sciences, Professions (Technical, Medical, Legal), Vocations, Fine Arts, Humanities, Social Sciences, or a combination of these. The entities delivering Higher Education, and hence the object of a policy, may be Institutes (National, Regional), Universities (State, Deemed, Private), Colleges (Autonomous, Affiliated), or a combination of these.

Thus a Higher Education policy may focus on a few or many of the 336 (6\*8\*7) possible combinations of Level x Focus x Entity. It may focus on: (a) baccalaureate education in the sciences by national institutes, (b) continuing education in the vocations by autonomous colleges, and (c) any of the 334 other possible combinations. Some of these logically

constructed combinations may be instantiated frequently in practice, some infrequently, and others not at all. For example, only recently national institutes like the Indian Institute of Science, Bengaluru have introduced baccalaureate education in the sciences. On the other hand, given the present economics of higher education, continuous education in the vocations by autonomous colleges may not be feasible and hence unrealized.

TABLE 1  
Glossary of National Higher Education Policy Ontology

<b>Policy</b>	<b>National policy on higher education</b>
Funding	Policies on capital and operational funding for higher education. E.g.: student loans, subsidies, scholarships, and grants (planned and non-planned).
Personnel	Policies on recruitment, training, promotion, etc. of higher education personnel. E.g.: Academic Performance Index (API), National Eligibility Test (NET), Faculty Refresher Course.
Infrastructural	Policies on physical, technological, and other infrastructure for higher education.
Informational	Policies on information management in higher education. E.g.: acquisition, standardization, and distribution.
Temporal	Time-based policies for higher education. E.g.: time-frames for objectives, UGC - annual plans.
Locational	Location-based policies for higher education. E.g.: location of institutions to achieve objectives, rural universities/colleges.
Governance	Governance policies for higher education. E.g.: autonomy, accountability and management.
Regulatory	Regulatory policies for higher education. E.g.: accreditation, assessment, and admission policies by agencies such as UGC, AICTE, and NAAC.
<b>Objective</b>	<b>The objectives of higher education</b>
Accessibility	The accessibility of higher education to the population. E.g.: Gross Enrollment Ratio (GER).
Geographical	The geographical accessibility of higher education institutions. E.g.: proximity and connectivity.
Physical	The physical accessibility of higher education institutions. E.g.: disabled access.
Online	The online accessibility of higher education institutions. E.g.: online connectivity and programs.
Equity	The equitable distribution of higher education in the population.
Regional	Equitable distribution across geographical regions.
Social	Equitable distribution across social groups.
Economic	Equitable distribution across economic groups.
Gender	Equitable distribution by gender.
Ability	Equitable distribution by ability.
Excellence	Excellence of higher education.
Research	Excellence in research. E.g.: publications, grants, and patents.
Teaching	Excellence in teaching. E.g.: curriculum development, teaching methods, and learning assessment.

*Table Contd...*



Service	Excellence in service. E.g.: service to the community, the profession, and the institution.
<b>Higher Education</b>	<b>All post-secondary education</b>
<b>Level</b>	<b>The level of higher education</b>
Baccalaureate	Programs leading to a bachelor's degree. E.g.: BA, BSc, BE, and BEd.
Masters	Programs leading to a master's degree. E.g.: MA, MBA, MSc, and MEd.
Doctoral	Programs leading to a doctoral degree. E.g.: PhD, DBA, JD, and DSc.
Post-doctoral	Programs subsequent to a doctoral degree. E.g.: post-doctoral research and internship.
Diploma	Non-degree programs, usually shorter, which offer a certificate or diploma. E.g.: in nursing.
Continuing	Continuing programs at different levels and of varying duration. E.g.: medical continuing education.
<b>Focus</b>	<b>The disciplinary focus of the higher education program</b>
Sciences	The basic sciences. E.g.: physics, chemistry, mathematics, and biology.
Professions	The applied professions. E.g.: engineering, medicine, and business.
Technical	The technical professions. E.g.: engineering and engineering-related.
Medical	The medical professions. E.g.: health and healthcare related.
Vocations	Programs for skill development. E.g.: cardiac equipment specialist.
Fine Arts	Programs focused on the arts. E.g.: music, painting, and sculpture.
Humanities	Programs focused on the humanities. E.g.: philosophy, literature, and history.
Languages	Programs focused on languages.
Social Sciences	Programs focused on the social sciences. E.g.: sociology, psychology,
<b>Entity</b>	<b>The entity delivering higher education</b>
Institutes	Specialized institutions focused primarily on research on a particular subject.
National	Institutes set up to draw people from across the country and address nationally important problems.
Regional	Institutes set up to draw people from across the region and address regionally important problems.
Universities	Traditional institutions of higher education.
State	Universities set by the act of the state legislature.
Deemed	Institutions set-up per Section 3 of the UGC Act.
Private	Universities sponsored by private groups, trusts, etc. and set-up by an act of the state legislature.
Colleges	Institutions responsible for delivering the education to pre-degree, graduate and post-graduate courses.

*Table Contd...*

India's National Higher Education Policy Recommendations since Independence

Autonomous	Colleges which are independent from a university.
Affiliated	Colleges affiliated to a university.
<b>Policy Outcome</b>	<b>The expected outcome of higher education</b>
Scientific	The scientific advancement of the country.
Technical	The technical advancement of the country.
Economic	The economic advancement of the country.
Social	The social advancement of the country.
Cultural	The cultural advancement of the country.

The focus of a Policy on higher education may be Funding, Personnel, Infrastructure, Information, Time, Location, Governance, Regulation, or a combination of all of these. The Objectives of these policies may be to improve Accessibility, Equity, and Excellence of higher education. These have been the dominant objectives of NHEP historically and now. At a second level of detail: Accessibility may be Geographical, Physical, and Online; Equity may be based on Region, Social class, Economic background, Gender, and Ability; Excellence may be in Research, Teaching, and Service. There are thus 88 (8\*11) possible combinations of Policy focus and Objectives. Some of the 88 are: (a) governance for excellence-research, (b) funding for accessibility-online, and (c) regulation for equity-gender.

The Outcomes of higher education for the country are broadly classified as Scientific, Technical, Economic, Social, and Cultural development. All of them are important for the development of the nation and are part of the common development goals of a knowledge society (Ramaprasad & Sridhar, 2011).

The ontology of NHEP is a combination of the parts described earlier. These parts are arranged such that reading left to right, concatenating an element from each column in conjunction with the connecting words/phrases forms a natural English sentence. There are 147,840 (336\*88\*5) sentences encapsulated in the ontology – each of which can potentially be a component of the NHEP. Thus, the ontology deconstructs the combinatorial complexity of NHEP and represents it parsimoniously. It makes visible all the possibilities very concisely – sequentially enumerating all the 147,480 logical components would require hundreds of pages. It very systematically represents the logic of the higher education system.

But all the potential components may not be instantiated in a policy. Some components may be instantiated frequently – emphasized heavily. Some may be instantiated infrequently – emphasized lightly. Some may not be instantiated at all – not emphasized, either because they have been overlooked or are infeasible.

The following are three illustrative components of NHEP logically constructed from the ontology:

- Funding policy for accessibility of baccalaureate education in the sciences by institutes for scientific development. This may be a policy to provide additional funding for poor, rural students interested in advanced scientific research (scientific development) to pursue baccalaureate degrees in the national and regional institutes.
- Governance policy on equity-economic for doctoral education in professions-technical by universities-state for economic development. This may be a policy to provide state

- universities autonomy to recruit doctoral students from poor economic backgrounds into programs in the technical professions to promote economic development.
- Regulatory policy for excellence-research in post-doctoral education in the social sciences by institutes-regional for social development. This may be policies on assessment of research in the social sciences for social development by regional institutes.

In the following we will present the mapping of India's NHEP recommendations post-Independence and highlight the areas of heavy, light, and no emphasis.

## Key National Higher Education Policy Recommendations

The present paper is based on an analysis of the policy recommendations of the 28 key reports which form the foundation of the NHEP policies from 1947 to the present. The operational policies are formulated by the Ministry of Human Resource Development (MHRD), University Grants Commission (UGC), statutory bodies/agencies such as All India Council for Technical Education (AICTE) and Bar Council of India (BCI), the two accrediting institutions (National Board of Accreditation (NBA) established by AICTE and National Assessment and Accreditation Council (NAAC) established by UGC), and specific ministries such as the Ministry of Shipping for the Indian Maritime University. The focus of this paper is on the policy recommendations of the 28 reports and not the consequent operational policies of the Government of India ministries, regulatory agencies, and accrediting bodies.

The reports we analyzed are listed in Table 2. They cover the population of post-Independence NHEP recommendations. There are 15 reports from 1947-1989 and 13 later. We will present a comprehensive analysis of the policy recommendations of these 28 reports and of changes between the two periods.

## Mapping the Policy Recommendations

We mapped the policy recommendations of the 28 reports onto the ontology as follows. One of the authors, a doctoral student in higher education in India who is familiar with the history of India's NHEP, collated the links to and summaries of all the 28 reports. Another author customized an Excel spreadsheet coding tool he has developed for the ontology and the 28 reports. The higher education doctoral student coded the recommendations of each of the 28 reports onto the ontology. Twenty reports have been coded on the basis of the full document, eight on the basis of their summary. The coding is binary – whether a policy recommendation covers an element or not. It is not scaled. The coding was reviewed and modified by a second author (a doctoral student in English, but very familiar with NHEP), and finalized by consensus between the two. These data were analyzed and the following visualizations (ontological maps) developed by a third author of the paper.

TABLE 2

**List of Key National Higher Education Policy Reports**

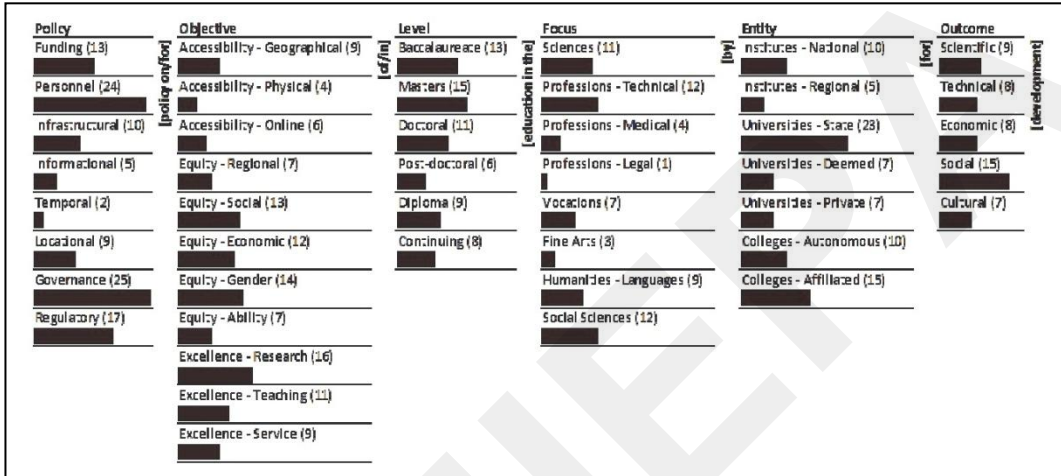
<i>1947-1989 (n=15)</i>	<i>1990-Present (n=13)</i>
<ul style="list-style-type: none"> <li>• The University Education Commission of 1948/Dr. Radhakrishna Commission (1948)</li> <li>• Committee on Higher Education for Rural Areas, Rural Institutions Shri K. L. Shrimali Committee (1954)</li> <li>• The National Committee on Women's Education (1958)</li> <li>• Review Committee on Education/Saiyidin Commission (1960)</li> <li>• Kothari Committee on Model Act for Universities (1961)</li> <li>• Education Commission or Kothari Commission (1964-66)</li> <li>• Committee of Members of Parliament on Education (1967)</li> <li>• National Policy on Education (1968)</li> <li>• Committee on Governance of Universities and Colleges (1969)</li> <li>• Gajendragadkar Committee on Governance of Universities/Colleges (1971)</li> <li>• Towards A Socially Relevant Legal Education (UGC) (1975-77)</li> <li>• Report of The Committee To Enquire Into The Working of Central Universities (1984)</li> <li>• National Policy on Education (1986)</li> <li>• Report of the Expert Committee on the Minimum Qualifications And Workload Etc. For Librarians And Directors of Physical Education In Universities &amp; Colleges (1987)</li> <li>• Report of The Taskforce On Code of Professional Ethics For University &amp; College Teachers (1989)</li> </ul>	<ul style="list-style-type: none"> <li>• Gnanam Commission on 'Alternate Models of Management'/'New Education Management' in Higher Education (1990)</li> <li>• National Policy on Education (Programme of Action) (1992)</li> <li>• Justice Punnaiah Committee report on UGC Funding of Institutions of Higher Education (1992-1993)</li> <li>• Ramlal Parik Committee for reforms in appointment of Vice-Chancellors' in Indian Universities (1993)</li> <li>• UGC Commonwealth Secretariat Workshop On Women And Management In Higher Education (1997)</li> <li>• Report of the Committee to Curb the Menace of Ragging in Universities/Educational Institutions (1999)</li> <li>• CABE report on Autonomy in Higher Education, MHRD, GOI (2005)</li> <li>• The National Knowledge Commission (NKC) recommendations on Higher Education (2006)</li> <li>• The Yashpal Committee Report/Committee to Advise on Renovation and Rejuvenation of Higher Education (2008)</li> <li>• Indian Institutes of Management (IIMs) Review Committee, MHRD, GoI (2008)</li> <li>• Action Plan for Academic and Administrative Reforms (2009)</li> <li>• Recommendations on the Guidelines for Implementation of Programmes and Schemes under Scheduled Castes Sub Plan (SCSP) and Tribal Sub Plan (TSP) in the Ministry of Human Resource Development (2010)</li> <li>• Rashtriya Uchathar Shiksha Abhiyan (RUSA) (2013)</li> </ul>

**Results – Ontological Map**

We present an ontological map of the policy recommendations of the 28 reports in Figure 2. The number in parentheses adjacent to each element of the ontology shows the number of reports covering it. The length of the bar below is proportional to the number and helps visualize its relative emphasis in NHEP. Thus, for example, the recommendations of 24 reports cover Personnel whereas only 3 focus on Fine Arts.

The policy recommendations cover all the elements with different emphases. The dominant focus of the Policy recommendations is on Governance (25), Personnel (24), and Regulatory (17); the least focus is on Temporal (2), Informational (5), and Locational (9).

FIGURE 2  
Ontological Map of National Higher Education Policy Recommendations Monads



The dominant focus of the Objectives is on Research Excellence (16), Gender Equity (14), Social Equity (13), and Teaching Excellence (11); the least focus is on Physical Accessibility (4), Regional Equity (7), and Ability Equity (7).

The Masters (15) and Baccalaureate (13) levels are the most emphasized, with Doctoral (11) close behind. Post-doctoral (6), Continuing (8), and Diploma (9) are the least emphasized.

Among the Focus Professional-Technical (12), Social Sciences (12), and Sciences (11) education are the most emphasized. Professions-Legal (1), and Fine Arts (3), and Professions-Medical (4) are the least emphasized.

Among Entities, State Universities (23) get the greatest attention followed by Affiliated Colleges (19). Institutes-Regional (5), Universities-Deemed (7), and Universities-Private (7) get the least attention. Autonomous Colleges (10) and National Institutes (10) are in between.

Last, in Outcomes, Social development is dominant (15). Cultural (7), Technical (8), Economic (8), and Scientific (9) development have similar but secondary emphasis.

The ontological map can be paraphrased at different levels of detail. A sentence concatenated from the most frequent element(s) – more than one in case of a tie – from each column will paraphrase the core thrust of the recommendations very narrowly. A sentence concatenated from the two most frequent elements will paraphrase the logic more broadly, and so on. Such a summary assumes equal weighting of all recommendations. We list the core logic at three levels of granularity below. The terms in square braces are the elements of the ontology. Multiple elements within a pair of braces are in descending order of their frequency in the ontological map.

Level 1: [Governance] policy on/for excellence in [research] of/in [masters'] education in the [professions-technical, social sciences] by [universities-state] for [social] development.

Level 2: [Governance, personnel] policy on/for [excellence-research, equity-gender] of/in [masters', baccalaureate] education in the [technical professions, social sciences, sciences] by [universities-state, colleges-affiliated] for [social] development.

Level 3: [Governance, personnel, regulatory] policies for [excellence-research, equity-gender, equity-social] of [masters, baccalaureate, doctoral] education in the [professions-technical, social sciences, sciences, humanities-languages] by [universities-state, colleges-affiliated, colleges-autonomous, institutes-national] for [social, scientific, technical, economic] development.

Thus, the dominant emphasis of NHEP recommendations post-Independence is on social development via state universities, affiliated colleges, national institutes, and autonomous colleges. The other forms of development [scientific, technical, economic, and cultural] are emphasized but are secondary to social development. Similarly, the emphasis on non-State universities [deemed, private] and regional institutes is secondary. Further, the emphasis is on the masters, baccalaureate, and doctoral levels and not as much on the post-doctoral, continuing, and diploma levels. The heavy emphasis on the technical professions, social sciences, and sciences perhaps reveals a belief that these disciplines will advance social development strongly. The corresponding lack of emphasis on vocations and diplomas may also reflect a belief in the value of higher education for its own sake, and not as an instrument of employment. The limited emphasis on fine arts is puzzling, since cultural development ranks on par with all, but social development, governance and personnel policies are seen as the primary instruments of achieving the various objectives and the final outcomes; regulation, funding, and infrastructure are seen as the secondary instruments. Informational and temporal policies seem to play a relatively small – that may be the Achilles heel of NHEP. Their effectiveness may be hindered by the lack of good information and time-bound targets. Amongst the objectives, concerns for excellence and equity appear to be on par with each other, with accessibility next in order. The virtually equal concern for equity and excellence is likely a source of tension in the policies – perhaps with the dominant emphasis on social development equity may trump excellence.

We generated separate maps for pre- and post-1990 to highlight the changes between the two periods. The year 1990 was a turning point in NHEP. There was a significant shift in the priorities of higher education due to political and economic changes. Although the overall profiles for the two periods are similar, there are many noticeable differences. These differences likely reflect the shift in thinking about NHEP. In terms of policy focus there appears to be an increased emphasis on funding, infrastructure, information, and temporality; but decreased emphasis on location. However, the dominant focus in both periods is on governance, personnel, and regulation.

In policy objectives there appears to be an increased emphasis on online accessibility, regional equity, and gender equity. However, in terms of excellence the emphasis continues to be on research, teaching, and then service – in that order.

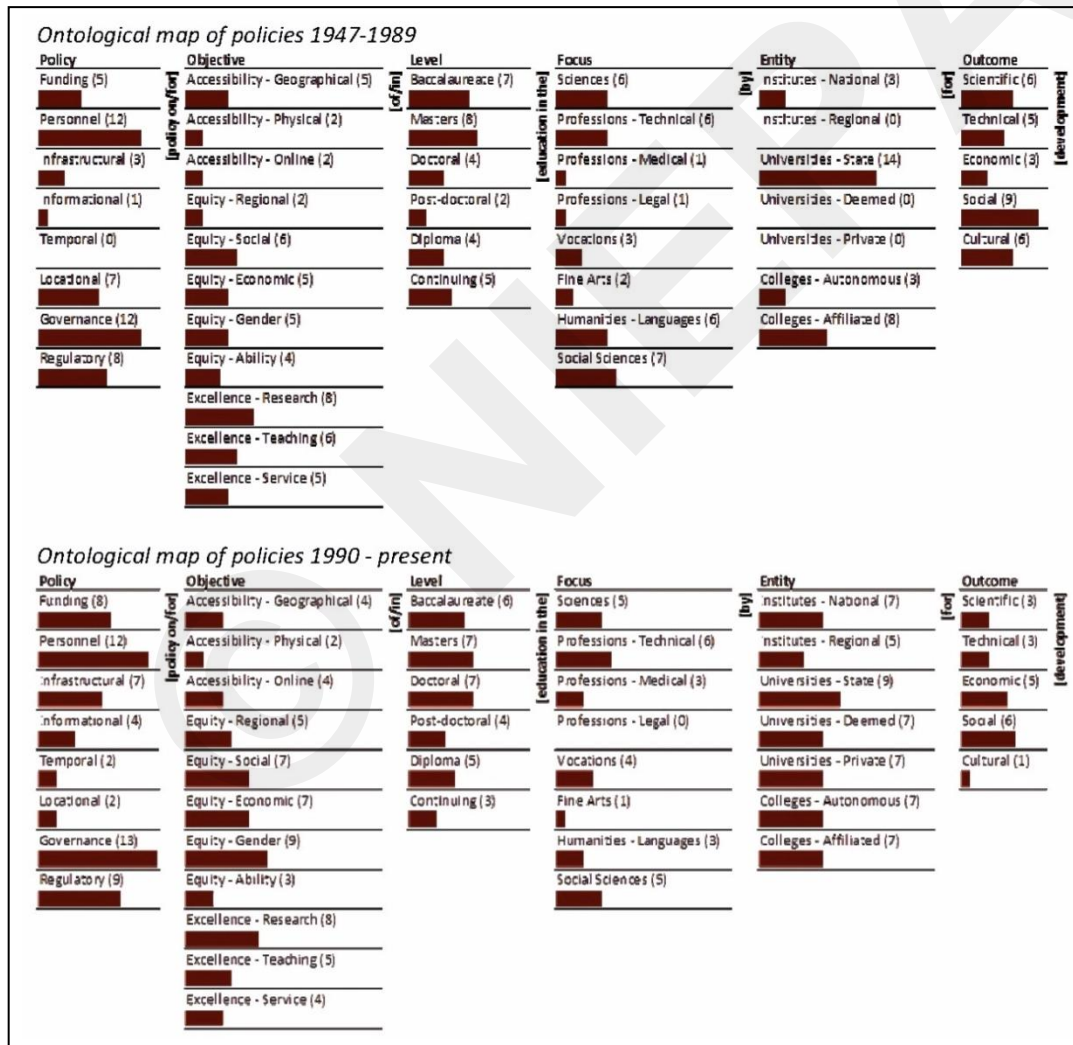
In the level of higher education there appears to be an increased emphasis on doctoral and post-doctoral education. There is not a diminution of the emphasis on masters and baccalaureate levels. Diploma and continuing education continue to have low emphasis.

Among higher education entities there appears to be an increased emphasis on National Institutes, Regional Institutes, Deemed and Private Universities, and Autonomous Colleges; and decreased emphasis on State Universities. The shift in the profile is likely due to emergence of these new entities.

In higher education focus there appears to be a decreased emphasis on humanities and the social sciences. The rest of the profile continues to be similar.

