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INDIAN JOURNAL OF ADULT EDUCATION

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In the age of knowledge with rapid strides in the frontiers of science and information technology, an impassioned observer is often at a loss to understand the pervasive and persistent cynicism and scepticism against AE which is at once life-giving and life-breathing, the pace and trend setter for life-long learning and which leads to an evolved family, community and society. One is all the more anguished when the literate and educated sneer at their un-lettered brothers and sisters who for no fault of theirs have remained deprived of the access to educational opportunity. The anguish gets further deepened by the continuing indifference and neglect of AE at all levels such as policy planning, allocation of resources, deployment of manpower and implementation. Regretfully this is so, notwithstanding the realisation that this is the best form of investment in man, the epi-center of development- physical, economic, emotional and spiritual.

In this not too-a-happy scenario, it is a happy augury that Indian Adult Education Association has been the torch-bearer of holistic and integrated human development through AE for more than 8 decades (since 1939 when it was founded). It has made painstaking and determined efforts to disseminate the socially most relevant message(s) centering round AE that education enlightens, ennobles and unites while ignorance divides, dissipates and leads to eventual destruction of mankind. .

The present initiative taken by IAEA to bring out this issue to share, spread and inculcate the most timely and relevant messages about the multi-dimensional AE as a tool for creation of a conscious, vigilant, caring and democratically empowered society which is also tolerant and catholic is indeed splendid and most appropriate.

The journal has 7 articles which are linked either directly or indirectly to AE and the various dimensions thereof such as , by way of illustration:

- Health status of workers and nutrition;
- Development of lifelong learning
- Skill development;
- Women's empowerment;
- Environmental, vocational and entrepreneurship education;
- Professional development of teachers;
- Innovative strategy for effective teaching.

All the above concepts, values, activities, institutions and target groups figuring in these articles are inextricably intertwined; they should not be compartmentalised and viewed in isolation. All of them will have to be viewed as integral parts of a larger and integrated whole ie the larger canvas of AE to derive any meaningful conclusion.

I would like to convey my deep sense of personal appreciation to the authors of all the articles for having conceptualised and having put to black and white themes which are intimately connected with the world of AE and that of adult learners. They

will undoubtedly promote(a) environmental, vocational and entrepreneurship education(b)protect and safeguard rights of labour as producers and consumers(c)promote and protect health of miners who are exposed to an unclean, unhygienic and unsafe working and living conditions and turn out to be victims of occupational diseases some of which like silicosis are un-treatable(d)promote self-employment and entrepreneurial skills(e) enhance teacher's professional competence(f) reinforce the importance of financial literacy and digital skills(g) strengthen institutional structures linked to literacy, post-literacy, continuing education and lifelong learning.

The IAEA deserves to be congratulated for mobilising and rallying round a band of such rational and secular thinkers and writers who are also professionals in their respective fields.

It is my earnest desire and conviction that all the authors of these articles who are also distinguished adult educators by their own right should act as mile-posts in such territories of India where for miles together one does not come across a single print medium of communication and where the denizens are steeped in fads, taboos, ill-perceived and mistaken notions, obscurantist ideas and practices. Each one of them should , with unmistakable courage of conviction and commitment spread the message as to how AE can be the harbinger of peace and harmony, trust, goodwill and tolerance in a world torn by discord and violence and how being literate and truly educated could be for a better family, better community and better nation at large what Gurudev Rabindranath Tagore had envisioned a century ago and I quote:

"Where the mind is without fear and the head is held high;

Where knowledge is free;

Where the world has not been broken up into fragments by narrow domestic walls.....

Where the clear stream of reason has not lost its way into the dreary desert of dead habit....

Into that heaven of freedom, my Father, let my country awake.

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An In-depth Tracer Study of Students of “Adult Education” programmes of IGNOU: A Model for Critical Analysis of ODL Programmes

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Abstract

Enrolment of students in Open and Distance Learning (ODL) programme of an open university varies from single digit number to a few tens, hundreds or thousands. However, what is relevant for its sustainability and its contribution to fulfillment of human resource needs of the economy is its students' progress since their enrolment towards completion of the programme. Nevertheless, inevitable facts are that, some students do remain as non-starters, some others will be active students, of whom some will be able to complete the programme while others might end up being unsuccessful or non-completers. An in-depth tracer study of students of ODL programmes of low or high enrolment with critical analysis of the students' progress assumes great significance in the interest of both the students enrolled and the concerned programme(s) as well. The study here is thus an attempt in this direction with special reference to Post-Graduate Diploma in Adult Education (PGDAE), Post-Graduate Certificate in Adult Education (PGCAE) and Master of Arts in Adult Education (MAAE) programmes in the discipline of “adult education” offered by Indira Gandhi National Open University (IGNOU).

Keywords: In-depth Tracer Study, ODL programme, Low enrolment, Non starters, Active students, Pass outs, Non-completers, Critical Analysis

Background

Though the first Department of Adult Education was established in 1964 in the University of Rajasthan, the efforts of establishment of Departments of Adult, Continuing Education and Extension (DACEEs) in conventional universities in India intensified during early 1970s to late 1990s (Shah, 1999) and gradually their number reached to 103 (Vandana, 2004). However, the efforts of professional development and capacity building in “adult education” by these DACEEs met with limited success only (Shah, 1997; and Reddy, 2006). In this backdrop, professional development and

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capacity building programmes in the discipline of “adult education” launched by Indira Gandhi National Open University (IGNOU) namely Post-Graduate Diploma in Adult Education (PGDAE) launched in 2009, and Post-Graduate Certificate in Adult Education (PGCAE) as well as Master of Arts in Adult Education (MAAE) both launched in 2011 through open and distance learning (ODL) mode assume great relevance. These three programmes continue as part of current 237 programmes (IGNOU, 2018), which are offered under 67 Regional Centres spread across the country. However, successful delivery of these programmes in terms of the number of students enrolled as well as their progress and the final status at the end of their journey through the programmes inter alia depends on the nature, size and quality of the Learner Support Centres (LSCs) established in the form of Study Centres (SCs) and Programme Study Centres (PSCs) under the control of different Regional Centres (RCs).

Basic details of PGDAE, PGCAE and MAAE programmes: In the context of an in-depth tracer study of students of these programmes, it is appropriate to present a few basic details about them.

- i) PGDAE is of 34 credits programme with minimum duration of one year and maximum duration of four years. It consists of 5 courses – 4 theory courses each of 6 credits, and one practical course of 10 credits.
- ii) PGCAE is of 15 credits programme with minimum duration of six months and maximum duration of two years. It consists of 3 courses – 2 theory courses each of six credits, and one practical course of 3 credits.
- iii) MAAE is of 68 credits programme with minimum duration of two years and maximum duration of five years and these credits are equally distributed with 34 credits each in its first and second years. It consisting of 10 courses – 8 theory courses each of 6 credits (out of which two are optional courses in the second year), one practical course of 10 credits in the first year and one dissertation course of 10 credits in the second year.

As per IGNOU norms, each credit is of 30 study hours, which includes performance of and/or participation in any prescribed activity related to the programme. Though IGNOU has two admission cycles/sessions, January and July in every calendar year, some of its programmes are offered in any one cycle/session only while some other programmes are offered in both the cycles/sessions. Accordingly, PGDAE and MAAE are offered in July session only, whereas PGCAE is offered in both January and July sessions.

Further, it is very relevant to mention a few additional aspects regarding offer of PGDAE as an independent programme and also its modular relationship with MAAE programme. One, MAAE programme is structured into two years and the students

who are initially admitted into its first year have to re-register themselves for the second year towards the end of the first year of that particular session (during April-June) or in that period of the subsequent sessions of the later years. It means, movement of the students from first year to second year of MAAE is not automatic and the students of its first year have to re-register themselves for the second year of the programme as per their convenience, interest and commitment. *Two*, PGDAE is offered as an independent programme, and the admitted students who complete all the courses of it are awarded with PGDAE. Further, PGDAE is also constituted as first year of MAAE programme. Thus, PGDAE also forms a module (first year) of MAAE. It means, the students of MAAE first year who complete all courses of first year are also awarded with PGDAE, irrespective of whether they have re-registered for second year of MAAE or not. Hence, admission seekers are free to choose, whether they want to enroll for PGDAE as an independent programme or they want to enroll for MAAE and complete all its first year courses to get awarded with PGDAE. *Three*, provision has also been made for the graduates of PGDAE (i.e. who completed it as independent programme) to seek direct entry into 2nd year of MAAE through a process called lateral entry admission.

Rationale for the Study: A Brief Review of Related Literature

Studies touching upon rate of dropouts and the completion (pass) rates of students of open and distance education programmes present the extent of success of the programmes. However, there is no unanimity on the definition of the term 'dropouts' in different studies. "Peters (1992) defines dropout as a student who does not sit for examination. Eisenberg and Dowsett (1990) define dropouts as finally registered students who have withdrawn from the course before the final examination. According to Fan and Chan (1997) the dropouts are those who did decide not to continue and did not submit any work since then and did not take their examination. They also distinguish these dropouts from initial dropouts. They define initial dropouts as those students who do not submit any work to the institution" (See Reddy, 2001, pp.49-50). In addition, some researchers have used certain other terms too, such as 'attrition' (Siquera de Freitas and Lynch, 1986) and 'withdrawals' (Brandt, 1956). Reddy (2001) attempted to encompass all these into one comprehensive definition: "the dropout is a properly registered student who has either withdrawn himself from the course or a programme of study at any point of time either by informing or not informing the institution of his intention to withdraw, or has been prevented by the institution for not satisfying the institutional regulations at any point during the course of the programme" (p.50). However, what is important is the holistic picture of the progress of all the enrolled students in the entire duration of the programme. Hence, *the status of the duly enrolled students is required to be located on a continuum of the duration of the programme irrespective of whether the students have or have not informed the institution of their withdrawal from pursuance of the programme at any point of time since their enrolment.*

Raza and Allsop (2006, p.38) rightly point out as follows:

“Despite their mandates, most of the South Asian ODL institutions are not able to trace the path of their students over time to see how many complete and dropout. Most studies that exist have focused on looking at these issues at the course level because this data is easier to acquire. These data limitations are problematic across most ODL institutions whether in industrialised or low-income countries”.