FIGURE 3

**Comparative Ontological Map of National Higher Education Policy Recommendations Monads**



Lastly, among the outcomes of NHEP recommendations, there appears to be an increased emphasis on economic development; and decreased emphasis on scientific, technical, social, and cultural development. The profile appears to have shifted significantly. Thus, the core thrusts of the policies for the two periods may be compared at three levels of granularity as shown in Table 3. It highlights the changes and absence of change in the most significant elements. We have underlined the common elements of the two periods at each level for ease of comparison.

TABLE 3  
Comparison of NHEP Recommendations 1947-1989  
and 1990-Present

<i>Level</i>	<i>1947-1989</i>	<i>1990-Present</i>
Level 1 (most frequent elements)	[Governance, personnel] policies on/for [excellence-research] of/in [masters'] education in the [social sciences] by [universities-state]for [social]development.	[Governance] policies on/for [equity-gender] of/in [masters', doctoral] education in the[professions-technical] by [universities-state] for [social]development.
Level 2 (two most frequent elements)	[Governance, personnel, regulatory] policies on/for [excellence-research, excellence-teaching, equity-social]of/in the [masters', baccalaureate]education in the [social sciences, sciences, professions-technical, humanities-languages] by [universities-state, colleges-affiliated] for [social, scientific, cultural]development.	[Governance, personnel] policies on/for [equity-gender, excellence-research]of/in [masters', doctoral, baccalaureate]education in the [technical professions-technical, sciences, social sciences] by [universities-state, universities-deemed, universities-private, colleges-affiliated, colleges-autonomous, institutes-national] for [social, economic] development.
Level 3 (three most frequent elements)	[Governance, personnel, regulatory, locational] policies on/for [excellence-research, excellence-teaching, equity-social, accessibility-geographical, equity-economic, equity-gender, excellence-service] of/in[masters', baccalaureate, continuing education] in the [social sciences, sciences, professions- technical, humanities-languages, vocations] by [universities-state, colleges-affiliated, colleges-autonomous, national institutes] for [social, scientific, cultural, technical] development.	[Governance, personnel, regulatory] policies on/for [equity-gender, excellence-research, equity-economic] of/in [masters', doctoral, baccalaureate, diploma] education in the [professions-technical, sciences, social sciences, vocations] by [universities-state, universities-deemed, universities-private, colleges-affiliated, colleges-autonomous, institutes-national, institutes-regional] for [social/economic/scientific/technical] development.

Many elements have remained constant in NHEP recommendations between the two periods and many have changed. It is difficult to succinctly summarize all the constants and changes, except as shown in Figure 3 and Table 3. In the next section we will discuss possible explanations for the priorities, changes, and constants in NHEP recommendations.

## Discussion – Analysis of Themes

The policy recommendations of the 28 reports mapped in this paper are spread over a long period of time. They were formulated independently by different individuals and committees. They were not designed to be incremental, to build upon one another



systematically; they were more ad hoc, designed to address an issue or a set of issues at a point in time. Using ontology as a lens we have mapped the recommendations of the 28 reports to discern the latent patterns. Today, as the Government of India seeks to revisit the NHEP, it would be appropriate to critique the proposed twenty themes in light of the past patterns. We have listed the themes in Table 4. We will organize the critique and discussion of the themes by the six dimensions of the ontology.

TABLE 4

**List of Themes for Consultation on Higher Education  
(Ministry of Human Resource Development, 2015)**

- I. Governance reforms for quality
- II. Ranking of institutions and accreditations
- III. Improving the quality of regulation
- IV. Pace setting roles of central institutions
- V. Improving State public universities
- VI. Integrating skill development in higher education
- VII. Promoting open and distance learning and online courses
- VIII. Opportunities for technology enabled learning
- IX. Addressing regional disparity
- X. Bridging gender and social gaps
- XI. Linking higher education to society
- XII. Developing the best teachers
- XIII. Sustaining student support systems
- XIV. Promote cultural integration through language
- XV. Meaningful partnership with the private sector
- XVI. Financing higher education
- XVII. Internationalization of higher education
- XVIII. Engagement with industry to link education to employability
- XIX. Promoting research and innovation
- XX. New knowledge

**Outcome**

Although all the five types of Outcome – Scientific, Technical, Economic, Social, and Cultural development – are addressed by the past policies, the dominant focus appears to be on Social development. Perhaps among them Social development is seen as the ultimate end, the other forms of development being means to that end. There may be an implicit assumption that the other forms of development will or should lead to Social development.

The twenty themes are not organized around particular development outcomes. Some of them allude to particular types of development. Social development is mentioned in the

theme on Pace setting role of central institutions (IV); economic development is mentioned in the theme on Integrating skill development in higher education (VI), Financing of higher education (XV1), and New knowledge (XX). Regional [economic] development is mentioned in Pace setting role of central institutions (IV). Scientific development is mentioned in Promoting research and innovation (XIX). The other themes do not mention any outcomes. The lack of focus on the outcomes raises questions about the purposiveness of the twenty themes. It is likely to result in incoherent strategies whose outcomes cannot be assessed because appropriate measures cannot be defined. Moreover, the priority of the outcomes will have an important bearing on the strategy. For example, consider 'Promoting Research and Innovation' (XIX). Research and Innovation for Scientific development would be quite different from the same for Social development. The former is likely to be basic, the latter applied. The discussion of the theme suggests a focus on Scientific development and basic research, with applied research left to other institutions. However, Pace setting roles of central institutions (IV), emphasizes Social and regional [Economic] development, not Scientific or Technological development. These contradictions in the desired outcomes have to be clarified and articulated to formulate a coherent strategy. The outcomes and their priorities have to be specified based on an assessment of the past; they have to be maintained constant if appropriate or changed if necessary.

### **Entity**

The Universities-State was the dominant entity prior to 1989; it is still dominant, although its dominance has diminished due to the emergence of Universities-Deemed and Universities-Private. The fact that it is identified as a theme in itself (V) speaks to its continued perceived importance. By the same token, Institutions-National (Central) is also identified as a separate theme (IV). Colleges-Affiliated and Autonomous are part of almost all themes. Universities-Private are discussed in many themes – Ranking of institutions and accreditations (II), Improving the quality of regulation (III), Improving State public universities (V), Addressing regional disparity (IX), Financing higher education (XVI), and Promoting research and innovation (XIX). Universities-Deemed are discussed in one theme – Improving the quality of regulation (III). Institutes-Regional are not mentioned in any theme. The theme of Integrating skill development in higher education (VI) mentions Community Colleges which is not in the ontology. Thus the entities in the themes match the taxonomy in the ontology, except for the exclusion of Institutes-Regional and the inclusion of Community Colleges.

### **Focus**

All the Focus areas excluding Professional-Medical and Professional-Legal find mention in the themes. The focus on the disciplines does not appear to be central to the articulation of the themes, unlike in the past policies. Sciences are mentioned in the context of Promoting open and distance learning and online courses (VII), Opportunities for technology enabled learning (VIII), and Promoting research and innovation (XIX). Professions-Technical (Engineering) is mentioned in the context of Promoting open and distance learning and online courses (VII), Opportunities for technology enabled learning (VIII), and Promoting research and innovation (XIX). Vocations are mentioned in the context of Integrating skill development in higher education (VI). Fine Arts and Humanities are mentioned in the

context of Ranking of institutions and accreditations (II) and Linking higher education to society (XI).

### **Level**

The themes do not appear to be Level sensitive. Bacalaureate and Masters' education are not explicitly mentioned. Doctoral education is mentioned in the context of Improving State public universities (V), and Developing the best teachers (XII). Diploma education is mentioned in the context of Promoting open and distance learning and online courses (VI), and Continuing education in the context of Promoting open and distance learning and online courses (VII). One would assume that stratification of levels would be important for other themes too but it is not present.

### **Objective**

Accessibility, Equity, and Excellence are central to the past policies. They appear to be so in the themes too, but not in the same proportion and the same level of detail. Accessibility is mentioned a very large number of times in the themes. It is mentioned in the context of Integrating skill development in higher education (VI), Promoting open and distance learning online courses (VII), Opportunities for technology enabled learning (VIII), Addressing regional disparity (IX), Bridging gender and social gaps in higher education (X), Linking higher education to society (XI), Sustaining student support systems in higher education (XIII), Meaningful partnership with private sector (XV), Financing of higher education (XVI), and New knowledge (XX). It is a central concern in the themes. The descriptions cover Geographical, Physical, and Online Accessibility.

Equity is discussed in the context of Governance reforms for quality (I), Improving the quality of regulation (III), Linking higher education to society (XI), and Financing of higher education (XVI). It is a significant focus of the themes but not as much as Accessibility. There is not a significant distinction made in terms of Regional, Social, Economic, Gender, and Ability Equity.

Excellence is discussed in the context of Governance reforms for quality (I), Ranking of institutions and accreditation (II), Improving the quality of regulation (III), and Meaningful partnership with the private sector (XV). There is no distinction made in terms of Research, Teaching, and Service Excellence.

### **Policy**

All the Policy elements find expression in one or more themes. Funding is discussed in the context of Governance reforms for quality (I), Ranking of institutions and accreditations (II) Developing the best teachers (XII), Meaningful partnership with the private sector (XV), and Financing higher education (XVI). Personnel are explicitly discussed only in the context of Pace setting roles of central institutions (IV). Infrastructure is discussed in multiple contexts: Improving the quality of regulation (III), Improving State public universities (V), Opportunities for technology enabled learning (VIII), Bridging gender and social gaps (X), Linking higher education to society (XI), Sustaining student support systems (XIII), Promoting research and innovation (XIX). Information is discussed only in the context of improving the quality of regulation (III). Temporality is discussed in the context of Ranking

of institutions and accreditations (II) Improving the quality of regulation (III), Opportunities for technology enabled learning (VIII), Addressing regional disparity (IX), and Internationalization of higher education (XVII). Location is discussed only in the context of Improving State public universities (V). Governance is discussed in the context of Governance reforms for quality (I) Improving the quality of regulation (III), Improving State public universities (V), and Linking higher education to society (XI). Last, Regulation is discussed in the context of Governance reforms for quality (I), Improving the quality of regulation (III), Improving State public universities (V), and Meaningful partnership with the private sector (XV).

Thus, the themes contain all the elements in the ontology. But they do not encapsulate the logic of the ontology. The themes' coverage is comprehensive but not coherent. In the conclusion we discuss how the themes can be articulated systematically and systemically to advance NHEP.

## Conclusion

Recommendations on policies on governance, personnel, and regulation have been the primary instruments for fulfilling the objectives and obtaining the desired outcomes, during the whole period as well as separately in the two periods analyzed. They are also dominant in the MHRD discussion themes. Policies on funding, infrastructure, and location have been secondary; although between the two periods location policies have been emphasized more in the first, funding and infrastructure more in the second. Information and temporal policies have received little attention – they have been tertiary, although there is a slightly greater emphasis on them in the second period.

The above profile may be product of a set of beliefs in (a) the primary and secondary policies as being sufficient by themselves to achieve the desired objectives and final outcomes, (b) the subjective expertise and personal experience of the policy makers without a systematic analysis of evidence drawn from information acquired, standardized and distributed for the purpose, and (c) the natural progression towards the desired objectives and outcomes without the punctuation of timelines and schedules. Such a belief system undercuts the importance of information which is representative of the state of higher education, timely feedback on the trajectory of the policies based on the information, and timely correction to the policies based on the learning from feedback. The disconnect between evidence and policy, for example in Karnataka (for which the authors have mapped the location of higher education institutions), is highlighted by contradiction between (a) the shift away from locational policies in the second period at the national level, (b) the location of higher education institutions primarily in the two major urban areas of Bengaluru and Mysuru, and (c) 61.26 percent of the state's households still living in rural areas according to recently released Socio-Economic Caste Census (Government of India, 2015). That this was the first census of the sort since 1932 is further evidence of the dearth of information driving NHEP recommendations and therefore the need for information and temporal policies.

Information about the objectives – accessibility of, equity in, and excellence of – higher education can be sensitive and controversial. (An issue highlighted by the delay or unwillingness to release the caste data in the Socio Economic and Caste Census.) This information can be sliced and diced by level, focus, and entity to obtain an in-depth understanding of the dynamics of higher education. Such an analysis can be further

interpreted in the context of macro-measures of outcomes. Apart from the weak infrastructure to acquire, standardize, and distribute the information, the sensitivity and controversy could be a major barrier. Today, because of advances in information technology, as well as its lower costs it would not be difficult to overcome the weaknesses of the infrastructure. However, overcoming the political sensitivities and controversies would be a very different challenge.

The information has to be collected periodically over time, at appropriate intervals, to be meaningful and useful. (Again we note the 83 year gap in the Socio-Economic and Caste Census which gives a new meaning to the phrase – driving while looking through the rear view mirror, a historical mirror.) In the longitudinal information the informational and temporal policies intersect. Today, for example, there is so little internal information on the excellence of the nation's higher education institutions that the entire discussion is focused on ranking data from external sources. As a counterpoint to the ranking data what is needed is not an internal ranking system – as suggested by one of the MHRD themes – but a complete mapping of the topography of the higher education system. With such a mapping one may rank the institutions from multiple perspectives, suitable to the local conditions.

Policies are the driving force for fulfilling the objectives and obtaining the desired outcomes. But for the policies to be effective they have to be based on evidence (information) about the here and now and the past, not just the subjective expertise and personal experience of the policy makers. They have to be time-based too, to facilitate continuous feedback and learning instead of ad hoc a historical experimentation.

The ontology of NHEP can be used to reorganize the themes in a Policy x Objectives matrix as shown in Table 5. Note in the table the Policy elements are articulated at a second level of detail based on the discussion in the themes. Based on this there are 24 key themes which should be considered, corresponding to each cell in the table. Each can have a large number of components focusing on different Level, Focus, Entity, Scope x Outcome in the ontology. The MHRD themes address these key themes fragmentarily and selectively.

Thus the 24 key themes would be:

1. Funding policy for accessibility/expansion by level, focus, entity, scope x outcome
2. Funding policy for equity by level, focus, entity, scope x outcome
3. Funding policy for excellence/quality by level, focus, entity, scope x outcome
4. Personnel for accessibility/expansion by level, focus, entity, scope x outcome
5. Personnel policy for equity by level, focus, entity, scope x outcome
6. Personnel policy for excellence/quality by level, focus, entity, scope x outcome
7. Infrastructure policy for accessibility/expansion by level, focus, entity, scope x outcome
8. Infrastructure policy for equity by level, focus, entity, scope x outcome
9. Infrastructure policy for excellence/quality by level, focus, entity, scope x outcome
10. Information policy for accessibility/expansion by level, focus, entity, scope x outcome
11. Information policy for equity by level, focus, entity, scope x outcome
12. Information policy for excellence/quality by level, focus, entity, scope x outcome
13. Location policy for accessibility/expansion by level, focus, entity, scope x outcome
14. Location policy for equity by level, focus, entity, scope x outcome
15. Location policy for excellence/quality by level, focus, entity, scope x outcome

16. Temporal policy for accessibility/expansion by level, focus, entity, scope x outcome
17. Temporal policy for equity by level, focus, entity, scope x outcome
18. Temporal policy for excellence/quality by level, focus, entity, scope x outcome
19. Governance policy for accessibility/expansion by level, focus, entity, scope x outcome
20. Governance policy for equity by level, focus, entity, scope x outcome
21. Governance policy for excellence/quality by level, focus, entity, scope x outcome
22. Regulatory policy for accessibility/expansion by level, focus, entity, scope x outcome
23. Regulatory policy for equity by level, focus, entity, scope x outcome
24. Regulatory policy for excellence/quality by level, focus, entity, scope x outcome

TABLE 5

**Policy x Objective Matrix**

	Accessibility/Expansion Geographical Physical Online	Equity Regional Social Economic Gender Ability	Excellence/Quality Research Teaching Service
Funding			
Capital			
Operational			
Personnel			
Recruitment			
Training			
Promotion			
Infrastructure			
Physical			
Technological			
Information			
Acquisition			
Standardization			
Distribution			
Location			
Urban			
Rural			
Temporal			
Short-term			
Long-term			
Governance			
Autonomy			
Accountability			
Management			
Regulatory			
Accreditation			
Assessment			
Admission			

A next step would be to assign priorities to the themes and articulate them in detail. Perhaps it is time to shift the emphasis from Governance, Personnel, Regulation, Funding, and Infrastructural policies to Informational and Temporal policies. While the first five have been dominant in NHEP they have failed to deliver the desired results. They continue to be emphasized in the MHRD themes too. They may be necessary but not sufficient to attain the Objectives and NHEP and attain the desired Outcomes. Priority given to Informational and Temporal policies could result in evidence- and schedule-driven policies. Information driven policies will also facilitate learning and substitute evidence for personal experience and subjective expertise.

One could argue that a major reason for the failure is the dearth of information about higher education and absence of timelines for achieving the objectives. Consider, for example, the diminution of the emphasis on Locational policies in light of the fact that more than 73% of the households live in rural areas according to the 2011 Socio Economic and Caste Census (Government of India, 2015). Higher Education institutions are dominantly located in urban areas an online access has not matured enough to overcome the locational disadvantage. As a result there is very little systematic and timely feedback about the effects of the policies, learning from it, and correcting course as appropriate. Each new policy (and theme) seems to stand on its own, with little basis in current evidence and learning from the successes and failures of the past. The intentions of NHEP may be good, but without information and time schedules they will be ineffective.

A detailed articulation of the policies in light of the new priorities would entail explicit specification of not only the policy and objective, but also the level, focus, entity, scope x outcome. It should force policy makers to consider complete components of the ontology rather than fragments as the present themes do. It should compel a holistic approach rather than a selective one.

In conclusion we would like to suggest that an ontology can be used to deconstruct the combinatorial complexity of NHEP. We suggest that:

- The ontology provides a synoptic framework for NHEP: It can be extended and refined by adding/modifying dimensions, categories, and sub-categories.
- Ontological mapping is a systematic method for mapping NHEP: It can be cumulative and provide a longitudinal knowledgebase for national higher education policymaking.
- The results are based on a systemic analysis of over-emphasis, under-emphasis, and no-emphasis in NHEP: Thus, the policies can be based on evidence rather than on personal experience and presumed expertise.

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## Evidences of Linkage between Secondary Education and Socio-Economic Outcomes in India

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### Abstract

This paper attempts to shed light on the importance of secondary education in India, in terms of its strong linkages with various socio-economic outcomes, thereby emphasizing the need for higher investments in this sector. To test the relationship between different stages of school education and given outcomes, separate indices were developed using principal component analysis. Using the index scores further, regression models were applied. The investigation reveals that in India there is a strong relation between secondary education and economic, health, demographic and behavioral performances. The results also show that earning levels and employment opportunities improved with the rise in school education. The paper also presents the comparative view of elementary and secondary level of education.

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## Introduction

The role of education in promoting the economic growth and human well-being is well recognized in the economic literature. The relationship between education and economic growth has been one of the central threads of economic analysis. The micro-economic analyses have looked at the impact of education on individual earnings and social outcomes; the macroeconomic analyses have tried to measure the impact on economic growth performance. The micro-economic evidence suggests that the private returns to education and the impact on social outcomes are significant (Psacharopoulos and Patrinos, 2004), whereas the macro economists have had great difficulty in finding statistically significant impacts of educational variables on growth regression models (Glewwe, 2002; Ndulu et al, 2006; Pritchett, 2001). Earlier, the findings of these two approaches have been inconsistent, but of late, they have begun to reconcile through better statistical procedures. The attempts to examine the impact of the quality of education on countries' economic growth performance have begun to bear fruit. This kind of analysis is of considerable interest for our study as it affects the role of education and enforces relooking into the current resource allocation priorities.

Particularly in Indian context, the recent initiatives undertaken for the universalisation of elementary education have led to a dramatic growth in elementary education enrolments and improvements in retention and transition rates in recent years, thereby resulting in an increased demand for the expansion of secondary education. For faster economic growth, it is not sufficient to exclusively concentrate on primary education; the expansion of secondary education is equally important. At the same time, there also remains little doubt that the benefits of secondary education extend beyond the economic factors, because they also affect society in the form of health performance, demographic transition, poverty reduction, income and employment opportunities as well as behavioral changes. These, in turn, will contribute to accelerated economic growth and help create a virtuous circle of economic development and progress in human well-being. To reap these benefits, mere quantitative expansion of secondary education would not be enough since maintaining a certain standard of quality learning is equally important. Or else, it will be a sheer wastage of the resources.

For overall expansion of secondary education in India, huge investments are required from both public and private sources. It is evidenced that early expansion of public investment in secondary education paid rich dividends in East Asia (Tilak, 2001). Even the Education Commission of 1964-66 and the National Education Policy (NPE) 1986 have stressed that 'the egalitarian goals and practical development oriented objectives of Indian society can be realized only by making investments in education. Even in NPE 1968 it is mentioned that 'the deleterious consequences of non-investments or inadequate investments in education are indeed very serious'. It also states that 'sub-optimal performance in these fields could cause irreparable damages to the Indian economy'. Hence, education was treated as crucial area of investment for national development and survival, but unfortunately, even after six decades, the initial target set for spending 6 per cent of Gross Domestic Product (GDP) on education is not yet achieved. In 2013-14, India spent only 4.29 per cent of GDP on education sector, of which only 20 per cent goes for secondary education, which is significantly less. In the light of the foregoing discussion, this paper intends to briefly review the importance of secondary education in India in terms of its strong linkages with socio-economic outcomes, and therefore answers the question on why

there is a need to channelize our resources towards this sector. The paper is organised as follows: Section II focuses on the background literature discussing the work already done in this area. Section III discusses the objectives, while Section IV explains the methodology and measurement of the variables. In Section V, the results of the analysis are discussed and Section VI summarizes the findings of the study.

## Background Literature

The available literature indicates that different studies have been conducted by various economists to measure the impact of education on private benefits, economic benefits and social benefits to the society. This section reviews a few of these theoretical and empirical literatures relating to the impacts of secondary education on socio-economic outcomes.

### Linkages with Economic Outcomes

In the earlier neoclassical models, education was not considered as major input for production, and hence was not included in growth models. The seminal work by two economists led to a series of growth accounting studies pointing to education's contribution to the unexplained residuals in the economic growth of western economies (Schultz, 1961; Denison, 1962). A 1984 survey of growth accounting studies covering 29 developing countries found estimates of education's contribution to economic growth ranging from less than one per cent in Mexico to as high as 23 per cent in Ghana (Psacharopoulos, 1984). As per OECD statistics (2007), one extra year to the average years of schooling increases GDP per capita by 4-6 per cent. A few international studies have found that among all levels of education, secondary education has the strongest impact on economic growth, income inequality reduction and in improving health perspectives (Birdsall et. al., 1995). Using time series data from 1951-1987 to study the relationship between public spending on education and growth, one study shows that there is no long run relationship between the two (Ansari and Singh, 1997). However, they do find a direct link between public spending in education to private capital formation, and hence indirectly onto growth. Barro (1991) in his cross country study found that once other factors were controlled for, human capital did indeed have a positive influence on growth. Barro's analysis was focused on the positive impact of education variables—primary and secondary schooling— on growth. OECD (2000) shows that over the years 1971-98, economic performance and human capital have been positively correlated in OECD countries. Recently, one study (Bloom, Canning and Chan, 2005) finds that an additional year of general schooling in adult population can increase the rate of growth by 0.6 per cent. Barro and Lee (1994) also find positive relation between secondary education and economic growth. Using Indian data, one study tested the impacts of all levels of education on Indian growth performance (Self and Grabowski, 2004). This study finds that among all, primary education has strongest impact, while secondary education with weaker evidences or no evidence for tertiary education to have little impact on growth. Hence, it is quite clear from these studies that the exact nature of casual link between the secondary education and economic growth still remains undetermined.

### Linkages with Social Outcomes

Different scholars have tried to link the educational performances with various social outcomes in terms of income generation, employment patterns, poverty reduction, etc. One

of the research studies reflecting cross country analyses gives weak and elusive evidence that higher education promotes economic growth, but shows strong link between average earnings of individuals and their educational attainment (Irena Macerinskiene and Birute Vaiksnoraite, 2006). Another study suggests that one per cent increase in the labour force with at least secondary education would increase the share of income of the bottom 40-60 per cent by 6 to 15 per cent (Bourguignon and Morrison, 1990). Positive feedback was observed from improved education to greater income equality, which, in turn, is likely to favor higher rate of growth. A study of the relation between schooling, income inequality and poverty in 18 countries of Latin America in the 1980s found that one quarter of the variation in workers' incomes was accounted for by variations in schooling attainment (Psacharopoulos, 1993). Three recent studies provide direct and consistent estimate of impact of test performance on earnings (Murname et al, 2000; Mulligan, 1999; Lazear, 2003). These studies suggest that one standard deviation increase in mathematics performance to end of high schools translates into 12 per cent higher annual earnings. This gives indication that higher school education does have an impact on earnings of individuals. Many studies even show that rate of returns of educational attainments is higher in case of women compared to men, despite their low education (Duraisamy, 2002; Kingdon and Unni, 2001; Self and Grabowski, 2004). Clearly, these studies reflect that education has certain kind of relation with incomes and employment, but how these impacts vary for lower and higher level of school education is unaccounted for, as most of them are related to school attainment only.

### **Linkages with Health Outcomes**

Many economists have even attempted to estimate the relationship between educational attainment and health performances of individuals. A study of fourteen African countries for the mid-eighties showed a negative correlation between female schooling and fertility in almost all countries with primary education having a negative impact in about half the countries and no significant effects in the other half, while secondary education invariably reduced fertility (Birdsall et al, 1995; Behrman and Wolfe, 1987). An empirical research by economists suggests that in India, a very important factor impinging on issues like health, fertility, child labour, mortality rates, etc. is women's education. In this regard, one study shows that a major factor determining low fertility is high female education, whilst general indicators like urbanization, poverty reduction and male literacy have no impacts (Dreze and Murthi, 2001). Here also, the impact on health of individuals by level of school education is not clear.

### **Objectives**

It is quite clear from the aforementioned that Indian literature lacks the empirical evidences on whether the secondary level of education explains the changes in socio-economic and behavioral outcomes or how these impacts differ from other levels of school education. Most of the research studies in the discipline of education are either restricted to elementary level of education with very few highlighting secondary education level issues or even if the impacts of secondary education have been measured, they has been done using traditional indicators like gross enrolment ratios, or the number of years of schooling that

covers more of quantitative aspects only. In our view, this kind of analysis reflects merely half-baked truth of the entire situation, and the qualitative aspect is left ignored. In light of these gaps, the broad objective of this paper have been framed to identify if there is any relationship between the secondary level of education and economic performance; demographic performance; social outcomes in the form of health and demographic performance; private returns through income and employment pattern and behavioral outcomes. The paper also presents a comparative view of these linkages between secondary and elementary level of school education.

## Database and Methodology

The paper aims to test a wide spectrum of relationships between different levels of school education and various socio-economic outcomes. To highlight the importance of secondary education at the national level, it was important to measure its impacts on various outcomes comparative to other levels of school education. Therefore, in this paper an attempt has been made to develop two separate indices for school level education: Elementary Education Development Index (EEDI) and Secondary Education Development Index (SEDI). The educational indices here represent both 'Quantitative' and 'Qualitative' aspects of education due to the fact that mere quantitative expansion would not bear the fruits but maintaining a certain level of quality is equally important. These indices signifies that higher the index value, higher the level of development of that particular level of school education.

The idea for the development of educational index is based on the methodology of Hewlett Foundation's Global Development Program strategy which includes the Quality Education in Developing Countries (QEDC) initiative as one of its component to improve student learning and drive education reform in East and West Africa and India. QEDC has identified 4 factors that contribute significantly in improving educational outcomes: *Enrolments, Access, Quality and Funding*. For each of these four broad dimensions, we have selected one indicator each. For example, in case of 'Quality' component, we chose Pupil Teachers Ratio (PTR) as proxy indicator, defining the quality of teaching in schools. The review of literature shows that till date different economists have used different indicators for measuring quality of education, for instance; number of years of schooling, number of trained teachers and Pupil teacher ratio. We believe that among these, pupil-teacher ratio (PTR) is an important indicator that measures the overall level of teacher deployment. In India, the PTR for secondary education is much higher than global standards thus affecting the overall quality of teaching in class as it leads to inefficient teaching, difficulty in handling large class-size, lower concentration and lower understanding and interaction between teacher and student.

Just in line with the educational indices, we have also developed a few other indices reflecting the varied dimension of socio-economic outcomes: Economic Performance Index (EPI), Demographic Performance Index (DPI) and Health Performance Index (HPI). In order to develop all of these indices, data indicators related to the education, demographic, economic, social and health outcomes were collected from various renowned secondary sources and were compiled on annual basis for about 20 years period spanning from 1991-92 to 2010-11 at all India level. The individual components for each of these indices are discussed here.

**a. Secondary Education Development Index (SEDI)**

- Gross enrolment ratios (GER) at secondary level
- Expenditure on secondary education as a percentage of GDP
- Pupil–teacher ratio (PTR) at secondary level
- Number of schools with secondary education

**b. Elementary Education Development Index (EEDI)**

- Gross enrolment ratios (GER) at elementary level
- Expenditure on elementary education as a percentage of GDP
- Pupil–teacher ratio (PTR) at elementary level
- Number of schools with elementary education

**c. Economic Performance Index (EPI)**

- GDP at factor cost
- Gross domestic savings (GDS)
- Gross domestic capital formation (GDCF)
- Per capita national income (PCNI)<sup>1</sup>

**d. Demographic Performance Index (DPI<sup>2</sup>)**

- Infant mortality rate (IMR)
- Maternal mortality rate (MMR)
- Total fertility rate (TFR)

**e. Health Performance Index (HPI)**

- Number of children immunized against Polio, DPT, BCG and DT
- Life expectancy at birth
- Tetanus immunization for expectant mothers
- Couples effectively protected by all methods

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<sup>1</sup> The reason for considering PCNI along with GDP is that latter is a “gross” measure that reflects production in a given time period, regardless of whether that production is used for consumption or for investment. Despite being a broad measure, there are several things that GDP does not measure that are essential for both: economy and society. GDP takes no account of the distribution of income and growth, as a result, cannot reflect inequality. Thus, GDP figures alone can although explain the economic growth but cannot explain the fact whether this growth is flat or even for a substantial part of the society. Therefore, to capture this missing gap we have taken per capita national income as one of the component of economic performance.

<sup>2</sup> Demographic transition refers to the decline in population mortality and fertility with social and economic development that causes important changes in a population’s age composition over the period of time. The two major factors affecting demographic transition are the crude birth rate (CBR) and the crude death rate (CDR) that are in turn primarily determined by levels of fertility and mortality experienced by individuals. The mortality can be further divided into maternal mortality and infant mortality. Therefore, to determine demographic performance, three major indicators of fertility and maternal mortality and infant mortality are considered.

Each of these indices was developed using Principal Components Analysis technique. The main reason for employing Principal Component Analysis (PCA) is that it helps to define a synthetic measure that is able to capture interactions and interdependence between the selected set of indicators. Principal Component constitutes a canonical form and helps to understand both the individual contribution of each of the indicators to the Index and their aggregate contribution. Principal Components (PC) are used as linear combinations of the variables selected to compose the social indicators. They have special statistical properties in terms of variances. The first PC is the linear combination, which accounts for the maximum variance of the original variables. The second PC accounts for the maximum variation of the remaining variations, and so on. Maximizing variances helps maximize information involved among the set of variables, and hence, it is most appropriate for weighting these variables for the development of the Index.

Using the index score values for each separate index, this paper further applied simple regression analysis to test the impact of SEDI and EEDI on EPI, DPI and HPI. The regression model will take following equations.

$$Y_1 = a_1 + b_1X_1 + b_2X_2 + \mu_1$$

$$Y_2 = a_1 + b_1X_1 + b_2X_2 + \mu_2$$

$$Y_3 = a_1 + b_1X_1 + b_2X_2 + \mu_3$$

Where,  $Y_1 = \text{EPI}$ ,  $Y_2 = \text{HPI}$ ,  $Y_3 = \text{DPI}$ ,  $X_1 = \text{EEDI}$ ,  $X_2 = \text{SEDI}$ , and  $a_1 = \text{Constant}$ ,  $b_1 \& b_2 = \text{Beta Coefficients}$ ,  $\mu = \text{Residual}$

## Results and Discussions

In this section, we present the results obtained from our empirical analysis.

### Education and Economic Performance

Education is a force that builds more interconnected and participatory societies. Adequate access to and completion of education is a key determinant in the accumulation of human capital and economic growth. This section presents the regression results to see how developments in school level education can affect economic performance particularly in Indian context. To proceed with statistical testing, simple linear regressions were run to measure the impact of elementary education development index (EEDI) and secondary education development index (SEDI) as independent variables on economic performances index (EPI) as dependent variable.

TABLE 1  
Regression Results for Education Development Indices and Economic Performance Index

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.0512	0.0582	0.8796	0.0514
EEDI	0.3017	0.1909	1.5809	0.1323
SEDI	0.6077	0.1927	3.1536	0.0058*

Notes: \*Significant at 1 % R Square=0.8085 F Statistic = 35.9 significant at 1 %

Source: Author's Calculation

The regression result shows that other things being constant, about 80 per cent of the variation in economic performance index is due to development in school level education. The result reveals that secondary education development index has a positive and significant impact on economic performance index, while elementary education development index shows insignificant results (Table 1). The regression result indicates that an additional unit of improvement in the Secondary Education Development Index can improve the Economic Performance Index by 0.6 units. It is important to mention here that even a small unit in this case can bring huge change in economic growth and development.

To have individual impact of educational attainment on GDP at factor cost and per capita national income separate regressions were run taking Gross Enrollment Ratio (GER) at various levels of school education as independent variables. The results show positive impact significant at one per cent (Appendix A1). The regression result indicates that by one unit increase in Gross enrolment ratio for secondary education (IX-XII), both GDP at factor cost and per capita national income can increase by 0.65 units. In comparison, GER for middle education (VI-VIII), show insignificant results, while for primary GER (up to V class) positive and significant impact on per capita national income were recorded; although its impact is lower than the impact of secondary GER. Hence, it has become clear that educational attainment, particularly secondary level of education is more vital to the economic well-being of the nation compared to that of elementary education and hence more investments should be directed towards this sector of school education for overall economic growth and societal change.

### **Education and Private Returns: Household Earnings & Employment**

In addition to the economic benefits, the educational attainments have huge private returns as reflected in the form of increased household earnings and employment opportunities. Data from middle-income countries show that higher wage premiums for secondary school completers can be observed for both women and men. Workers with upper secondary education earn higher salaries than those with a lower level of education (UIS and OECD 2003). Some similar evidences have been found in case of India.

To have a better clarity on the relationship between GER at various levels of school education and income behaviors, regressions were run taking GER at various levels of school education as independent variable and Personal Disposable Income (PDI) as dependent. The results shows positive and significant impacts indicating that by one unit increase in GER for secondary education, the personal disposable income can increase by 0.65 units. The primary GER also show positive and significant impact on personal disposable income, however the impact is lower than that of secondary GER. The GER at middle education on the other side reflects insignificant impacts (Appendix A1).

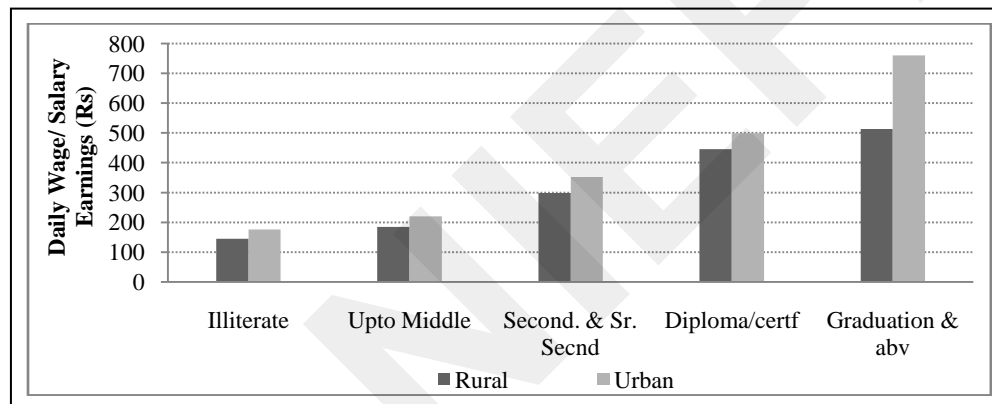
In addition to above regression results, the literature shows that there are few studies conducted at the national level which reflect that households with higher secondary qualification are better off than those with up to elementary education. An analysis by NCAER reveals that in India, the chief earners of more affluent families belonging to top income quintile have higher educational qualifications, while those falling in the lower



income quintile categories have studied only up to either matric level or less in 2004-05<sup>3</sup>. This report also states that with an increase in educational attainment, the percentage increase in household income also goes up. The latest available NSS 68<sup>th</sup> round also gives data on average daily wage/salary earnings per day of the regular wage/salaried employees for each of the states and union territories. The difference in the wage rates across education levels of the regular wage earners is clearly visible. Figure 1 clearly shows that the wage increases sharply with the increase in the level of education which also indicates that individuals with secondary education tend to have higher income levels as compared to those with primary/middle level of school education.

FIGURE 1

**Average Wage/ Salary Earnings (Rs) Per Day Received by Regular Wage/Salaried Employees of Age 15-59 Years by Education (2011-12)**



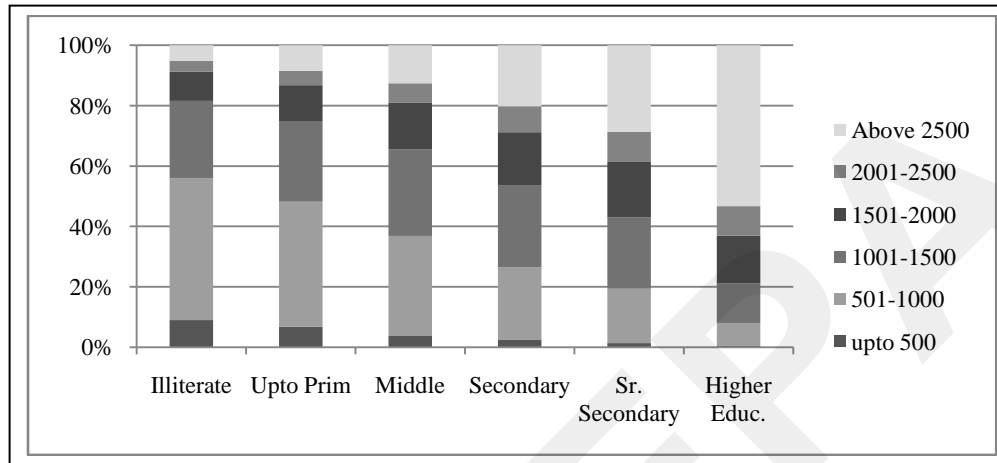
Notes: Includes both male and females and activity status codes: 31, 71, 72

Source: NSS Report No. 554: Employment and Unemployment Situation in India, 2011-12

In addition to this, the NSS data on Monthly Per Capita Expenditure (MPCE) for 68<sup>th</sup> round reveals that larger proportion of household with higher education comes in the category of higher expenditure band, whereas majority of the households with below secondary education comes in the lower three MPCE categories of up to Rs 1500 per month (Figure 2). MPCE has been considered here as a proxy indicator for household income which clearly reflects the monthly expenditure pattern of household by different education levels.

<sup>3</sup> National Council of Applied Economic Research (NCAER) report on 'How India Earns, Spends and Saves: Unmasking the Real India' published in 2010 is based on the National Survey of Household Income and Expenditure 2004-05 (NSHIE), covering over 63,000 households out of a preliminary listed sample of 440,000 in rural and urban India spread over 24 states. The sample was spread over 1,976 villages in 250 districts in rural areas and over 2,255 urban wards in 342 towns and 64 NSS regions in urban areas and three-stage stratified sample design was adopted to select the sample. The information was collected primarily for the year Apr 2004-Mar 2005.

FIGURE 2  
Percentage share of MPCE by Education Level (2011-12)



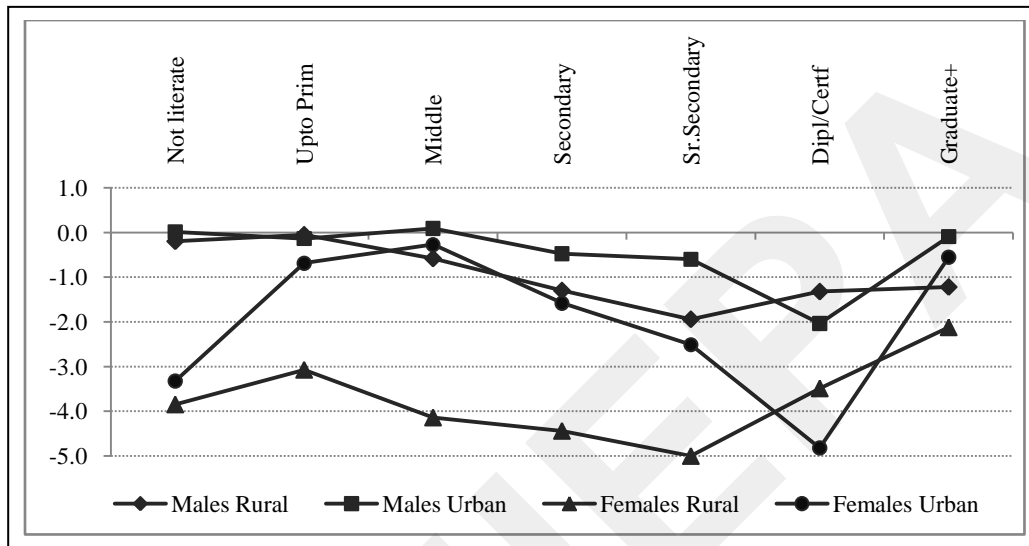
Note: Growth rates calculated by authors taking data from 68<sup>th</sup> round of NSS  
Source: Employment and Unemployment: NSS 68th round: July 2011- June 2012<sup>4</sup>

The attainment of secondary education not only provides benefits in terms of higher incomes but also offers better job opportunities. To test this, we had run separate regressions taking GER at various levels of school education as independent variables and female employment rate and overall employment as dependent variables from 1991-92 to 2010-11 at all India level. Although, in our analysis we did not find any significant relation between GER at various levels of school education and overall employment rate, but it does have significant impact on female employment participation rate. The regression result shows the impact on female participation rate was strongest and positive in case of secondary gross enrolment ratios. Result further shows that with an increase in one unit of GER at secondary level of education, the female employment rate is likely to increase by 0.88 units, whereas in case of primary GER it is likely to increase by 0.604 units only, lower than the former (Appendix A1). Apart from this, NSSO also gives data on usual status workers population ratio (WPR) for age 15 years & above by education level.

<sup>4</sup> The Employment and Unemployment surveys of National sample Survey (NSS) are primary sources of data on various indicators of labour force at National and State levels with large sample size of households. The NSS 68th round carried out during July' 2011 - June' 2012 was the ninth quinquennial round in the series. Information on various facets of employment and unemployment in India was collected through a schedule of enquiry (Sch.10).

FIGURE 3

**Percentage Growth Rate of Usual Status Workers Population Ratio (WPR)  
for Age 15 Years & above by Education Level (2004-05 & 2011-12)**



Note: Growth rates calculated by authors taking all workers data for 61<sup>st</sup> and 68<sup>th</sup> NSS rounds.  
Source: NSS Report No. 554: Employment and Unemployment Situation in India, 2011-12

Figure 3 presents the growth rates in the worker population ratios obtained from NSS 61<sup>st</sup> (2004-05) and 68<sup>th</sup> (2011-12) round surveys for 'all' workers by different level of education. It shows that at the all-India level, there has been decline in the WPR for all levels of education from 2004-05 to 2011-12. However, the rate of decline is highest in case of diploma/certificate followed by senior secondary education for males in both rural and urban areas. In case of females, in rural areas the rate of decline is highest for senior secondary and secondary education, while in urban areas it is for diploma/certificate followed by illiterate. The probable reasons behind decline in employment rate after attaining secondary education is increasing demand for higher education. After completing school education, majority of students prefer to go for higher studies rather than entering into the labour market, especially in urban areas that can provide them better opportunities at later stage. In rural areas also, due to huge skill development mission taken up in recent years, majority of students join ITIs for short term courses for developing certain specific skills that can provide them direct entry into the labour market or for being self employed. Overall, this section reinforces the importance of secondary education in improving the income and expenditure level of households and providing a better source of livelihood.

### **Education and Social Returns: Health & Demographic Performances**

The research findings have so far offered considerable support for investments in secondary education as a way to enhance economic performance along with huge private returns. Besides, the secondary education also has linkages with social outcomes that

improve well being of the society in terms of improved health performances, healthy demographic changes and poverty reduction.

Globally, the impact of primary education on health and fertility levels are well established (World Bank, 1993), in most countries it is also found that these outcomes have improved further with secondary level of education. It is mostly seen that educated women are more concerned for child health and diet. Moreover, the studies have shown that women education has a strong downward impact on fertility rates. This evidence is in African countries, where condom use is rising sharply among both men and women with higher levels of schooling (World Bank, 2009). The level of education in a society has also been found to be positively correlated with decline in fertility, reduced infant mortality and maternal mortality rates (World Bank, 1997). In one study it was found that in Guinea, 50 per cent of uneducated mothers suffer from growth retardation, this is 36 per cent in case of primary educated women and further down to 25 per cent in case of secondary educated (UNESCO, 2003). The secondary education has serious implications on HIV/AIDS infections as well. In Uganda, the rates for AIDS infections for those with primary education were nearly double than for those with secondary education.

School education has huge implications on health performances of individuals which brings well being to overall society. An attempt has been made to measure the impact of school education on health performances in India. For this, Health Performance Index (HPI) was developed considering seven major health indicators. Thereafter, regressions were run to see the impacts of GER at different levels of school education (taken as independent variables) on Health Performances Index (as dependent variable). The value of R Square indicates that 65 per cent of the variation in health performances is explained by GER at school level, other things being constant (Table 2). The regression result reveals that gross enrolments ratios in primary, middle and secondary level of education do have an impact on health performance. The results for primary and middle enrolments were significant at 5 per cent, while for secondary enrolments the results were significant at one per cent. Moreover, for primary and secondary enrolments the relation is positive with health performance, while for middle level enrolments, it is negative. The result indicates that with one unit increase in GER for secondary education, the improvement in health performance can be up to 0.25 units. In case of primary education the impact on health performance is lesser than secondary GER. Hence, it is worth mentioning that with attainment of secondary education, the health of individuals improves.

TABLE 2  
Regression for Health Performance Index and Education Level

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.588143	0.037931	15.5056	0.000
ZPGER	0.195109	0.091988	2.12103	0.050
ZMGER	-0.25228	0.104071	-2.42407	0.028
ZSGER	0.253067	0.061014	4.14771	0.001*

Notes: \*Significant at 1% level; R Square=0.6578; F Statistic = 10.25 significant at % level

ZPGER- Primary GER, ZMGER- Middle GER, ZSGER- Secondary GER

Source: Author's Calculation

At the same time, it is also seen that female education plays very important role in improving overall health performances in India. World Bank report gives a comparative picture of female education attainment along with a wide range of reproductive health indicators (Table 3). The positive linkages of upper primary and secondary education, as compared to primary education or less, are quite clear. Secondary education attainment has greater impact on indicators like average age at marriage, their propensity to reduce fertility and improves birth practices and child rearing. Hence, expanded secondary education to females contributes to significantly lower maternal and child mortality rates, and further to slower population growth, all of which are important goals for the government.

TABLE 3  
Impact of Female Education on Health Indicators (2008-09)

<i>Females Educ. level</i>	<i>Fertility Rates</i>	<i>Median Age of Marriage (Female)</i>	<i>Mother's Age at first Birth</i>	<i>% of Children with Basic Vaccinations</i>	<i>% of Women with HIV Awareness</i>
Illiterate	3.5	15.5	18.7	26.1	30.3
<5 class	2.5	16.5	19.0	46.1	57.2
5-7	2.5	17.3	19.6	51.8	69.4
8-9	2.3	18.7	20.8	59.7	85.1
10-11	2.1	19.7	21.8	66.1	94.9
12 & +	1.8	22.8	24.8	75.2	99.0

Source: World Bank Report 'Secondary Education in India: Universalizing Opportunity', 2009

The social outcomes of secondary education are not just limited to improved health performances but also in bringing demographic transitional changes for the well being of the society. To prove this point, Demographic Performance Index (DPI) was developed based on three key demographic indicators like infant mortality rates, maternal mortality rates and total fertility rates. The simple regressions were run to see the relation by taking SEDI and EEDI as independent variables and DPI as dependent variable. The R square value indicates that 91 per cent of variation in demographic performance is due to developments in school education (Table 4). Both elementary and secondary education show significant and negative impacts on demographic performance index.

TABLE 4  
Regression for Demographic Performance Index and Educational Indices

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.9710	0.0448	21.6660	0.0000
EEDI	-0.1966	0.1470	-1.3372	0.1988
SEDI	-0.8888	0.1484	-5.9881	0.000*

Notes: \*Significant at 1 % level R Square=0.9120 F Statistic = 88.0 significant at 1 % level

Source: Author's Calculation

The regression results reveal that by one unit improvement in secondary education performance index, demographic index can decline by up to 0.88 units. The relation between demographic index and secondary performance index is negative here as it emphasizes that as individuals upgrade their education from elementary to secondary level, the indicators like, maternal mortality rates, Infant mortality rates, fertility rates tend to decline, which is a very good sign for an economy. In addition to this, regressions were also run taking gross enrolments at various levels of school education as independent variables and various demographic and health indicators as dependent variable. The results indicate significant impact of secondary education GER on various health and demographic indicators (Appendix A1).

The positive externalities of education are also reflected in poverty reduction. The latest available report on Human Development in India 2004-05 based on Indian Human Development Survey (IHDS) Round I conducted by NCAER shows that about 25.7 per cent of the population lives below the poverty line in India. Of these, the larger proportion belongs to the group of illiterate population or those with education up to primary level. Poverty diminishes substantially with household education. Only 15 per cent of the households in which an adult has completed secondary education are in poverty range, compared to 38 per cent for those with education below primary school. Hence, education including secondary education decreases the likelihood that people will be poor.

Overall, this section highlighted the importance of secondary education in terms of social benefits. The positive externalities of secondary education on health, demographic changes, poverty reduction and gender equality are huge. The female education have rather greater impact on social outcomes as they can go far in reversing the spread of HIV by contributing to poverty reduction, gender equality, female empowerment and awareness of human rights. In addition to this, secondary education among females has crucial implications for female economic independence, delayed marriage, family planning and working outside home which can make a huge difference in society as a whole.

### **Education and Behavioral Changes**

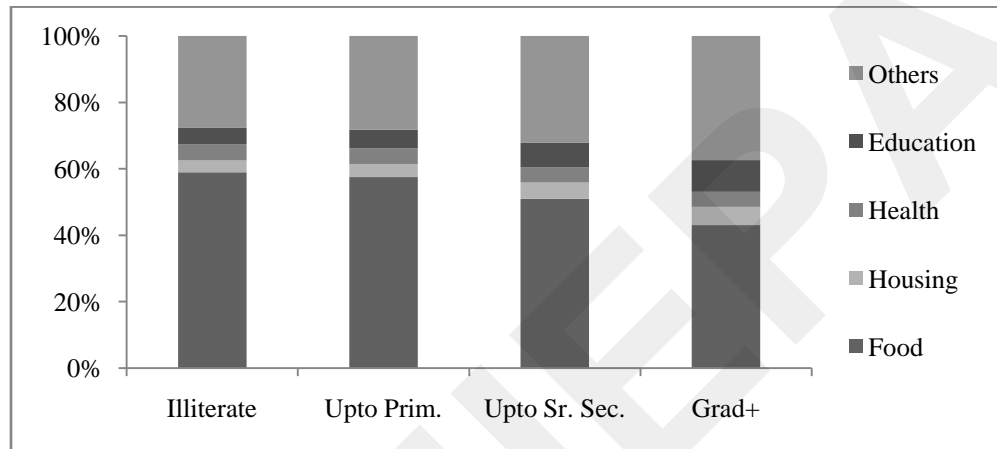
There are now strong evidences that secondary education is also associated with a wide range of behavioral benefits which have huge implications in bringing a change in the society. It is already discussed that with an increase in education level, people are likely to get better jobs and decent incomes which improves the social status of households. This brings changes in behavioral patterns of individuals in terms of demand for various commodities, expenditure incurred by them, or types of investments made by surplus money etc. All these factors have huge implications for economic growth of the country. An attempt has been made to present few behavioral changes in terms of consumption pattern, saving habits due to changes in the level of education.

Increase in educational attainment not only changes the household income but also changes the consumption basket. Figure 4 shows that with an increase in education there is diversion in the type of expenditure incurred by households. While, food basket constitutes the highest proportion of expenditure among all levels of education, this proportion declines with increase in education level and is diverted more towards expenditures on housing and education. Households with graduation spend about 9.6 per cent of their total expenditure on education, while it is less at 7.5 per cent in case of households with higher secondary

education attainment. For households with up to primary education, the expenditure on education is even lesser. It is clear that more educated families like to spend more on their children's education.

FIGURE 4

**% Distribution of Routine Expenditures by Education Level of Chief Earner (2004-05)**



Source: NCAER Report 'How India Earns, Spends and Saves: Unmasking the Real India', 2010

Along with expenditure patterns incurred by individuals with different education levels, there are even more evidences which highlight the saving behaviors of individuals by educational attainment. The report on 'How India Earns, Spends and Saves' shows that as people attain higher level of educational level, they tend to save more which makes their future safe. About 29 per cent of people with higher secondary education make savings, which is higher than the 16 per cent of people with up to primary education (Table 5). This proportion is much higher in case of households where chief earner's highest education is graduation.

TABLE 5

**Preferred Form of Cash Saving by Education: All India (2004-05) (% of Households)**

<i>Saving Modes</i>	<i>Illiterate</i>	<i>Upto Primary</i>	<i>Upto Sr. Secondary</i>	<i>Graduate+</i>
Home	53.0	43.7	33.2	16.8
Banks	34.7	42.3	52.5	72.6
Post office	5.1	5.7	5.5	2.8
Others	7.2	8.3	8.8	7.8

Source: NCAER Report 'How India Earns, Spends and Saves: Unmasking the Real India', 2010

There is difference even in saving methods adopted by people with different educational backgrounds. Table 6 presents the preferred forms of cash savings by education level and shows that while larger proportion of people with up to primary education and illiterate

prefer to save cash at home, the secondary educated or graduate people prefer banks to save the cash which is a better means for savings. Hence, the secondary education attainment does have a tendency to divert the behavioral aspects of individuals towards betterment of the society and nation as a whole.

## Conclusion

Secondary education has strong linkages with various socio-economic outcomes at individual level in terms of improved income and better employment opportunities and at national level in terms economic growth and societal changes. The analysis conducted in this paper clearly reveals strong evidences of impact of developments in secondary education on economic performance and social outcomes in the form of health benefits, demographic transitions and behavioural changes. The findings shows that the households with secondary education attainment as the highest education tend to constitute more in top two income quintiles and salaried class/business families. Whereas, those who have acquired below secondary level of education falls in the category of bottom three income quintiles with major source of household income as agriculture/non-farm wages. The attainment of secondary education also diverts the behavioral aspects of individuals towards betterment of the society which again do have economic benefits. In addition to the developments in the school level education, the impacts of mere GER were also tested on various indicators and it was found that secondary GER have positive and significant impacts on improved female employment, personal disposable income, per capita national income, life expectancy, vaccination against DPT, BCG, polio and tetanus immunization for expectant mothers. Whereas, in case of key demographic indicators like Total Fertility Rate (TFR); Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR), Secondary GER show negative relation which implies that with an increase in education even at school level, all these indicators tend to decline, thus doing good for overall society. Not only has this, but secondary education signifies positive health outcomes especially in case of females. Thus this paper clearly brings out that at school level; the impact of secondary education is much higher and significant on various socio-economic outcomes compared to primary or middle education.

Therefore, while considering the role that secondary education plays in the field of economic, social, human and behavioral development, there is a strong need to re-channelize the funds in this sector. Although, XI<sup>th</sup> five year plan has considered the importance of secondary education and have developed few programmes for its quality and quantity enhancement, but these programmes are now more limited to quantity enhancement only, while missing out quality aspect. It is not denied that due to universalisation of primary education in India due to successful implementation of Sarva Siksha Abhiyan (SSA) Yojana, there is huge demand coming for secondary education because of which it is imperative to expand secondary schooling quantitatively, but maintaining quality standard is equally important, otherwise it will be sheer wastage of resources. Although, in last six decades the progress has been made in the secondary sector of education in terms of improved secondary level participation, female participation, pupil-teacher ratio, but the rate of progress does not correspond with the pace of requirement. India still needs to go a long way in achieving a better place at global level. For achieving the target of universalisation of secondary education in India with certain standard of quality, we not only need huge



investment in this sector but also proper and efficient allocation of resources, timely implementation and monitoring of schemes for overall enhancement of this sector. On the whole, this paper highlighted the need to shift the focus from mere quantity expansion to quality improvement at secondary level of education in India considering its strong linkages with varied socio-economic outcomes, thereby putting emphasis on increased investments in this area to reap full benefits for the economy and society as a whole.

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**Impact of Enrolments at Various Education Levels on  
Socio-Economic Outcomes—All India**

<i>Dependent Variables (z-scores)</i>	<i>Test Result</i>	<i>Primary GER</i>	<i>Middle GER</i>	<i>Secondary GER</i>
Per Capita National Income	Beta Coefficient	0.446	-0.031	0.653
	Significance %	0.000	0.781	0.000
GDP at Factor Cost	Beta Coefficient	-0.032	0.035	0.643
	Significance %	0.945	0.947	0.047
Personal Disposable Income	Beta Coefficient	0.399	0.008	0.653
	Significance %	0.004	0.955	0.000
Female Employment	Beta Coefficient	0.604	-0.501	0.885
	Significance %	0.004	0.025	0.000
Total Fertility Rate	Beta Coefficient	-0.521	0.357	-0.861
	Significance %	0.001	0.027	0.000
Maternal Mortality Rate	Beta Coefficient	-0.243	0.064	-0.731
	Significance %	0.428	0.852	0.002
Infant Mortality Rates	Beta Coefficient	-0.487	0.275	-0.826
	Significance %	0.001	0.059	0.000
Life Expectancy at Birth	Beta Coefficient	0.338	0.062	0.638
	Significance %	0.058	0.745	0.000
Vaccination against DPT	Beta Coefficient	0.686	-0.913	0.855
	Significance %	0.116	0.069	0.007
Vaccination against Polio	Beta Coefficient	0.780	-1.168	0.977
	Significance %	0.061	0.017	0.002
Vaccination against BCG	Beta Coefficient	0.594	-0.937	1.075
	Significance %	0.079	0.019	0.000
Tetanus Immunization for Expectant Mothers	Beta Coefficient	0.605	-0.829	1.033
	Significance %	0.055	0.023	0.000
Sex Ratio (Males per 1000 Females)	Beta Coefficient	-1.080	-1.146	-0.802
	Significance %	0.006	0.009	0.003

Notes: Author's calculation based on data from various sources for the period 1991-92 to 2010-11, taken at all India level.



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(Declared by the GOI under Section 3 of the UGC Act, 1956)  
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A candidate seeking admission to Part-time Ph.D. programme is required to meet the following criteria: (i) Should possess the educational qualifications as mentioned in Para (a) above; (ii) Currently, should be in full-time employment; (iii) Should be a senior level educational functionary with a minimum of five years work experience in teaching/research in educational policy, planning and administration.

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Initial short-listing of applications will be carried out on the basis of relevance and quality of the brief write-up (in the prescribed format) in the proposed area of research to be submitted along with the application form. Short-listed candidates will be required to appear for a written test and those qualifying in written test will be subjected to personal interviews to assess their motivation and potential leading to final short-listing and preparation of panel of selected candidates, in order of merit.

**Candidates must be possessing the eligibility qualification and submit marks statement at the time of written test on 18<sup>th</sup> June, 2016.**

#### How to Apply

Candidates may apply in the prescribed form for admission to M.Phil. and Ph.D. programmes of the University along with three copies of the brief write-up (in the prescribed format) on the proposed research topic of a contemporary issue within the broad framework of educational policy, planning and administration. For further details, please refer to the M.Phil.-Ph.D. Prospectus, 2016-17 of the University.

The application form and the Prospectus can be obtained from NUEPA by remitting a sum of Rs.200/- (Rs.100/- for SC/ST candidates) by demand draft in favour of Registrar, NUEPA, payable at New Delhi if required by Post or purchased in person. The Prospectus can also be downloaded from our website: [www.nuepa.org](http://www.nuepa.org) by making online payment of Rs.200/- (Rs.100/- for SC/ST candidates) and attach the receipt/confirmation slip with the application at the time of submission to NUEPA.

#### Last Date of Applications

Application should reach the Registrar, NUEPA, 17-B, Sri Aurobindo Marg, New Delhi-110016 on or before **13 May 2016**. For further details, please visit our website [www.nuepa.org](http://www.nuepa.org)

**Registrar**

## Education and Earnings: A Study of Kenya

### — A Research Study

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P.K. Gupta\*  
Abdirahman A. Issack

#### Abstract

This paper presents the relationship between education and earnings in the state of Kenya. The study was based on cross-section data method that randomly sampled 1000 workers in Garissa town of Kenya with different levels of education and in different types of vocational education in both public and private sectors. The accrued educational benefit of employees, in terms of earnings, was investigated and age-education earnings profiles were constructed. The findings revealed that there is a strong positive relationship between all levels of education and individual earnings, with highly educated workers earning higher salary than those with less education. Vocational-based education earnings' profiles show that engineering profession is well-paying compared to the teaching profession in Garissa town. The paper suggests skill-oriented curriculum that prepares students for the world of work as one of the alternatives to address the white collar job education system currently prevailing in Kenya.

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## The Context

Education, nowadays, is viewed as an investment in human beings. It is well understood that the underlying motive of individual and family in seeking education is to improve their economic prospects through better job opportunities and higher earnings. Most people seek education for economic gains and social needs. This has prompted people to go on pursuing higher education. Thus, there is rapid expansion of the education system at all levels in almost all the nations of the world at an alarming speed even when jobs opportunities are not keeping pace with education. Many schools are being built by either the state, private individuals or organizations. There is also expansion of enrolments at all levels of education—primary, secondary or higher education. There is a prevailing view that all vocations are much more knowledge-intensive and, hence, many more students demand higher education that is associated with significantly high private economic return in the form of higher salaries and status. This perception has put pressure on schooling, with a quest for more academic qualifications that is linked to high rate of private returns. In reality, individuals invest in education due to its accrued benefits such as higher lifetime earnings. Thus, the question that arises is as to whether there is a relationship between education and earnings?

In Kenya, education has been recognized as a basic human right and a powerful tool for human resource and national development. The state has carried out a series of reforms in the education sector. Primary education has been made free and compulsory while secondary education has been subsidized and made tuition free. Education, especially higher education, in Kenya is expanding at an alarming pace, with the numbers of public universities increasing from eight in 2012 to 22 in 2013, thereby accounting for a near three-fold growth in a short span of one year. This indicates that there is a high demand for education, which is viewed as an investment, with a substantial benefit derived, particularly from higher education. The graduates of all levels of education compete for employment in the already saturated labour market; youngsters with primary and secondary education are at a disadvantage vis-a-vis highly educated graduates. The benefits that accrue to youngsters are less and even these benefits differ from each other, depending upon the type of vocational education one possesses. Hence, there is a need to study the relationship between education and earnings in the context of the state of Kenya.

## What does the research say?

Many researches have been undertaken by educationists and economists on the relationship between education and earnings in diverse perspectives, in many parts of the world. Major focus of empirical researches on education and earnings, over the past years, have shown a positive relationship between education and earnings in many countries where such studies were conducted. Research conducted in several countries, including USA, Sweden and Mexico, all suggest that even when other factors are constant, education alone has a strong effect on workers' earnings. Mincer (1962) noted that differences in individual earnings not only varied with differential schooling, but also seemed to increase with age. He argued that this was on account of investment in on-the-job training and that those with more schooling had, as part of the return to their investment, greater access to on-the-job training opportunities than those with less schooling. Blaug (1970) evidence from a cross-section data for 30 countries, 10 of which are developed countries revealed a positive

association between education and earnings in all countries, indeed between any two groups of individuals of the same age and sex, with the one with more education having higher average earnings than the one with less, even if the two groups are employed in the same occupation category in the same industry. Similarly, the findings of the study of Thias & Carnoy (1972) in Kenya on 'cost-benefit analysis in education, showed that the employment factor was crucial in understanding why individuals earned differentially. It was revealed that there were income differentials across employment sectors.

Debi (1983) examined the most profitable level and type of higher education, both from the private and social points of view, and whether investment in education was more profitable than other investment in Orissa state of India. Overall, the findings indicated that all levels of education were profitable, with primary being revealed as the most profitable, both from the private and social points of view. Psacharopoulos and Ying (1992) examined education and earnings in Latin America by Assessing Priorities for Schooling Investments. The finding revealed that in most Latin American countries, the earnings' premium received by graduates of higher education decreased in the 1980s. Investment in primary education showed the highest rate of return among all the levels considered. Contrary, Comi and Brunello (2003) investigation on education and earnings growth: evidence from 11 European countries (Austria, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Switzerland and UK) using cohort data for the period between 1980s-1990s. The finding supported the view that employees with tertiary education have steeper earning profiles than those with upper secondary or lower education. Empirical investigation was conducted by Mwangi, Germano and Damiano (2006) in Kenya on private rates of returns of education; the finding showed low rates of returns for graduates of primary education, with higher rates of returns for secondary education graduates and the highest for university graduates. Agrawal (2012) estimated returns to education in India using a nationally representative survey, via the standard Mincerian wage equation, separately for rural and urban sectors. The finding indicated that returns to education increase with the level of education and differ for rural and urban residents. Private rates of returns are higher for tertiary graduates in both sectors. Returns to education are positive at all quantiles, with the returns being lower at the bottom and higher at the upper quantiles. Most of these studies focus on age-education earnings and there are no studies on age-education earnings with respect to types of vocational education.

### Research Gaps

What emerges from the researches is that little study has been done on education and earnings in the context of Kenya. This remains a matter of serious concern as the education sector is rapidly expanding and the Government, individuals/organizations are investing huge amounts of money on education. A review of the literature shows that there is no similar study on education and earnings, in particular, done for Garissa town of Kenya. Hence, there is a need to conduct a study in the area of education and earnings in Kenya, and, in particular, Garissa town.

While there has been some research conducted on education and earnings in Kenya, no research has been done about the relationship between types of vocational education and earnings in Kenya. This depicts knowledge gaps in the relationship between age-education earning profiles with respect to types of vocational education in Kenya, thus making it

imperative for further research to be conducted in this area. The study intends to construct age-education earnings' profiles for different levels of education and types of vocational education. The findings will shed light on the relationship between different levels of education/types of vocation education and earnings in Garissa town of Kenya.

Finally, a survey of the literature indicates that some of the relevant studies conducted in Kenya were during the 1970s. Hence, these necessitate undertaking the present study on the subject matter.

## **Objectives of the Study**

The following are the objectives of the study:

1. To prepare Age-Education Earnings' Profiles with regard to different levels of education of workers in Garissa Town of Kenya.
2. To examine the most profitable level of education in the state of Kenya, and in particular Garissa Town.
3. To prepare Age-Education Earnings' Profiles with regard to the education in the following vocations:
  - i. Teaching profession
  - ii. Technical/Engineering profession
4. To examine the type of vocational education that provides higher earnings with respect to the education leading to Teaching and Engineering profession in Garissa Town.

## **Assumption of the Study**

While constructing the age-education earnings profiles with regard to different levels of education and types of vocational education, the following assumptions have been taken into consideration:

1. All the age-education earnings' profiles are constructed regardless of the sex of the individual.
2. Individuals are assumed to start working in paid jobs immediately after completing their education. For this study, it is assumed that illiterate workers enter the labour market at the age of 15, workers with primary level of education at the age of 18, workers with secondary education at the age of 20 while those with tertiary education enter the labour market at the age of 25 years.
3. The retirement age of workers has been reckoned as 60 years, as fixed by the National Government of Kenya. Incomes for people above 60 years of age are not considered in the construction of these profiles.
4. The earnings' data for different workers in the profiles are based on the information obtained from the workers' responses.



## Research Design

### Sample

The study was based on primary data collected through the field survey conducted in Garissa town of Kenya. The town selected for the study was the headquarters of the county and an urban centre. The town has a cosmopolitan population, which has migrated and settled there due to its employment opportunities and other economic benefits because of its rapid growth. The study randomly sampled 1000 workers, with different levels of education as well as different types of vocational education in both public and private sectors, in Garissa town. The details of the sample size and respondents are presented in Table 1.

TABLE1  
Sample size and respondents by Educational levels in Garissa Town

<i>Levels of education</i>	<i>Sample</i>	<i>Respondents</i>	<i>Missing questionnaires</i>	<i>Missing data questionnaires</i>	<i>Useable forms</i>	<i>Percentage</i>
Illiterate	300	289	11	21	268	89.3
Primary	300	286	14	23	263	87.7
Secondary	200	184	16	19	165	82.5
Tertiary	200	182	18	15	167	83.5
Total	1000	941	59	78	863	86.3

The levels of education used in this study signifies years of schooling i.e. Illiterate represents zero years of schooling, Primary eight years, Secondary 12 years and Tertiary a minimum of 15 years of schooling. The types of vocational education examined are teaching and engineering professions.

### Tool Used

All the relevant information was collected through a structured questionnaire that had 30 items and was specifically designed for the study. The questionnaire was pre-tested, and the relevant parts modified and more aspects incorporated so as to make it suitable for collecting all relevant information. Likewise, a structured interview schedule was developed and used for collecting information from the illiterate workers. The study was conducted over a period of seven months from February to August, 2014 and the researcher collected the workers' personal information like income (salary or wage), age, level of education, type of vocational education, experience, sector of employment etc.

### Research Method

This study was an ex-post facto research aimed to construct Age-education earnings' profiles for different levels of education and types of vocational education for the workers in Garissa town of Kenya.

### Data Collection

This study was based on cross-section data that examined the direct benefit of employees in terms of monetary earnings (wage and salary) with different levels of

education and types of vocational education. Non- salary income was not considered. The researcher collected data by administering structured questionnaire to educated workers and conducting interviews with illiterate workers. With the help of these data, the researcher constructed age-education earnings' profiles for workers with different levels of education and types of vocational education. The cross-section data has the advantage of not being affected by the influence of business cycles and they move in sync with the pattern of educational choices of individuals.

**Data Analysis and Age-Education Earnings' Profiles with respect to Different Levels of Education (Illiterate, Primary, Secondary, Tertiary)**

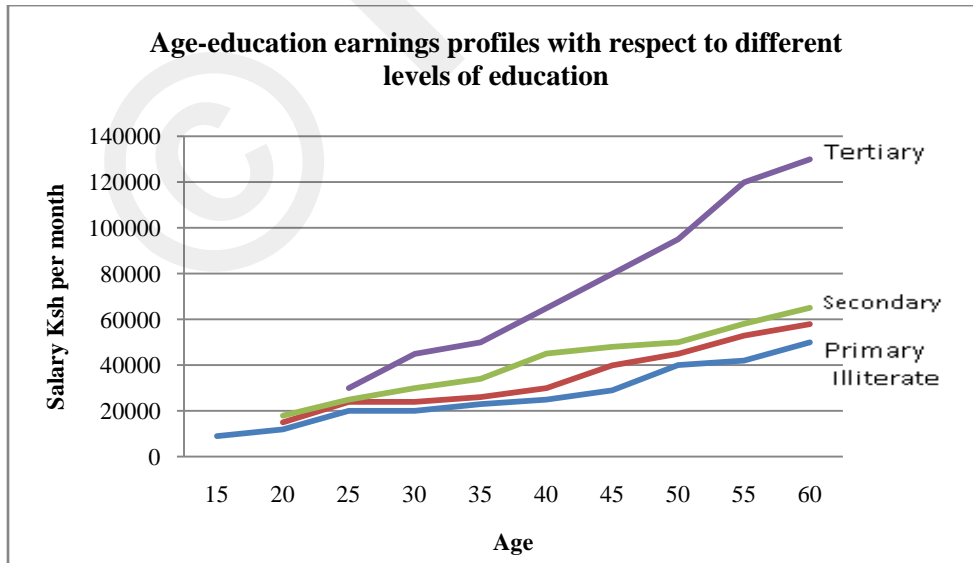
The researcher collected 86.3 per cent of information from the respondents as shown in Table 1. The data was first manually edited, classified and then tabulated for systematic examination, with the help of a computer-aided Excel programme. The researcher then constructed age-education earnings' profiles for workers with different levels of education and types of vocational education. A descriptive statistical design was used to explain the relationship of the observed findings.

**Findings**

The findings of the study are presented in two parts viz. A & B

**PART—A Age-Education Earnings' Profiles in respect of Different Levels of Education (Illiterate, Primary, Secondary, Tertiary)**

FIGURE 1  
Age-Education Earnings' Profiles



On the basis of the above Figure1, the Age-education earnings' profiles show:

- i. The workers with tertiary education enter the labour market at the late age of 25 years and start with higher earnings, their earnings increase steeply, without decline, until the retirement age of 60 years and later years attain maximum earnings.
- ii. The workers with secondary level of education enter the labour market at the age of 20 years and start earning salary, that is less than what the tertiary workers earn, and their earnings gradually increase, without decline, until the retirement age.
- iii. The workers with primary level of education enter the labour market at the age of 18 years, start with low salary and their earnings increase at the minimal level until the retirement age.
- iv. The illiterate workers enter the labour market at the age of 15 years and start with the lowest salary and retire with low salary.

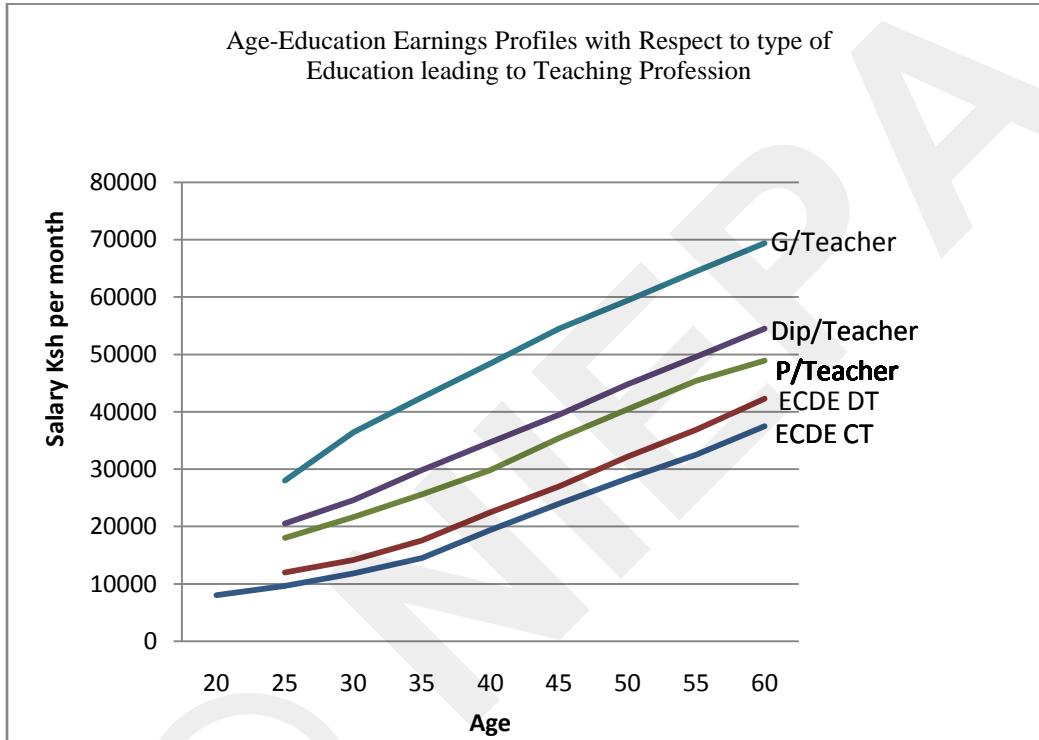
We can observe that the workers with tertiary education enter the labour market at later age of 25 years and above with higher qualifications like Ph.D, Master's degree, degree or diploma in different fields of education. They start with a higher salary and retire with maximum salary at later age. This finding is similar to that of Blaug (1970) in that "the higher the educational attainment the steeper the rise in earnings throughout..." At the same time, the finding disagrees with Blaug (1970) and Tilak (1994) in India that the profiles at some point level off or, in some cases, even decline. Blaug (1970) revealed similar positive association between education and earnings in countries like USA, UK, Mexico, India, Canada, Kenya, Nigeria, Chile, Colombia etc.. The Age-Education earnings' profile for the tertiary education is steeper than that of any other earnings' profiles, signifying more returns to highly educated workers, and this is similar to studies of Woodhall (1987) in Psacharopoulos (ed.) and Blaug (1970).

The finding shows that workers with secondary education qualification earn far less than the highly (tertiary) educated workers. Their earnings gradually increase, without decline, until retirement age similar to the Agrawal (2012) study in India that found "high returns to high levels of (tertiary) education that would persuade secondary graduates to remain in school to obtain tertiary education." Mostly, workers with Secondary level of education aspire to acquire higher qualifications and usually upgrade their education in middle level colleges for achieving better earnings. The finding shows that workers with Primary education earn low returns; this is also evidenced by the studies of Debi (1988) and Blaug (1970). Most of the workers at the primary level strive to upgrade their qualifications with time to derive more earnings. For illiterate workers, the finding shows that they earn the lowest salary. The low earnings for illiterate workers are also evidenced in the studies of Debi (1988) & Tilak (1994) in India and Blaug (1970) where workers with less education or without education earn the lowest.

Thus, this presents the scenario wherein higher the education or qualification of a worker, the higher the earnings. Indeed, Blaug (1970) observed that between any two groups of individuals of the same age and sex, the one with more education will have higher average earnings, even if the two groups are employed in the same occupation category in the same industry.

**Part –B: Age-Education Earnings’ Profiles in respect of Types of Vocational Education (Teaching and Engineering Profession)**

**FIGURE 2**  
**Age-Education Earnings’ Profiles with respect to Teaching Profession**



Key:

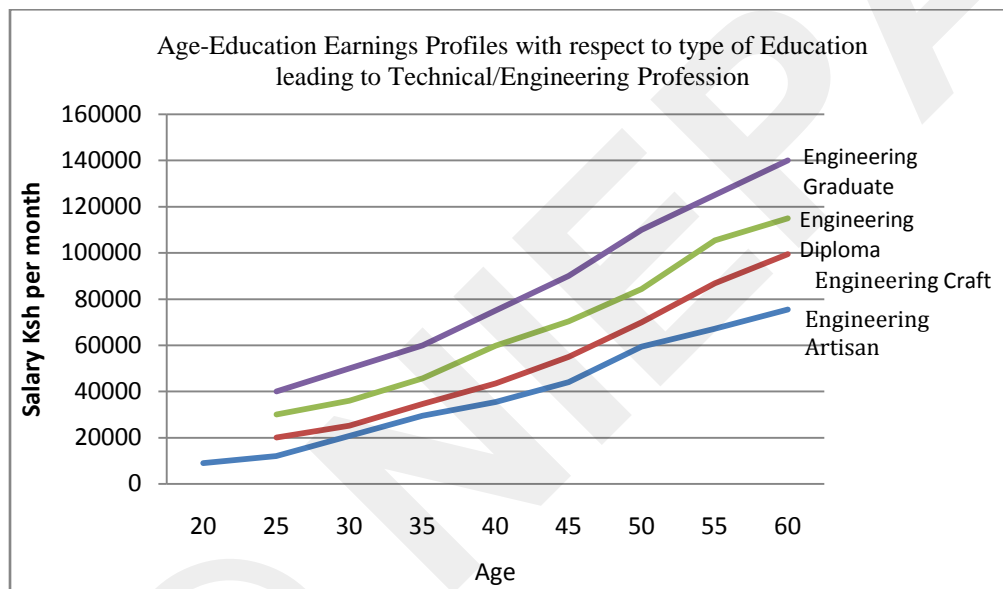
G - Graduate	Dip. - Diploma	P- primary	ECDE-Early	Childhood	Development
DT - Diploma Teacher	CT - Certificate Teacher	ECDE-Early	Education		

- The Age-education earnings’ profiles in respect of teaching profession in Figure 2 show:
- i. Graduate Teachers enter the labour market at late age of 25 years. They start with high salary and their salary steeply increases until the retirement age of 60 years when they retire with an average of high salary. Graduate Teachers’ earnings are far ahead of the next adjacent diploma teachers.
  - ii. Diploma teachers enter the labour market at late age of 25 years with an average salary, which is less than what graduates teacher start with, and their salary increases until retirement.
  - iii. Primary Teachers enter the labour at the age of 24 years, start with an average salary, which is less than what the diploma teacher starts with, and their salary gradually increases until their retirement.

- iv. Early Childhood Development Education teachers, with diploma, enter the labour market at the age of 24 years and start with an average salary, which is less than what a Primary teacher starts with, and their salary gradually increases until their retirement.
- v. An Early Childhood Development Education teacher, with certificate, enters the labour market at the age of 20 years and retires with small average salary. They earn the least salary.

FIGURE 3

### Age-Education Earnings' Profiles in respect of Technical/Engineering Profession



The Age-education earnings' profiles with regard to Technical stream engineering Profession in Figure 3 show:

- i. Graduate engineering workers enter the labour market at the late age of 25 years and start with a high average salary; their salary steeply increases until the retirement age of 60 years when they retire with a high average salary. They earn the highest salary.
- ii. Diploma engineering workers enter the labour market at the late age of 25 years with an average salary, which is less than what graduates engineering workers start with. Their salary increases steeply until retirement.
- iii. Vocational engineering workers, with craft (certificate), enter the labour market at the age of 24 years with an average salary, which is less than what diploma engineering workers start with, and their salary gradually increases until their retirement.
- iv. Vocational engineering workers, with artisan qualifications enter the labour market at the age of 20 years and start with an average salary, which is less than what craft engineering workers start with. They earn the least salary.

We can observe that university engineering graduates enter the labour market at the late age of 25 years and start with substantially higher average earnings than the workers with engineering diploma qualifications; these in turn earn more than those with engineering craft (certificate) qualifications or artisan qualifications. Thus, the profiles show that earnings vary with qualifications, age and type of vocational education. Based on the types of vocational education and earnings, engineering profession is well-paying as compared to the teaching profession.

## **Policy Implications of the Study in the context of Kenya**

The present study will enrich the existing stock of knowledge in the field of education and earnings in Kenya, especially pointing out the most profitable level of education and type of vocational education. Additionally, the study will serve the purpose of academicians, administrators, professionals, researchers, planners and economists concerned with economics of education. It would also provide the opportunity to the researchers to disseminate their knowledge and experience worldwide. In the context of Kenya, the study will be useful in the following ways:

- i. The study will be beneficial to the state, educators, students and parents to make appropriate decision in education.
- ii. Policy-makers and planners of education will find it useful to invest the Government's scarce resources in the most profitable level of education that yields the highest returns.
- iii. Aid private investors in education to invest their money in the most lucrative education appropriate.
- iv. Assist consumers of education to enroll in a profession that is well-paying and prepare them for the world of work. It will give consumers of education the motivation to invest in profitable higher education and vocational education in anticipation of greater rewards.
- v. On every financial year, the Government allocates a huge amount of money in the education budget. Thus abet the allocation program in view with the most profitable level of education and type of vocation education.

## **Conclusion**

The relationship between education and earnings has always been the subject of heated debates. There is a strong positive relationship between all levels of education and individual earnings; highly educated workers earn higher salary than those with less education in all countries of the world. The study examined the relationship between education and earnings for workers with different levels of education and in different types of vocational education in Garrissa town of Kenya. The findings revealed that the workers with tertiary education earn the highest salary, while illiterate workers earn the least. With respect to types of vocational education, the engineering profession is the most remunerative profession as compared to teaching profession in the town. The findings are very relevant to Kenya as the highly educated workers earn higher salary than those with less education in both public and private institutions. In Kenya, education produces the

needed human resource for the world of work and it is necessary to make the curriculum more skills-oriented than academic-oriented. The state needs to assess the quality of education continuously and undertake deliberate quality initiatives to ensure that education equips students with the confidence, ability and skills needed for life and for productive work. The Education system should reduce the production of graduates for white collar jobs and promote self-reliance or self-employment in country. The researcher gives the suggestions that education in Kenya should be free at the lower levels i.e. Primary and Secondary as basic human rights. The curriculum should be more skills-oriented that prepares students for the world of work than the current academic-oriented curriculum.

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*Appendices*

Age-Education Earnings' Data Tables - All amounts are in Kenya Shillings (Ksh)

TABLE 1

**Age-Education Earnings' Data with respect to levels of Education**

Age	Illiterate	Primary	Secondary	Tertiary
15	9000			
20	12000	15000	18000	
25	20000	24000	25000	30000
30	20000	24000	30000	45000
35	23000	26000	34000	50000
40	25000	30000	45000	65000
45	29000	40000	48000	80000
50	40000	45000	50000	95000
55	42000	53000	58000	120000
60	50000	58000	65000	130000

TABLE 2

**Age-Education Earnings' Data with respect to Teaching Profession**

Age	ECDE CT	ECDE DT	P/ Teacher	Dip. Teacher	G/Teacher
20	8000				
25	9600	12000	18000	20500	28000
30	11800	14200	21600	24600	36400
35	14500	17600	25600	29800	42500
40	19400	22500	29800	34700	48400
45	24000	27000	35400	39500	54500
50	28400	32200	40400	44800	59400
55	32500	36900	45400	49600	64500
60	37500	42300	48900	54500	69400

**Key:**

G - Graduate

Dip. - Diploma

P-Primary

DT - Diploma Teacher

CT - Certificate Teacher

ECDE- Early Childhood Development  
Education

TABLE 3

**Age-Education Earnings' Data with respect to Technical/Engineering Profession**

Age	E/Artisan	E/Graft	E/Diploma	E/Graduate
20	9000			
25	12000	20000	30000	40000
30	20800	25200	36000	50000
35	29500	34600	45600	60000
40	35400	43500	59800	75000
45	44000	55000	70400	90000
50	59400	69900	84400	110000
55	67200	86900	105400	125000
60	75500	99500	115000	140000

Key: E- Engineering

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## Abul Kalam Azad

### — An Epitome of Culture<sup>#</sup>

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Kapila Vatsyayan\*

Perhaps it was at the Congress Session of 1937, that I saw on the dais a stately looking figure: awesome, impressive and with a commanding dignity. In succeeding Congress sessions, as volunteers, we watched a galaxy of leaders delivering impassioned speeches, calling upon us to be equal partners in the struggle of freedom.

There was something in the air, but one did not quite know what exactly this freedom stood for other than a clear commitment for the removal of a foreign regime. Recitations of poems of Tagore, verses of Bharati, were as much part of our cultural education, as was the reading of the Old and New Testament; the tales from Shakespeare's plays by Charles Lamb; stories of Beowulf and Anglo Saxon poetry.

As students, either in the vanguard or rear guard of processions, we shared the fervour with inadequate comprehension. In the 1942 movement, there was a keener awareness of what bondage stood for and the freedom aspired for. Gradually, almost imperceptibly, came emotional fervour, the hero worshipping of leaders. By the 1942 movement this was juxtaposed with an intellectual and a critical understanding of the socio-economic, educational and cultural aspects of the bondage. By 1947 equally poignant was the reality and the challenging experience of the divisions of community from community and religion from religion which had been created and made real from the figments of distorted mind. We shouted slogans, saw riots, rehabilitated refugees as freedom came. As observers, participators in a smaller or greater measure, it came home that freedom was not merely from the external foreign regime, but freedom was the continuing, ever present challenge of creating harmony and balance within. No books, no poetry, no speeches, not even news of leaders going to jail, could bring this home more meaningfully with a charged, simple intensity than the memorable last prayer meetings of Mahatma Gandhi in January 1948.

The enthusiasm, the new inspiration and the hope and the desire of building a new India ushered in 1947 were present in abundance, but equally present were the pain and the anguish, the horror and the sorrow of a family divided and a Father of the Nation

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# Sixth NUEPA Maulana Azad Memorial Lecture delivered by Dr. Kapila Vatsyayan held on November 13, 2015 at India Habitat Centre, New Delhi.

communicating his despair in words of childlike simplicity and wisdom that resonated then and they resonate now.

It was these emotionally charged encounters which were responsible for changing the course of normal flow of mundane desire for a career, to a commitment at a deeper level. Not without reason, therefore, when Maulana Abul Kalam Azad was appointed the first Minister for Education in independent India, he stood for us as a symbol of the freedom from bondage, not only at the political level but, more, at the socio-cultural and educational dimensions.

Little wonder that he mobilized around him no career administrators but a band of committed educationists: who shared his vision; who were committed to making education an instrument for transformation of the Indian socio-cultural reality.

Despite the great difference in personality, perceptions, Maulana was not a disciple, but certainly a follower of Gandhiji in two fundamental aspects. Here he would make no compromises. The first was the unity of undivided India and the other in respect of basic education at the primary and elementary level. Also, Maulana was a humanist first and last. His phenomenal scholarship, his extensive erudition and his mastery over theological issues did not blunt his sensibilities as a poet, and a connoisseur. Literature, poetry and music were closest to his heart. In jail and elsewhere he could sing out the verses:

"No one tells me where my journey will end: I have traversed wilderness after wilderness, and there are yet more wildernesses to be crossed", and

"In this garden, where spring and autumn are wrapped together in an eternal embrace, Time has a wine-up in its hand and a death's head on its brow".

The silence of his inner poetic sensibility would be broken through couplets which followed with the same ease as his fiery passionate speeches in Congress pandals. Besides, as a man, Maulana was deeply immersed in the philosophic thoughts and literature of West Asia and the cross-cultural movements that took place throughout the centuries, inter-linking India with cultures adjacent and remote. All these qualities were combined into one personality in this first Education Minister whose faith in the unity and integrity of India was unshakable. For him education was an instrumentality for social transformation, a poetic sensibility which verged on the mystical, was the inner journey, and outer action, was the expanse which embraced all cultures of the world. As Education Minister, it was his prime responsibility to concretize these commitments into an educational policy of independent India and initiate plans and programmes. He set out to do this with great agility of mind and understanding of the constraints of the structures which had already come to be and which could not be demolished overnight.

Political freedom had been won, but the shackles of archaic and inappropriate structures were not so easy to shake off. He was committed to basic education; he drew upon the experiments of Zakir Saheb, called upon Saiyidain and others to establish a new system. However, both within Government and Parliament he was acutely aware of the fact that basic education would not be viable and effective outside the context of the socio-economic cultural plan and programme of a Mahatma Gandhi. His despair on this account is clear and unequivocal. Time was short and the spheres on which educational programmes had to be launched were many. In each meeting of the Central Advisory Board of Education, Maulana drew attention to this need of paying the utmost attention to primary and elementary education. However, this was not to be at the cost of the urgent need for

vocational education and adult education. The appointment of the University Education Commission, and the Secondary Education Commission in 1952, reorganization of All India Council for Technical Education, the establishment of the chain of libraries of scientific research, the development of the Indian Institute of Science, the establishment of University Grants Commission, the establishment of the National Archives of India, the three Akademies, the National Museum, the nationalization of the Salar Jung Museum, the Indian Museum, were all the results of the initiative taken by Maulana as the first Education Minister. Contact with foreign countries was as essential, and thus it was his personal initiative which was responsible for the establishment of International Cultural Relations Cell and of course he was the founder of the Indian Council for Cultural Relations. On the achievements of his ten years in office, he said on 6th February 1958, "When I assumed charge of Education in 1947, I immediately saw that there could be no solution of our educational problems without the fullest co-operation of the Centre and the Provinces. Education was no doubt a provincial subject, but it was my considered opinion that this distinction could be maintained only when our educational targets have been achieved. Till such time, the Central Government should openly recognize that though education is a State subject, it must share this responsibility with the State Governments if we are to meet the challenge of the times".

And yet, as he looked back on his achievements of ten years in office, he remarked, "The progress which has been achieved in spite of these difficulties can be measured by the fact that when I assumed charge, the Central budget for education was only about Rs. 2 crores and is today considerably more than Rs. 30 crores. It is not only the financial allocation which has been increased, but there has been expansion in all types of activities".

Despite all these achievements, he was aware about the difficulties and often spoke of financial constraints, specially his inability, almost helplessness, in finding more monies. In reply to demand for grants, he had said in the Parliament in 1952,

The question is whether this knot, which has come in the way of education and which is being lamented for the last five years, can be cut by complaints of this nature. My budget speech last year was not just a speech, it was an expression of my mental agony which thus found an outlet. I have stated in detail how the Government decided to go ahead in all directions in the educational field during the last five years and how they had to stop for sheer helplessness.

With a full sense of responsibility I have been telling you and do so again that there is no aspect of the educational problem in the country which the Government have not considered and on which they have not made plans. Today, you have mentioned only a few matters connected with the educational problem. Four years have already rolled by since the Government not only considered these matters but finalised their policy about all these fundamental and important matters also. They appointed committees on almost every subject, considered the recommendations of these Committees and finalised plans for work. There is hardly any branch of education such as basic education, adult education, technical education, university education, physical exercise education, etc.etc. which has been ignored and for which a finalised scheme is not ready now. But when all the schemes were ready and the Education Ministry took final decisions to implement them, we came to know that the road was blocked and that we could not take even a single step in that direction. Why is the road blocked? The reason is that we require money to get every scheme implemented and unfortunately we have not got sufficient money. If we cannot provide money for this purpose

it is obvious that we cannot do anything practical, no matter how many schemes we may work out on paper. Will any hon. Member out of five hundred Members of this House, be pleased to suggest to me how to remove this impediment?

For Maulana Saheb, at no time, the system of education was to be dissociated from socio-economic life of today or tomorrow. At the first meeting of the Central Advisory Board of Education under his Chairmanship and at other subsequent meetings, he reminded us, 'Our system of education must not be formed in isolation from our social and economic life of tomorrow. Different sides of our life and activities must be correlated. The primary aim of any system is to create balanced minds which cannot be misled. We must be strong mentally before we can think of building a nation'.

Restructuring of secondary education was and is still difficult but Maulana gave it attention and concentration; but for him there may not have been a Central Board of Secondary Education. Of greater significance are the bold initiatives taken by Maulana in the matter of technical education and the establishment of the Council of Technical Education and it was through this modality that the higher technical institutes were established and which formed the bedrock of the development of technical education in the country.

Maulana undertook the unenviable and challenging task of introducing four Bills in Parliament relating to the Central Universities. As a young officer, writing notes on these Bills and listening to the debates in Parliament, one realized that the universities of Vishva Bharati, Banaras, Aligarh and Delhi aroused deep emotions. As a listener of these debates it was brought home once again that Maulana's commitments were unshakeable and he was a true follower of Gandhiji in more senses than one. Responding to some scathing criticisms on the Vishva Bharati Bill in 1951, he said as many as five times, 'that the objects of the Bill are to preserve and promote the ideals for which that great Institution was established. Further I had then referred to what had transpired between me and Mahatma Gandhi in January 1947 at the time I took charge of this Ministry. He had told me that Gurudev had left a great trust with him which he was going to entrust me thereafter. The Government of India, by introducing this Bill, had tried to preserve that trust and the passage of this Bill does not mean at all that any dishonesty will be practiced, instead of making efforts for its ideals for which this University had stood all along. Doing that, I feel, will, instead of preserving it, mean sheer, dishonesty and a betrayal of the trust.'

His ideas of what institutions of higher education might be, came through in the scintillating words that the institution does not need any building, 'nature provides us with the canopy of the sky and the open spaces where spirit will flourish. Brick and stone do not make institutions.'

Again in another context, responding to the criticism about the appropriateness of having schools associated with Shantiniketan, he was quite clear in his mind that the original character of the University would not be disturbed. Although Dr. S.P. Mukherjee and Maulana Azad differed on many fundamental matters, in this matter of preserving the intrinsic character of Vishva Bharati, Maulana Azad accepted all amendments suggested by Dr. S.P. Mukherjee and Dr. C.D. Deshmukh.

Maulana's wit and humour were unmatched. As a Parliamentarian, he replied with razor sharp retort. When one Member suggested that there should be a specific mention of civilizations and teachings of civilizations in the Act, Maulana's reply was brilliant. He said, 'The objective has been stated above and ends with the reference to caste and creed and this sentence in question is only a concluding one, when we generally utter the words "in the

name of God" or "in the name of the Divine Being", " in the name of Bismillah" etc. They, therefore, do not form a part of the objects proper. It is not the position. I will again bring it to your notice that it has nothing to do with this issue. The object of the university ends with the words, "all religions and caste and creed."

The debate on the Aligarh University Bill was stormy, long and brought up many matters which went into the fundamentals of approaches in regard to the religion, culture, education. Each of these debates shows Maulana's catholic, open attitude. His tolerance and his total commitment to an education system of a secular Government being nothing but secular, at the same time he was anxious to assert that although the character of these institutions could not be changed, religious instructions could not be made compulsory. The passage of the Bills of Aligarh and Banaras Hindu University were concrete instrumentalities for bringing about socio-cultural transformation through education. He was clear that the universities as they had been established should continue. He insisted on the retention of the words Banaras Hindu University and Aligarh Muslim University but at the same time asserted throughout these debates that the curriculae should be international encompassing all civilizations and cultures. Of importance was also his awareness of the fact that the structures, whether of the University or the University Grants Commission should continue to be *modelled* on patterns of the British system. Throughout the debates he made mention of the fact that at the moment, "we are following British system to a great extent and adapting it for our purpose. Later it will be necessary to have our own appropriate systems". A re-reading of these debates *brings home* the fact that Maulana's aspirations were for creating new models but he was also aware of the necessity on immediate action and therefore retention of the older models.

As deeply committed to arts, literature and the heritage, Maulana Azad took keen interest in the reorganization of the Archaeological Survey of India, the establishment of the National Museum and the National Archives of India, the Council of Historical Records Commission. From amongst the many reminiscences, I recall one great learning experience. Maulana wanted an All India Council of Museums to be established. Museums as they were at that time were omnibus comprising art, geology and botany. A few were established by the British and there were a handful of private museums. In a room in the Ministry of Defence where tribunals had held meetings and freedom fighters had given evidence, the first meeting of the All India Council of Advisory Museums was held. Maulana gave a speech in Urdu which was as full of gravity as full wit and humour. He punned on the word *ajaiabghar*, then held forth on what constituted the heritage, went into the riches of Asia, the export of art objects to the British Museum. The speech, its contents and the manner of its delivery left each of us *stirred*, inspired because Maulana had given the call for another type of freedom: The freedom to know and recognise your intellectual past and to come to terms with it.

Rai Krishnadasa and Moti Chandra who sat and listened to the speech could not but come up to acknowledge the depth and perception of Maulana's speech.

Maulana, in turn, was a hard task master, wanting immediate action, even checking up on the promptness of writing the minutes of a meeting. It was his perseverance almost which enabled the Ministry of Education to have an administrative set up for museums. Archives, historical records were naturally very dear to his heart. He knew his material, knew his texts, could pinpoint the primary sources and could give instructions to the heads of archives and others to keep the records of the country in order. This aspect of his character, one could

only know if one had worked with him. The poet in him expressed itself in many ways, not in the least when it came to preserving monuments like the Taj Mahal or declaring others as monuments of national importance. The revision of the 1904 Act was at his initiative.

The poet in Maulana and the writer in Jawaharlal Nehru, the philosopher in Radhakrishnan were the motivating forces behind the establishment of the three Akademies. Never before perhaps and never after has there been such a symbiosis of vision and power of creativity together, in recent history. These giants and men of letters sat at the very seat of power to *create institutions* which should foster imagination and which would not be shackled by the silken threads of the centres of power over which they themselves presided. Maulana Azad and Jawaharlal Nehru were the strongest exponents of giving freedom, autonomy to the Akademies. I recall that Maulana Azad was even reluctant to get the Akademies registered as autonomous bodies with a Constitution and framework and annual grants in any hurry. Each time this matter was brought up before him, with his beautiful, long tapering index finger, he would point out to you and say, "No hurry, poets, writers, philosophers will meet, they will discuss, they will reflect and they will find ways and means of governing themselves. Why are you in such a hurry to put them all into one solid framework?" The wisdom of these words one realizes when one looks on the history of the creation of inappropriate structures to contain foster and regulate creativity.

A remarkable presentation of 1954 on the inauguration of the Lalit Kala Akademi, Maulana Azad made an important talk reflecting on wide range of subjects dealing with culture. I thought it may not be inappropriate to quote him at length:

"I have always been of the view that apart from the intrinsic value of art for its own sake, it is an essential element in education as it develops the feelings and aesthetic sensibilities of man. I may remind you of what I said at that conference in Calcutta in defence of art in education and life:

It is today that I realised that no education can be complete which does not pay proper attention to the development and refinement of the emotions. This can be done best through the provision of facilities for training the sensibilities by the practice of one of the fine arts. Apart from the general question of developing the finer aspects of personality through artistic education, there is also the immediate utility of such education in developing our manual skill and perceptive sensibility. It is recognized today that education at pre-primary or nursery stage can be best imparted through training the child in the matching of colour, shapes and sizes. This releases the creative instinct in the child and thus diverts his superfluous energy from merely destructive channels into those of social behaviour and decorum. Thus, whether from the point of view of the training of the emotions, or refinement of sentiments, or development of manual skill and creative urge, the importance of art as an element of education cannot be over-emphasized.

..... I have, however, always held that in the field of art the role of the Government must be secondary. The Government should, no doubt, take an interest in the development of art but the truth is that art cannot really flourish until there are strong non-official agencies working for it. This is the main reason for the setting up of the Lalit Kala Akademi which, though established by the Government, will work as an autonomous body and without any interference from the Government in its activities. It is true that it is being set up by the Government but this is only because someone had to take the initiative in setting it up. Now that this has been done, the work of the Government is over and from now on it will be your



function as members of the Akademi to provide inspiration to artists throughout the country.

.... I need hardly repeat to an audience like the present one, the record of India's glorious heritage of art. In the field of architecture, she has monuments which challenge comparison with the best anywhere in the world. Her sculptures have a plastic quality and vitality that have evoked the admiration of the most carping critics. Her paintings, whether they are the ageless frescoes of Ajanta or the exquisite miniatures of the Middle Ages, are a precious heritage for the whole world. Not only in such traditional works of art, but also in articles of everyday use – made of clay or stone, brass or ivory, silver or gold, or bamboo, cane or wicker – her artists and artisans display wonderful skill.

The Lalit Kala Akademi, which is being set up today, must work to preserve the glorious traditions of the past and enrich them by the work of our modern artists. It must also seek to improve standards and refine public taste. If it serves this purpose, and I have every hope it will, the Academy will have justified itself to India and the world.

Maulana Azad was a champion of languages. His versatility in Persian, Arabic and Urdu was known but few recognized Maulana's inspiration behind the programmes of Sanskrit, the establishment of the Council of Scientific Technical Terminology and the impetus that he gave to several institutions for the propagation of Hindi, such as the Dakshin Bharat Hindi Prachar Samiti etc. The Parliamentary combat with Purshottam Das Tandon, Seth Govind Das and the Maulana on the other was familiar to us. We expected that knives would be sharpened, swords of ideological positions drawn and insinuations made. Each time Maulana stood his ground firmly. Never against Sanskrit or Hindi, he was equally opposed to the domination of any language over any other language. It was Maulana Azad who took the greatest interest in launching the scheme of the Sanskrit Dictionary based on Historical Principles. It was also Maulana Azad who repeatedly drew attention to the need for strengthening the study of classical languages.

In this respect, as in the matter of national integration and his being a true Indian, a true Muslim, he was a follower of Mahatma Gandhi, because for him the language of integration was Hindustani. This he wrote and spoke and in fact if one saw intolerance anywhere, it was when officers of the Government of India could not communicate with him in an Indian language. It was not uncommon for the Maulana to interrupt meetings if participants or officers begin to speak in highly Anglicized English. He understood the language well, but with a naughty glint in his eyes he would turn around to Saiyidain or Ashfaque and ask the question, "what is that person or woman saying in this English gibberish?" Those returned from Cambridge or Oxford were promptly put into their place. That was Maulana, the Hindustani first and last. However, his pain at insinuations hurled at him could not be contained. In one debate he burst out,

"I want to tell you that you should not expect me to talk in a tone of flattery. Only that one indulges in flattery who has an axe to grind and who wants that everybody should be pleased with him and that he should not lose the office of a Minister. I have no self-interest. Forty years ago, when nobody had even heard of my friends sitting around here, I decided to dedicate my life to the service of the country. I am talking of 1907 when I was 18 or 19 years of age and joined the Revolutionary Party of Bengal. Since then my whole life has been an open book before the world. There is no desire left in me now. The larger part of my life is over. Whatever little remains will also end one day. I have no desire and no ambition now. I may tell you that when a man has no personal motive left in him, he loses his identity. I mean

that such a man is immune from worldly setbacks. Such a man is unassailable by weapons because this body is assailable so long as there is self-interest in a man. Once this weakness for the self disappears, nothing can harm or injure a man. I may tell you frankly that for the misfortune that befell this country as a result of the two-nation theory and the establishment of Pakistan, this sort of mentality, this sort of attitude has been as much responsible as the misguided Muslims and the Muslim League.”

Hindustani for sure, but equally international, Maulana Azad was familiar with the age-old cultural dialogue between India, the West Asia and the East. Like Mahatma Gandhi, he wanted the winds of all cultures to blow through India but without being uprooted.

One of the first actions of Maulana Azad as Education Minister was to set up Chairs of Indian Studies in West Asia. This included a Chair of Sanskrit in Iran, Iraq and what was then Egypt. It was at his initiative that Kalidasa's *Shakuntalam* and other works of Sanskrit were translated in the Arabic for free distribution to the libraries and institutions in West Asia. In many meetings he referred to the close proximity of Avesta and Sanskrit and the need for Indians to know Pahlavi. A programme of receiving books from these countries and sending books to those countries was the first initial scheme which later came to be known as presentation of books scheme. South-east Asia and cultural ties with these regions also called for his attention. He was particularly interested in Indonesia and its heritage and the common ties between Indonesia, Malaysia and India. Long before the UNESCO General Conference in 1956, he had already established an Indian network of education and cultural exchanges. The founding of the ICCR should be viewed in this larger context of Maulana Azad's vision of fostering ties between India and other cultures at a non-political, purely cultural and educational level. It is perhaps pertinent to recall at this moment that Maulana Azad was very clear in his mind that the culture and education dialogue must not be conditioned by exigencies of foreign policy, and it was at his instance that the cultural exchange programmes between India and other parts of the world remained in the administrative charge of Education and Culture, and not External Affairs.

As a scholar-savant he was anxious to ensure that the India Office Library returned to India. Reluctant though he was to take trips abroad, he undertook to visit London to discuss with the British Government the return of this Library. He said that in the eyes of the law, the contents of this Library belong to India and should be returned to India. However, in the interest of the dissemination of knowledge, copies should be given to British libraries as also libraries elsewhere. The Government of UK raised many legal issues and mooted the proposal of the division of this library into India, Pakistan and later they brought up the question of Mandlay papers of Burma. Maulana wanted the library back. It should have been returned to India on the eve of independence. Although Maulana had accepted the division of India with pain and defeat, but the division of this library into fragments he would not accept. A library he told us but was a totality, a person and at no time a library be dismembered because it would almost mean the dismembering of a personality, a human being. Committed to a united vision, whether in life or scholarship or education, Maulana stood for a unified vision.

This was "the" message and the lesson we learnt from him.

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## Assessment, Curriculum, Pedagogy

### — Towards Conceptualising an Alternative Framework of Assessment

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Garima Bansal\*

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## Introduction

This inquiry is largely premised on the belief that even though ‘assessment, curriculum, pedagogy’ forms the basis of all educational practice, it is the assessment that exercises a hegemonic control over all other educational processes (Broadfoot, 1996). This work was conceptualised with a growing disapproval of the traditional ways of understanding educational outcomes in terms of testing students’ learning that are widely critiqued for their role in rank ordering individuals in terms of narrowly defined abilities for the pragmatic purpose of certification, selection and external reporting (Kellaghan & Madus, 2003; Gipps 1999; Tamir 1998; Rowntree 2003; NCERT, 2006). Coupled with these criticisms and recent shifts in the conceptions of knowledge, learners and ways of learning, educational theorists and practitioners are engaged in conceptualising an alternative framework of assessment. These shifts are characterised by a movement away from a behaviourist conception of teaching-learning towards a socio-cultural framework of learning (Vygotsky, 1978 and Bruner, 1996).

The emergent pedagogic stance focus on enhancing learning by sustained and meaningful engagement with students during assessment, using diverse ways of examining in-depth conceptual structures and quality of students’ learning to make meaningful intervention (Gipps, 1999; Murphy, 2008; James & Lewis, 2012). Out of multitude tools, techniques, practices being placed under the larger umbrella term of ‘alternative assessment’ (Fox, 2008), the particular focus of this study is Formative Assessment (FA) which is now popularly termed as Assessment for Learning (AfL). The works of Paul Black & Dylan Wiliam (1998 a, b; 2003, 2005, 2012 a,b) and Margaret Heritage (2010, 2013) were particularly significant. Gardner (2012) pointed out that the two terms refer to the same time honored practices which teachers undertake to assist their learners in deciding upon the next steps in learning, and asserted that the purpose of these forms of assessment is squarely promotion of learning which is neatly contra- distinct from Assessment of Learning (AoL) framework of educational assessment. Hence, both the phrases- FA and AfL are used interchangeably in this study.

All the more, Formative Assessment is understood as a socio-cultural practice emphasizing the central agency of human beings in the process of meaning making. Thus, appreciating the ways in which assessment and instruction can be integrated in real time classrooms. Works of Gipps (1999), Pryor & Crossouard (2008), Crossouard (2012), Filer & Pollard (2000) and Broadfoot (1996, 2008) are used for theoretical posturing. Furthermore, while situating FA in classrooms, Ecclestone’s (2012) conception of ‘pedagogy of engagement’ and works of Mercer & Karen Littleton (2007) and Robin Alexander (2000, 2005) were of particular relevance.

## Research Questions

The main concerns of this work include:

- Examining varied practices of Formative Assessment as they exist in differing pedagogical settings,
- Exploring the challenges and constraints in implementing Formative Assessment in different pedagogical settings,

- Investigating into the possible reasons behind the dissonance between teachers' perception about Formative Assessment and its realization in practice.

## Method

With these research concerns in mind, the study has been designed within the traditions and conventions of 'qualitative method'. This design seems to be best suited to the purpose of the study mainly due to two reasons: First, my own apprehension and reservation about the research questions that were framed in broad sets and hence were open to modifications, and the second being a sociological orientation towards educational assessment that in itself calls for an immersion in the lived experiences, perspectives and contexts of the people under inquiry.

## Data Sources

Data is collected from three senior secondary schools located in New-Delhi region, India. The schools were managed by different organizational bodies, served different student population in terms of their socio-economic backgrounds and had different infrastructural facilities. The schools were the following:

- A formal government school,
- A school managed by a renowned public trust,
- An International public school claiming to be following progressive pedagogic practices.

Secondary science teachers (in total 8) constituted the primary data source. Several cycles of semi-structured interviews were conducted with them. Apart from teachers, school heads, supervisory heads and students were also interviewed. Two focus group sessions were conducted with students and two with teachers. Seventy seven classroom observations were conducted in secondary science classrooms.

## Conclusion

Broadly speaking, the findings of the work relate to the multiple versions of Formative Assessment under practice in different pedagogic settings. These nuances in implementation of FA – behaviorist assessment practices, on one hand, and contextually sensitive, constructivist practices, on the other – further suggest that educational assessment is a social enterprise with variations in schools' wherewithal, student populations, teacher perceptions, tools chosen, ways they were employed, and the ways the learners' responses were interpreted and put to use all impacting the assessment practices. Furthermore, it emerged that although framework of Formative Assessment emphasizes the integration of assessment, curriculum and pedagogy in a seamless fabric of classroom life yet the distinction pertains in the ways it was being practiced.

## Contribution to Research

This brings forth the need of further theorization of Formative Assessment (Black & Wiliam, 2012b) to avoid multiple practices under the aegis of FA as these variations at times harm pupils' learning as opposed to facilitating them. The theoretical framework of educational assessment so proposed paves the way for bridging the gap between theoretical

considerations as proposed in the academic discourse and the ways in which FA was being practiced in the field observed.

## Policy Implications

This study brings out that formative assessment practices in an examination-driven culture is often outcome oriented, focussed on achieving compliance with the authority, consequently, leading to distortion of the system as a whole. One of the prime reasons seems to be the obsession of teachers, parents, schools, and educational bodies as a whole with achievement of students rather than understanding of students. In order to improve the situation, key policy implications would be:

- investment in in-service capacity building of teachers which are organised by local bodies discussing their specific concerns vis-a-vis assessment tasks they use, ways they could organize fruitful classroom observations and what works best with their group of students and in their school circumstances;
- pre-service teacher education programs should provide scope for development of assessment competencies;
- development of central bank of high quality assessment tasks encapsulating challenging curricular objectives;
- Keep a check on testing to a politically minimum, and focus more on quality of classroom interaction instead of outcomes.

In this way, assessment could be used to achieve the political agenda of social inclusion and quality education for all.

## Book Reviews

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KELLAGHAN, Thomas; Greaney, Vincent & Murray, Scott T. (2009): *Using the results of a National Assessment of Educational Achievement*, The World Bank, Washington, DC, ISBN: 978-0-8213-7929-5 (Paperback), Pages: 162, Price: not mentioned

On the day of budget presentation our Finance minister is the cynosure in India. So is the Education minister across the nation, on the day of announcing the results of 10<sup>th</sup> and 12<sup>th</sup> standard. High percentage of success is a matter of prestige for the minister and the ruling government. The media celebrate the day with photos of rank holders, laud for high performing schools, criticize for poor performance in institutions and various sensational stories related to educational performance of the state. What are we measuring through such school ending examinations? This question gains vital importance in the context of increasing evidences for strong correlation between acquisition of cognitive skills and aggregate income in the economy.

Our examination system is vulnerable to the criticism for encouraging mugging up by the students. Measuring the learning outcomes that make the student a member in the productive labour force is, often, beyond the scope of our examination system. This necessitates serious initiatives to consider the 'assessment for learning' as an important step towards quality education. While national level assessment of educational achievement is a gigantic and complicated task for many developed nations, expense and lack of technical background for the execution of such assessments is the hurdle for many developing nations. The common challenge, for both developed and developing countries, is the effective use of the results of national assessments for improving the quality of education. To translate the results of national educational assessment of educational achievement in to policies to prop up quality initiatives in education need critical and constructive approach from the stake holders. The book 'Using the results of National Assessment of Educational Achievement' authored by Kellaghan, Thomas; Greaney, Vincent & Murray, Scott T. offers great support in this effort.

The book under review is fifth in the series of books titled 'National Assessments of educational Achievement' prepared by a team lead by Vincent Greaney. Focusing specifically upon reporting and using data obtained in national assessments for improving the quality of students' learning, the book provide a base for the personnel who craft such reports and policy makers who uses the results of such reports.

How does the educational assessment differ among nations? What are the criteria for fixing accountability for a national assessment? How do we ensure the quality of national level assessment? What are the types of assessment various countries follow? What are the reasons for the under use of national assessment? These are the questions addressed by the authors in the introductory chapter. Of course these are genuine questions that any reader might pause themselves while coming across National assessment of educational achievement. The argumentation that every educational assessment is unique as the context in which it is carried out determines its design, implementation and use is quite plausible.

Through assigning Power relations and political actors being the most decisive elements in determining the context of carrying out educational assessments, the book becomes a confluence of historical and contemporary reality. The book discusses the issue of accountability of educational assessment in a neutral manner. In continuation to the discussion about accountability the book presents a well balanced view on the quality of the assessment instrument and the under use of national assessment findings. Needless to say, one of the most useful parts of the book is its discussion about how assessment data can provide guidance to policy and decision-makers by elaborating on the actions designed to address underuse of the findings of national assessment of student achievements.

Preparing a cogent report is an important step in the best use of the findings of a national assessment. Being a primary source of information a report of this stature must describe the study in sufficient detail. At the same time it should not flood the reader with unfiltered information. The best use of such reports depends up on meticulous efforts in this direction from the part of the Personnel who work for the project. Still, such authentic reports are, often, beyond the access to critical mass in many nations. Potential users of assessment data are numerous and different. They might have different requirements. So the additional ways of reporting findings that are tailored to meet variety of needs is another important challenge faced by a report containing national educational assessment data. The book displays amazing proficiency in modeling itself as a manual in all these issues for those who engaged in national assessment of educational achievement.

Reformation is the responsibility of administrators and policy-makers is a cliché that needs to be dumped. While assigning the role of a 'ground' to national assessment report from which the seed of reformation sprouts out, the translation of findings of national assessment in to policy and action gains tremendous weightage. The systematic exploration made by the authors brings out two important issues in this regard. The first one is the complexity of decision making, the institutional capacity to absorb and use information, and the need to take account of a variety of vested interests in the process. The second one is the "evidence used to interpret the findings of an assessment and to reach a conclusion about the most appropriate ways to proceed in designing policies or interventions that will address problems identified in the assessment with the objective of improving student learning". Highlighting these two issues in a very comprehensive manner, the authors try to provide a frame work for the translation of findings in to policy and action following a national assessment.

Findings of the national assessment data will have a range of potential and actual uses in policy deliberations and educational management. The book highlights that such uses can mainly be classified into those that relate to providing information about (i) state of education and particularly about student achievement and; (ii) those addressing the deficiencies identified through the assessment. The classification thus made is followed by a detailed discussion which can provide great support for the policy and decision makers to implement the potential and actual uses of national educational assessments. In addition to the detailed discussion about the potential uses of the findings of national assessments, one chapter is exclusively focusing on how these findings can be "translated in to effective practices to ameliorate deficiencies in individual class rooms". The book suggests two strategies for this task; professional elevation of teachers through in-service and pre-service courses and crafting own policies by the schools depending up on the relevance of the findings to the specific context. Ten suggestions made by the authors, based on the



experiences of several nations that they discuss, to increase the influence of national assessment on teacher education and classroom practice is one of the most valuable contribution of the book.

Another interesting part of the book is about its observation on issues related to making the national assessments accessible to the public. 'Public' is a cross section of people with various attitude, level of understanding, interest etc. The need, perils and technical issues related to publishing national assessment reports for public accessibility is discussed with the support of examples from across the nations. In the concluding chapter, the authors share their concern, "perusal of the national assessments throughout the world, a reasonable conclusion would be that the level of achievements revealed in the assessments is not considered satisfactory". The alarming situation is addressed in the book through its suggestions of a list of task/checklist that can help to optimize the use of the findings of national educational assessments.

A well-crafted book. It models itself how systematically and scientifically content can be transacted to the readers. Every argument in the book is bolstered by empirical evidences based on the experiences of the nations across the world. It will not be an exaggeration to say that the book can be used as a manual for the national level assessment of educational achievement. The book addresses the interest of not only those who are engaged in national assessment of educational achievement and the policy makers, but also a wide range of population who are interested in the quality of education across the levels. The simple language and special care given to avoid technical terminologies makes reading hassle free for anyone who is concerned about the future of one's own nation.

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BELL, Sheena, Huebler, Friedrich, Motivans, Albert, Hattori, Hiroyuki, Waltham, Mark and Hawke, Angela (2015): *Fixing the Broken Promise of Education for All: Findings from the Global Initiative on Out-of-School Children*, UNICEF and UNESCO, Institute for Statistics, Canada, ISBN: 978-92-9189-161-0 (Paperback), Pages: 143.

Education is considered to be an essential ingredient for human development that leads to development of stronger societies. It has been mentioned in this report that there is consensus at every level that education matters, and because of this, many actions have already been taken at the global, regional and national level to provide educational opportunities to all children irrespective of their socio-economic background as envisaged by EFA goals and MDGs. These actions have also facilitated to reach those who were hitherto excluded from education system for ages. This has resulted in considerable decline in number and proportion of out of school children (dropped by 42%) during last fifteen years since the beginning of new millennium. Despite this decline, globally 58 million children of 6-11 years age are still found out of school, as reported by this recent report of UNICEF and UNESCO Institute for statistics "Broken Promise of Education for All". Based on the country level data, this report explores the magnitude of the problem of exclusion of children from formal schooling system, access to which is considered as a human right and because of this,

basic education has already been made fundamental right for all children in some countries. It also intends to find out policies and actions that can reduce barriers that prevent children from accessing education and their continuation in educational institution as well as completion of school education.

In order to make the analysis more comprehensive, the report has been divided into five chapters. In the introductory chapter, the report not only introduces its different chapters but also provides the outline of the entire report and summary of different chapters. The introductory chapter (Chapter 1) also provides an overview of present state of access, enrolment and participation of children in schools and the main reasons of exclusion of some children who fall into the category of 'out of school'. The report points out that despite expansion of education system, there has been hardly any change in global number of out of school children since 2007 and global primary out of school rate has stagnated at around 9% for the past seven years. In view of this, the report insists that the promise of making all children completing full cycle of primary education by 2015 could not be fulfilled, in fact, the promise has been broken. In addition, there are 63 millions of adolescents out of which 26 million live in South Asian region, and 22 million live in Sub-Saharan Africa. This indicates that the situation is far from satisfactory and in many countries across the world, and that they will require to travel a long way to fulfill its promise to its children for making their fundamental right to compulsory formal education into reality.

The chapter 2 of this report has presented all global, regional and national level data to estimate out of school children and adolescents and categorized them as never enrolled, late entrants and drop out. It has provided the definition of out of school children. According to DHS and MICS, the children who did not attend school at any time during the reference school years are considered to be out- of- school (p. 21). These out-of- school children also include the children of primary school age enrolled in pre-primary education and also those who are enrolled in NFE programmes. It has been mentioned that 31 million of the 58 million primary school age out of school children are girls, 23% of these children attended school in the past but left without completing their education, 34% are likely to enter in the school in future and 43% are likely to never enter. There are many countries across the globe have experienced substantial decline in out of school children. The report has also discussed about problem of overage children as it has been found that most of the children who dropped in primary schools are overage and most of them drop out quite early from primary school. The chapter has also discussed about lack of authentic data on some of the important variables that effects on quality of report and because of this, it has suggested about the method to improve the accuracy of the out of school children.

Chapter 3 has provided crucial and detailed information regarding the children who remain and most likely remain 'out- of- school' due to various reasons. In addition to a vivid analysis of system wide barriers, this chapter focuses on children affected by conflict, girls, child labourers, children facing language barriers, children with disabilities. It also describes a different demand side and supply side barriers that children from each of these above mentioned categories face, along with different possible policy recommendations to deal with these problems as well. While discussing about system wide barriers and system wide solutions, the chapter has provided a detailed account of those countries with the significant problem of out of school children and non-formal education programme also can play a crucial role along with formal education. Another possible solution as mentioned by the report is to adopt different strategies that can address the problem of high cost of education

in terms of direct and hidden costs by abolition of school fees, cash transfer programmes and school feeding programmes as suggested in this chapter.

This chapter has also suggested some measures to deal with the demand side barriers which are particularly outcome of violence and conflict, insecurity, poverty, poor health, displacement, etc which significantly impact on education of girls. There are also some demand wise barriers rooted from cultural norms as well as problems related to chronic poverty, ethnicity and child labour, etc. In order to deal with such barriers it is required to provide schools with a girl friendly and violence free environment characterized by availability of female teachers and separate washing facilities for girls; child friendly teaching learning experiences in the nearby areas of their residence. Similarly the chapter has also discussed about different system wide, demand and supply wide barriers faced by other groups like child labourers and children with disabilities. Filling of the data gap has been one of the major suggestions given by this chapter to facilitate policymakers to take proper action for dealing with these barriers as mentioned earlier.

Chapter 4 emphasizes on the need for adequate investment for universalization of primary and secondary education. It is because of this, estimation of cost for any given country needs to be assessed based on the recent data and different researches that could reveal the magnitude of challenges that in turn can fix the targets for investment. Since financial and human resources both are limited in most countries, it depends on decisions that are taken by policymakers to set the priorities and targets to tackle the problem of exclusion of these children. It has been suggested that “the standstill in global progress on the number of out of school children reinforces the need to reconsider the resources required to provide education for every child” (p.89).

Chapter 4 has also presented different models for estimating financial resources required to mitigate the problem of exclusion. These models include the early models like line costing approach, capital expenses etc. and high level interactive projections model, equity based approach i.e. the Simulations for Equity in Education (SEE) model that are more effective for financial planning for target based interventions for addressing specific needs of marginalized children in different country contexts. Finally, the chapter concludes with three recommendations:

- the quality of data on interventions for out-of- school children must continue to improve and these data should be available for strategy formulation,
- there is a clear need for equity based approaches to financing education,
- There needs to be lowering of unit costs of education for the poor to make provision financially sustainable.

Chapter 5 provides important recommendations to address educational supply and demand. It has identified five key barriers to universal basic education i.e. conflict, gender discrimination, children labour, language challenges and disability of children. The chapter has stressed on importance of availability of good quality and reliable data on out of school children and different aspects related to them. It also emphasizes on making adequate financial and human resources available for children ‘with-the greatest needs’ (p.105).

While reviewing this report, it has been observed that all issues and concerns regarding out-of-school children as well as the possible solutions have been covered and lucidly described by the report. However, the report could have more emphasis on children living in difficult circumstances other than conflict urban deprived particularly street children,

migrants, bonded labourers et al are some of the most difficult and hardest to reach groups for whom special efforts have to be made. The report could also include some more relevant practices from different regions which are being tried out for such children to bring them within the fold of formal education system. In addition, there are doubly disadvantaged and multiple disadvantaged children who often remain excluded from education system when poverty, gender, location, social background, language all interact with each other and together contribute to in the process of exclusion of these children. The report has also not included any detailed analysis of children who are suffering from mal-nutrition or under nutrition affecting their cognitive ability increasing their chances of dropping out from school.

On the whole, the report is well written, lucid and well-organized. It is expected that the report will not only be useful to students and researchers but also it will be immensely significant a valuable read for policy makers, practitioners international donors, experts and activists who are working or providing financial and academic support to different countries across the globe for education and well-being of disadvantaged children.

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SUNDAR, I. (2015): *Principal of Distance Education*, New Delhi: Serials Publications (P) Ltd, ISBN:978-81-8387-713-8 (Hard Cover), Pages: xxii+558, Price: ₹2000

Distance education system has been expanded horizontally and vertically across the world since last two decades. At present, distance education systems is predisposed by the rapid technological changes. Despite its expansion, it has not been treated as par with the conventional education system particularly in India. The book under review discusses scholars' theory of distance education which may help in designing a draft of the distance education policy for the country. The book comprises twenty chapters focusing on various traits of distance education system.

In the first chapter, author presented concept and meaning of distance education as described by the different scholars across the world. Chapter further explain the characteristics of distance education (page 6), distinguishing the types of open and distance learning (p.8), conceptual framework of distance education (p,19) and kinds of Open and Distance Learning (p.26). Chapter 2 elaborated discussions on the history of distance education. He has presented the first, second and third generation distance education, computer-mediated in distance education, the cognitive-behaviourist pedagogy of distance education in this chapter. Author concluded by highlighting development of Indian distance education system in this chapter. Chapter 3 discusses theories of distance education. Author presented scholars' argument on theory of distance education as Keegan (1996) theory of distance education (p.67) and Neo-Fordism, Post-Fordism i.e. production of distance education (p.69). The module of print materials, audio technology modules, computer technology modules (email, online, web based resources) video technology modules, module of emerging trends in technology (mobile devices, revitalization in Videoconference Use, social media), module of funding the operation of distance education and distance education

learning system were discussed in chapter 4. This chapter highlighted the applications of these modules and their advantages and disadvantages. Author concluded this chapter focusing on faculty role in these modules. In addition to teaching learning modules of distance education, author argued on the module of funding the operation of distance education. He highlighted the conditions required for developing distance education programmes, pedagogy application in distance education, the intelligent flexible learning model and personal capacity development in chapter 5. This chapter discussed the technology development in distance education, quality issues in distance education resources, application of ICT in professional courses, resource used in professional education, application in various system of distance education, ways and means of using OER and MOOCs, copyright issues in distance education, constraints in distance education and conditions required for utilization of educational resources in distance education system.

Authors presented the steps required for the preparation of distance education study material in chapter six. This chapter concluded with criteria of evaluation of SLMs. Chapter 7 presents traits of distant learner, student learning issues and challenges in distance education. Author examines learners' responsibilities, learners' online setting, and learners' attendance issues in counseling/tutoring sessions in this chapter. Chapter 8 deals with the role of learning management system in online teaching, online course management strategies, online course activities, planning for learners, expected aspects of online teaching, communication in online teaching, conducting institutional business in online teaching. Author concluded this chapter with key success indicators in online teaching. Author discussed e-learning methods in Chapter 9. In fact, this chapter deals with prospects of e-learning, role of ICTs in e-learning, the role of e-learning in improving the quality of distance education and research findings of e-learning (p.212). Author concludes this chapter with advantages of web-based learning and disadvantages of e-learning process.

The 10<sup>th</sup> chapter of this book deals with open and distance learning in teacher education, initial teacher training through open and distance learning, career teacher development through distance education, OER in teacher education (p.233), costs and economics in distance teacher education. Author discussed distance education teaching strategies in the 11<sup>th</sup> chapter. Chapter further highlighted the concept of personal contact programme, method of teaching and learning process in distance education with reference to rural students (p, 261).

Chapter 12 thrashes out mobile learning and its application in distance education system. Author presented components of mobile learning, example of m-learning, mobile devices in distance learning-promises and threats research findings of international scholars on the application of mobile learning in teaching and learning in this chapter.

Chapter 13 and 14 examine the economics of distance education. Author discusses cost efficiency of e-learning, pricing effects on distance education and economics internationalization in distance education. This chapter explains the cost components applicable to distance education, organizational issues, cost of managing courses, cost of copy right issues, scheduling course development and potential benefits. Chapter 14 examines the cost of developing, producing and distributing course materials in distance education. Chapter outlined the cost approach in distance education, problems of students' variables cost and cost of curriculum development. Author elucidate on absolute cost, average cost efficiency and effectiveness along with cost payment issues, technology choice cost issues and cost of online learning in this chapter.

Author talked about planning and management aspects of distance education in chapter 15<sup>th</sup> and 16<sup>th</sup>. Chapter deals with essential features of quality assurance in managing distance education, evaluation of programmes performance, financial management strategies, managing budgeting procedure, managing cost and cost controlling techniques, managing process and project costing procedure, performance measurement, management of learner support, teaching, tutoring and learner support. Chapter 16 outlined the strategic planning in distance education programs, curriculum planning, staff training and support, planning for students' service, planning courses, context issues in instructional design, planning for establishment of distance education institutions.

The last four chapters of this book deals with the role of distance education in women empowerment, impact of distance education on educational system, research issues in distance education and Government regulations on distance education. Chapter 17 delineate the reasons for low participation of women in open and distance learning and benefits of distance education towards promotion of higher education among women. Author argued on the issues of changing technology, impact of distance education research and distance education management system in chapter 18. Chapter 19 deals with the issue of course evaluation research needs and research management issues. Author expressed his views on the research findings on different themes of distance education in this chapter. He further analyses the government regulation on distance education in the last chapter. This chapter deals with current scenario in distance education and the need for government regulations.

As a reader I found that the title of this book is similar to Moore (2007) published as 'Handbook of Distance Education', second edition Mahwah, N.J. Lawrence Erlbaum Associates. But after reading the present book I found that it is different and title does not reflect previous scholar's theme of the handbook. Although Moore's (2007) theory of transactional distance education has not taken much place in author's discussion in the present book, yet he has covered all the aspects of distance education. Author discussed about the generation of learner in distance education but not much debated on Tayler's fifth generation learner in distance education. He discusses selected research studies on various themes of distance education. Quite a few empirical research studies have also been conducted by national scholars on similar themes. These studies findings inclusion in the chapters would have been helped to author in discussing the theory of distance education with more illustration and distributing chapters under different themes in the book.

The book *Principles of Distance Education* has brought together characteristics of distance education in the world of distance learning. Author has done a great service by putting these 20 chapters together in a broad and articulate framework. On the whole, it has timely written by the author as Government of India is developing New Education Policy for the country. One of the themes of New Education Policy is Open and Distance Education. I am sure, the book will be extremely useful as a textbook as well as reference book to policy makers, students, researchers, planners, head of the distance teaching institutions and educational system at large.

Education Support Program/Network of Education Policy Centers (2010): *Drawing the Line: Parental Informal Payments for Education Across Eurasia*, Budapest: Education Support Program of the Open Society Institute, ISBN: 978-1-936133-26-0, Paperback, 132 pages, Price not Mentioned.

### Some lines redrawn, some still underway

The cross-national study 'Drawing the Line: Parental Informal Payments for Education across Eurasia' from the Open Society Institute is an interesting read. It requires however, some background appreciation of the monumental political-historic-economic transitions that swept the Eurasian landscape in the 1990s. The revolutions of 1989 set into motion a series of irreversible changes, dismantling Communism from its strongholds in Soviet Union and Eastern Europe (see Tismaneanu, 1999; Brown, 2009). By 1991, the geographical boundaries had been redrawn. Soviet Union had fallen apart and a motley mix of successor states had emerged from the throes. For the newly formed nations, the decades of 1990s-2000s involved a tumultuous, uncertain transition from a 'command-driven/planned' economic structure to the vagaries of market-driven functioning. How could social sectors like education and health remain immune to these adjustments? The study provides a glimpse of the churn in educational systems, particularly the challenges of accounting for educational expenditure/finances even as the onus of education shifted out of the State to the parents of school-going children. Its importance cannot be reiterated enough, given the need for shielding children and their education from the macro-level "unfinished negotiation of public and private" (p.79) unfolding in the region.

The book is an outcome of collaborative research from a cross-country network of Eurasian researchers, who previously probed into topics such as rise in private tutoring, early childhood development and school attritions – all important facets of education under transition. It outlines the extent of private, informal payments demanded of and made by parents of school-going children in the region. Specifically, it bases itself on the results of Parental Informal Payments for Education Study (PIPES) conducted in 2006. The countries chosen in the study are diverse; Georgia and Azerbaijan from the Caucasus, Kazakhstan and Tajikistan from Central Asia, Latvia from the Baltic, Moldova and Slovakia from Eastern Europe. Their inherent socio-economic and ethnic compositions press for differentiated, tailor-made solutions. And yet, having inherited their educational systems as part of a socialist legacy, there could be common collective wisdom to be mutually shared.

In the Soviet era, education was funded from the central budget of the State (p.64). In post-Communist times, dwindling state budgets gave rise to newer challenges. How to keep the educational systems functional? Who should pay for the services? Across the surveyed countries, despite a constitutional assurance on free education, there was a conspicuous "failure to deliver on this obligation" (p. 63). Hidden in the failure were problems over operational definitions. What exactly should be the scope of 'free education'? "Should it include a classroom with no heat? Should it exclude textbooks and other school supplies? Should it exclude transportation and school lunches? Should it exclude fees charged by teachers for extra tutoring which in some cases amount to graft?" (p.9). Public expectations of the scope of 'free education' were not uniform across the surveyed countries. For an extreme position, in Moldova, parents expected "that all costs, including food and transport, should be provided by the government" (p.43). In reality though, governments could

reasonably support only a fraction of the total expenditure incurred by schools. “The majority of funds from the state budgets of most of the participant countries cover only staff salaries, leaving other costs unaccounted for” (p. 43). This unaccounted component is a black-box of sorts, and may include both absolutely necessary costs as well as add-on frills. For parents, who were previously beneficiaries of free education under Soviet rule, the definitional disparities surrounding ‘free education’ involved coming to terms with hitherto unfamiliar expenditure on their children’s education. Masked under the newer understanding of free education, some difficult realities had to be renegotiated on the ground – informal payments were one of them.

For a definition, informal payments are expenses “not officially sanctioned, approved and/or collected by the state or local government as a prerequisite for school attendance” (p.19). They covered a wide range – “private family costs for uniforms, books, and transportation; special activities such as field trips and tutoring services (both legal and illegal/extra-legal); and regular education services which are underfunded by the state, among others” (p.19). Informal payments have multiple connotations, not all of which are negative. Especially in the early years of transition, informal payments proved vital. At times when employee salaries were left unpaid and school budgets failed to cover bare operational costs, they formed a crucial stopgap arrangement that kept the schools running. On the flip side, with little regulation, the payments ran the risk of turning from ‘voluntary’ to ‘mandatory’. In some cases, the payments could border on the illegal. Where to ‘draw the line’ between the acceptable and unacceptable forms of informally charged/extracted payments? This is a key question the study grapples with.

In the book, an entire chapter is dedicated to the methodology of PIPES, its research design and sampling. However, there is as much to be learnt from the challenges and limitations to PIPES as from the methodology itself (pp. 36-38). Under the PIPES aegis, informal payments were probed under five broad headings: (a) the real costs incurred by households in the name of informal payments (b) the frequency of payments demanded and paid (c) an open ended exploration of the underlying causes behind the payments (d) the impact of payments on the quality of education and whether they led to discriminatory practices in the classroom and (e) counter solutions to the payments. The researchers thus placed an ambitious task before themselves. The report only partially addresses the questions it set out to investigate. PIPES “could neither assess specific household costs for informal payments, nor funds received by schools, nor distinguish how these resources are allocated” (p.37). The extent of under-reporting too would be difficult to trace. Some forms of payments get standardized over time and lend themselves to easy corroboration. But how to account for payments made for school admissions, grade-buying and other forms of bribes? Illegal as they are, respondents would be more cautious or discrete in reporting them, more so if they are the beneficiaries of such payments. The study, as acknowledged, is a first step in understanding a complex phenomenon. Informal payments are uncharted territory and a difficult space to probe. Before getting mired in controversial estimates on the valuations of informal payments, what we need is greater clarity on all their myriad forms.

The most important takeaways from the study are the key variables identified for probing into informal payments. The first variable is centered on the documented/undocumented nature of payments made. To what extent were the payments amenable to be openly recorded? This would form the basis for improving transparency and



accountability of the payments and bringing the full range of educational expenses into the open. The discussion on accountability draws upon the World Development Report (2004), *Making Services Work for Poor People*, which provides for a conceptual framework on social accountability involving clients, providers and policymakers. But as the study under review points out (p.99), some facets in the triangle of service relations may not have evolved sufficiently in transition economies. For example, individuals (parents, students) are clients in relation with service providers (schools) and citizens in relation with the state (government officials, regulatory bodies). In cases where the client relation turns problematic, individuals could seek recourse with the state through their citizenship rights, which unfortunately is rarely available in transition economies. This reduces client power, adding to the difficulties of creating transparent educational systems.

The second variable is based on the voluntary/mandatory nature of payments. For an explanation of the terms:

“Mandatory and voluntary are both forms of involvement and participation. If everyone must participate (by making a payment) for the sake of the education process, that payment is mandatory.....A voluntary payment is made without any external pressure; it is by the family’s choice”.

Unlike the first variable, this binary is not so straightforward considering that apparently voluntary payments are also presented to parents as mandatory ones. Drawing the line in this aspect devolves differently across the stakeholders. With respect to parents, it becomes a matter of agency. Are parents being explained the justification of the payment and how much of a choice do they have? With governments, it becomes a regulatory problem. To what extent are governments in a position to track and if need be, to curb the private monetary transactions shaping up between schools and parents? The third variable is centered on the public/private benefits arising from the payments. If the payment has tangible benefits for the class or the school at large, it needs to be acknowledged differently from cases where the benefits are accrued solely to individuals. By combining the variables into two and three-dimensional matrices, different combinations are put forth which then form the basis for determining the desirable and undesirable forms of payments. To put it succinctly, transparent payments are to be encouraged and the illegal ones curbed.

In terms of shortcomings, the book could have done with better editing. Some arguments keep surfacing through the text; for instance, the issue of funding patterns in the Soviet times and subsidies for education (p.14, 64, 68); the ambiguities of free education (p. 42, 63-64, 89) etc. Some important theoretical issues could have been deliberated upon as well. Across countries in transition, there is literature on the existence of large underground or black economies. From this perspective, informal payments in education are merely one component of a larger system of informal transactions prevalent in the society. Could educational payments be brought out into the open while a host of other transactions continue to remain informal and unaccounted? Lastly, the issues raised by the study require more continuous investigation. In 2006, when the PIPES study was conducted, it was a timely, even overdue intervention. As an inherent characteristic of transition, newer headings of informal payments could have sprung up over the years. Longitudinal data is unfortunately not available for any comparative assessment. Perhaps, resources permitting, a second PIPES study (in 2016, a decade after the first) could be considered for illustrating/reassessing the widening net of informal payments.

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According to the Narayana Murthy Committee Recommendations on Higher Education were clear cut explanations between the governmental and private sector educational system for better implementation in Indian Higher Education. However, this response to "Engaging the Corporate Sector: Narayana Murthy Committee Recommendations on Higher Education" (EPW, 20 July 2013) says that while the committee seems to be concerned about the poor quality of higher education, its recommendations or formulae appear to treat higher educational institutions like factories. There seems to be a mismatch between its recommendations and the objectives of the Twelfth Five-Year Plan.<sup>1</sup>

In this connection the "Engaging the Corporate Sector: Narayana Murthy Committee Recommendations on Higher Education" the recommendations of the Narayana Murthy Committee (NMC) through the lens of corporate social responsibility (CSR). Engaging the corporate sector, both public and private, in higher education being the focal theme, the article seems to be using public-private partnerships (PPPs) a group of business models, philanthropy an act of benevolence and CSR a compulsory social service as synonyms, at least in operational terms. Further, some recommendations of the NMC, crucial for the future of higher education in India, have not received adequate attention in the article. The recommendations submitted to the Planning Commission can aptly be examined within the contexts of the objectives of the Twelfth Five-Year Plan (TFYP) for higher education expansion, equity and excellence.<sup>2</sup>

On the other hand, the participation of private parties in higher education in India dates back to the days of the British raj.<sup>3</sup> However, after Independence, the ability of the private sector to provide the infrastructure necessary for development was doubtful and so the government took higher education into its own hands (Kumar 2013: 613) although a good number of educational institutions, known for philanthropy and quality education were

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<sup>1</sup> Binay Kumar Pathak, Critical Look at the Narayana Murthy Recommendations on Higher Education, January 18, 2014 Vol. xlix 72, No. 3, Economic & Political Weekly.

<sup>2</sup> These objectives have been continued from the Eleventh Five-Year Plan (GoI 2012b).

<sup>3</sup> Premier institutions like Indian Institute of Science, Banaras Hindu University, Visva-Bharati, etc, were set up during the British raj with private initiatives.

established by private parties.<sup>4</sup> Till the 1980s, the government not only supported higher education and its expansion but also extended helping hands to run the institutions set up by the private sector (Agarwal 2006; Tilak 2008). After the 1980s, the country witnessed a profusion of private professional education in the name of meeting the prevalent unmet demand of business and industry (ibid: 2006). The economic crisis towards the end of the 1980s and subsequent adoption of the New Economic Policy (NEP), characterized by liberalization, privatization and globalization in 1991 added to the impetus for the private sector to view higher education as a potential venture. The NEP paradigm still continues to guide policy making in India and the NMC can be seen as a mere reflection of that paradigm.<sup>5</sup>

Particularly, the expansion was the major issue to reach the real goal of the Indian Higher Education system for the increasing of enrollment in Higher Education. Subsequently, the participation of private parties in higher education revolves around the issues of availability of resources and the poor quality of publicly-funded higher education, barring certain pockets of excellence. These threads bind together recent policy initiatives and pronouncements in the field of higher education from entry of foreign education providers to engaging the corporate sector, and the recommendations of various groups and committees starting from the Ambani-Birla group (GoI 2000) to the NMC.<sup>6</sup> While the Ambani-Birla group advocated private universities, a High Level Group of the Planning Commission on Services Sector (HLGSS) in 2008 recommended expansion by the growth of for-profit educational institutes. The NMC presents a blossomed tree whose saplings were planted by the Ambani-Birla report and watered by the National Knowledge Commission (GoI 2007) and HLGSS (GoI 2008). In such a favorable policy environment, the private sector has grown to cater to 59% of total enrolments in higher education and is expected to contribute significantly in achieving the target of 30% gross enrolment ratio by 2020-21 (GoI 2012b).<sup>7</sup>

Nevertheless, the Narayana Murthy Committee rightly says that the Equity is the worst implementation part in the reservation in the private sector. The TFYP draft proposes to implement targeted, integrated and effective schemes with increased budgetary support to narrow group inequalities in higher education. Thus, one can expect the TFYP to address the social and economic impediments to access to higher education. To address the social impediments, reservation policies for the disadvantaged groups have been in place in all publicly-funded institutions. The NMC, on one hand, recommends free land and tax exemptions for the universities set up by the corporate sector but on the other hand, demands exceptions from reservation policies in admission. It states (GoI 2012a: 4)

<sup>4</sup> Some of the private educational institutes like Birla Institute of Technology and Science (BITS), Pilani have established themselves as top quality institutions.

<sup>5</sup> Binay Kumar Pathak, Critical Look at the Narayana Murthy Recommendations on Higher Education, January 18, 2014 Vol. xlix 72, No. 3, Economic & Political Weekly.

<sup>6</sup> After the NEP, several committees, specialized groups and commissions on higher education have been set up. They include Punnayya Committee (1992-93), Ambani-Birla Special Subject Group (2000), National Knowledge Commission (2006-07), Hoda High Level Group (2008), Yashpal Committee (2008-09) and N R Murthy Committee (2012). Based on the recommendations of these committees, policy initiatives in the form of acts and bills have also been introduced or enacted.

<sup>7</sup> HLGSS was headed by Anwarul Hoda who recommended for profit higher education to meet the growing needs of skill-based service sector. It is to be noted here that higher education is a notforprofit sector/enterprise in India, at least in terms of constitutional position.

Administrative autonomy should be inclusive of the freedom to admissions (subject to the current reservation norms as applicable in public institutions) while the private institutions will continue with the current practice of no reservations.<sup>8</sup>

Most significantly, the all committee on Higher education reports are not fulfilled the complete desire of the Indian higher education system. The NMC in its foreword laments the poor quality of higher education and prescribes self-regulation, choice of agency for accreditation and producers' autonomy for the new institutions to be world class.<sup>9</sup> While independent regulation sets the floor for standard of education and independent accreditation acknowledges the level of competence to be comparable with other institutions, independence from them may distort the equivalence of qualifications and undermine the signaling effect of higher education, characteristics which make higher education eligible for privatization. Accreditation for its very purpose has to be independent. If an institution chooses an accreditation agency, it suggests self-interest elements creeping into the process which can jeopardize the whole purpose. If the NMC goes through we will soon be able to see ISO certified institutions or corporations accrediting each other.

Furthermore, the NMC seems to believe that the corporate sector has some formula to create global standards in higher education in a decade or so as it recommends (GoI 2012a: 14) To send out a strong signal...contributions are welcome...and a commitment from the corporate/individual for the institution to be in the top 250 in the world, over a 15 year period. Institutions of higher education, at present, work under strict conditions, starting from recruitment of faculty to disbursement of grants under specified heads (Chattopadhyay 2013).<sup>10</sup> Moreover, these institutions also bear the burden of political pressure (Altbach 2013). Having blamed these constrained institutions for poor quality, full autonomy of all kinds financial, administrative and academic – are recommended for new institutions engaging the corporate sector to offer world-class education. Autonomy, a double-edged sword, may either encourage excellence or lead to the proliferation of substandard but expensive education. Moreover, free lands, tax exemptions and autonomy of all kinds are what corporate houses generally demand in any venture.<sup>11</sup>

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<sup>8</sup> Here, private universities refer to universities to be set up on free land made available by the government and incentivised with tax exemptions but receiving no grants to run the institution.

<sup>9</sup> Marketisation of higher education seeks to provide producers' autonomy along with consumers' sovereignty. Producers are supposed to have four kinds of freedom or autonomy- entry, product specification and quality, resource utilization and determination of price (Jongbloed 2004; Chattopadhyay 2013). These can be traced to the NMC recommendations as simplification of rules to create new universities (entry), product specification and quality (autonomy to choose inputs – students and teachers, agency for accreditation and freedom from regulation), resource utilization (autonomy in alternative uses of land and other resources) and autonomy to determine fees.

<sup>10</sup> The day-to-day operations are restricted through various directives from the government although the institutions are formally autonomous through their independent acts passed by legislative bodies.

<sup>11</sup> Binay Kumar Pathak, Critical Look at the Narayana Murthy Recommendations on Higher Education, January 18, 2014 Vol. xlix 72, No. 3, Economic & Political Weekly.

The NMC seeks to propose new kinds of institutions into the already hierarchical higher education system.<sup>12</sup> The monopolistic competition among them also emanates from their geographical location and institutional characteristics and objectives. The NMC proposes institutions, private universities with central university status and PPP universities, which would add to the diversity of the market with varying institutional structures, objectives and operations with almost no regulation and full autonomy. Such a market for higher education would be more complex to understand for the consumers that is, the students who would find it difficult to make efficient choices in an environment characterised by complex institutional structures, differentiated regulation and accreditation. Moreover, institutional objectives in the emerging market would not be confined to pursuit of excellence but would include cost recovery or profiteering for existence in the market. The two cannot go hand in hand as mentioned above. Private institutions of higher education often advertise their association with foreign institutions and visiting foreign faculty to signal quality. Whether this adds to the quality of education is not certain but these attributes are used to justify charging higher fees from students. The NMC recommends recruitment of foreign faculty along with Indian faculty for the new private institutions. Consequently, the quality of higher education may or may not improve but greater commercialization and negation of social equity would be achievable, if so desired.<sup>13</sup>

The NMC recommendations might serve the purpose of achieving expansion in absolute terms but it does not give serious consideration to the other two objectives. The second objective equity – cannot be achieved with rising cost of education and relaxations in reservations for disadvantaged groups. It is well accepted that mere provision of a few scholarships and education loans cannot address the issue of equity in access to higher education. The NMC seems to be dreaming of a utopia for achieving excellence. While it seems to be concerned about the poor quality of higher education, its recommendations or formulae appear to treat higher educational institutions like factories. There seems to be a mismatch between its recommendations and the objectives of the TFYP. Engagement of the corporate sector in higher education is not undesirable but the policies governing their engagement should be framed with proper understanding of the higher education sector and in accordance with the goals of social equity and excellence.<sup>14</sup>

Finally, the Narayana Murthy Committee Recommendations are given below:

In this connection, the corporate participation in the higher education sector is vital in many ways. However, to encourage this participation, it is important to create an enabling environment in the existing higher education system that allows existing institutions to become world-class, as well as facilitate the establishment of new world class institutions. In view of the above, the recommendations of the Committee fall under the following broad categories.

<sup>12</sup> The institutions are hierarchical, initially with their unequal access to resources, amplified by their reputation built upon product quality over the years and competition in terms of heterogeneous goods and services and their prices (Winston 1999).

<sup>13</sup> Chattopadhyay (2010) in the context of foreign educational providers opines that their entry would result into poor quality of education, greater commercialization and failure to achieve social equity. The arguments can be extended to foreign faculty recruited full-time in proposed universities by the NMC.

<sup>14</sup> Ibid.

- 1) Autonomy – in financial, regulatory, academic and administrative aspects
- 2) Resources – ensuring availability of land, infrastructure and connectivity
- 3) Fiscal incentives– to encourage investments and attracting funding
- 4) Enabling environment– (such as visas) for free movement of faculty and students to promote collaboration with world-class institutions abroad
- 5) Freedom to accredit– with global accreditation agencies to put Indian institutions on par with the best
- 6) Access to funds– through scholarships to enable students to pursue their chosen fields of study
- 7) Enhancing research focus – through dedicated funding for research, sponsored doctoral programs, and part-time Masters and PhD programs
- 8) Faculty development – by increasing the talent pool of faculty from corporate (working and retired), faculty development programs, and sponsorships of visits by expert faculty
- 9) Setting up of new facilities by the corporate sector in existing universities and higher education institutions either as Centers of Excellence (CoEs) or in the form of technology parks.
- 10) Setting up of new universities and higher education institutions.
- 11) Developing new knowledge clusters / hubs.

The Narayana Murthy Committee finally concluding with these words:

“Mobilizing an additional 5,500 faculty members is another significant targeted outcome. This should be done through a mix of international recruitment (about one-third of the total), development and improvement in the quality of domestic PhDs, and involvement of leading practitioners from the Indian industry. The Committee has also recommended the setting up of ‘The Indian Corporate Higher Education Scholarship’ and ‘The Indian Corporate R&D Fund’.

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<i>Vol. 70</i>	<i>October-December 2015</i>	<i>No. 4</i>
<b>CONTENTS</b>		
ARTICLE		
Efficiency of Agricultural Production in India: An Analysis using Non-Parametric Approach <i>A. Suresh</i>		
RESEARCH NOTE		
<b>Food Consumption Pattern and Nutrient Intake in Rural and Urban Karnataka</b> <i>M. Umanath, K. Vijayasarithi, B.N. Pradeepa Babu and M. Baskar</i>		
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OBITUARY*	INDEX TO IJAE, Vol. 70, 2015*	
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<b>Journal of Rural Development</b>		
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<b>Vol. 34</b>	<b>July - September 2015</b>	<b>No. 3</b>
<b>ARTICLES:</b>		
1. Assessment of Implementation of Tribal Sub-Plan in AP - Palla Trinadha Rao and M Gopinath Reddy		265
2. Regional Rural Banks and Their Performance – An Empirical Study - R. Suresh		285
3. Economics of Buffalo Milk Production - A Case Study of Composite Andhra Pradesh - Gudipati Vijayudu		305
4. Multi – dimensional Poverty : An Empirical Study in Bankura District, West Bengal - Supravat Bagli		327
5. Role of Institutional Support System in Drought Management: The Case of Western Odisha - Mrutyunjay Swain and Mamata Swain		343
6. Achieving Self-sufficient Model Villages for Inclusive Growth: A Case of Ramchandrapur - Girijesh Singh Mahra, Om Prakash Mishra, Linda Majani, Aleksandra Janjic and Tiwange Konyenda		371
7. Cluster Development Initiative for Poverty Alleviation : A Case Study - Rinku Das		391
8. Capture Fishery and Rural Socio-Economic Development – A Study of Three Fishing Villages of Cachar District, Assam - Pinki Purkayastha and Susmita Gupta		405
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## FINANCE INDIA

VOL XXIX NO. 3 SEPTEMBER 2015 ISSN 0970 - 3772

### ARTICLES

- OPTIMAL DIVIDEND AND RETENTION POLICY WITH DIMINISHING RETURN ON EQUITY 785  
Lawrence M. Fogelberg
- INTER-LINKAGES BETWEEN RETURNS FROM STOCK EXCHANGES OF SOUTH ASIA 793  
Gagan Deep Sharma and B.S. Bodla
- A STUDY OF THE RELATIONSHIP BETWEEN MACROECONOMIC VARIABLES AND IN THE THAI BOND MARKET 819  
Somkid Yakean
- CAPITALISING CROWD PSYCHOLOGY THROUGH INDEX INVESTING : AN EVIDENCE 833  
Karahalli Balappa and Sachin Balbhumrao
- ECONOMIC CONSEQUENCES OF ACCOUNTING POLICIES IN THE FEDERAL REPUBLIC OF NIGERIA 843  
Francis Kehinde Emeni
- PERFORMANCE EVALUATION OF MUTUAL FUNDS IN INDIA 855  
Joity Tomer and Nisar Ahmed Khan
- PORTFOLIO TOMMORROW : A SAMPLE STUDY OF SATARA 879  
Sarang S. Bhole and Vrushali B. Shah
- FINANCIAL LITERACY LEVEL OF HIMACHAL PRADESH : A CASE STUDY OF SHIMLA 895  
Vinod Negi and Karan Gupta

### ABSTRACTS OF DOCTORAL DISSERTATIONS

- INFORMATION EFFICIENCY OF INDIAN STOCK MARKETS 911  
Renuka Sharma
- A STUDY ON MICRO ENTERPRISES ESTABLISHED BY SELF HELP GROUPS IN KANYA KUMARI DISTRICT 921  
T. Muthu Pandian
- IMPLICATIONS OF WTO ON INDIAN COTTON TEXTILE INDUSTRY 931  
P. Tirumala Rao
- ENVIRONMENTAL DEGRADATION AND SUSTAINABLE DEVELOPMENT OF CHITTOR DISTRICT 937  
P. Subramanyachary
- A STUDY ON PATIENT'S LEVEL OF SATISFACTION OF THE SERVICES OF PRIVATE HOSPITALS IN ERODE DISTRICT 947  
S. Indira
- IMPACT OF MICROFINANCE ON WOMEN EMPOWERMENT : A STUDY OF MEGHALAYA 957  
Benjamin Franklin Lyngdoh

BIBLIOGRAPHY : FINANCING FISCAL DEFICITS 967