“Researchers have pieced together completion rates on selected programmes across institutions where data is available. A recent study completed by Reddy (2002) on IGNOU completion rates (or as the author calls them, pass rates) is a rarity. Also extremely rare are institutional studies that systematically examine characteristics of students who complete. What is common are studies that examine characteristics based on surveyed samples ...”.

“ODL institutions have large numbers of students enrolled but little is known about what contribution they make to the human resource needs of the economy. ...”.

Above points do suggest a huge gap in research that is to be filled by ODL institutions. Though Reddy (2002) studied the students' pass rates of all the programmes of IGNOU by taking into account the cohorts of enrolments and corresponding cohorts of pass outs, it is totally silent about the dropouts of these programmes and their reasons thereof. While Reddy (2015) made partial attempt to trace the path of students of three programmes (i.e. PGDAE, PGCAE and MAAE), the study confined to enrolments and pass outs of the initial years only and is silent about the actual progress status of all the enrolled students taken together – the non-starters, initial or early dropouts, non-completers and completers and their reasons thereof.

The reports of IGNOU (2016a, 2016b and 2017) present only the enrolment trends of all the programmes of IGNOU, and the data do not cover the actual status of the enrolled students. Thus, there are no studies that tracked the path of the students of ODL programmes during the permitted durations of the respective programmes.

In view of the above, an in-depth tracer study of students of PGDAE, PGCAE and MAAE programmes is attempted here with a view to trace the progress of the students enrolled since the launch years of these programmes so as to find out how many are non-starters, how many have completed and how many are unsuccessful, and also to know their reasons for their own status through these programmes.

Concerns for In-depth Study of PGDAE, PGCAE and MAAE Programmes

Since their launch years PGDAE, PGCAE and MAAE programmes have been facing the problem of low enrolment of less than a hundred per year. Enrolment in MAAE has, of course, crossed a hundred figure in two years, 2017 and 2018, albeit with trivial fall in the latter year in comparison with that of 2017. Yet, *unless there is consistent enrolment of more than a hundred students per year for at least five consecutive years it will remain a concern, and thus it is prudent to treat MAAE also as a low enrolment programme along with the other two programmes.* It is this low enrolment concern over the years that calls for systematic and comprehensive in-depth tracer study of students to take stock of their situation, which will be useful for drawing meaningful conclusions thereupon.

Towards this end, the author here as the coordinator of these programmes, who has been tracking their annual enrolments, had visualized for himself a long-term plan, with sustained efforts, for an in-depth study of these programmes with a view to find answers to the following questions.

- i) What is the current status of enrolment in PGDAE, PGCAE and MAAE programmes since their respective launch years?
- ii) What is the actual progress and final status of the students enrolled for these programmes?
- iii) What is the rate of non-starters, active students, pass outs and non-completers from among those whose prescribed *minimum* and *maximum durations* of the relevant programme are over?
- iv) What are the reasons of the students for their own status/progress in their programme?

Nature, Objectives and Scope of the Study

Nature

It is a longitudinal in-depth tracer study of the students enrolled for PGDAE, PGCAE and MAAE programmes since their respective launch years. It attempts to provide an insight into the students' progress and their final status in terms of non-starters, active students, pass outs and non-completers of these programmes since inception till the end of permitted durations, including their reasons for their existing status.

Objectives

The objectives of the study are as follows:

- i) To identify the status of student enrolment in PGDAE, PGCAE and MAAE programmes since their respective launch years including the spread or

- coverage of their enrolment across different Regional Centres and 'Study Centres';
- ii) To study the progress and final status of the students enrolled for these programmes in terms of how many of them are non-starters, active students, pass outs and non-completers;
 - iii) To find out the pass rates of the total enrolled students and of the active students of these programmes when their prescribed *maximum durations* of the programmes are over;
 - iv) To find out the pass rate of those PGDAE graduates who got lateral entry admission into second year of MAAE programme in comparison with those who got direct admission into MAAE; and
 - v) To study the rate of non-starters, active students and pass outs from among those whose prescribed *minimum duration* of the relevant programme only is over and not their respective maximum durations.

Scope

The study covers only three programmes (i.e. PGDAE, PGCAE and MAAE) which have been facing the problem of low enrolment, as defined below. The enrolment data collected covers July 2009 session to July 2018 session, and the students' progress data covers from July 2009 session till 31 October, 2018. Thus all the 564 students enrolled for these programmes since their launch years are covered in the study.

Certain Terms Defined or Explained

For the purposes of study, certain terms used such as low enrolment, non-starters, active students, pass outs and non-completers, amongst others, are defined below.

Low enrolment programme

A programme is considered to be suffering from low enrolment if it has:

- (a) the student enrolment of less than one hundred in every year since its launch year through subsequent years till date; or
- (b) the average enrolment of less than one hundred students per year taken for all the years since its launch year; or
- (c) less than one hundred students enrolled per year for each of the five consecutive years including the current year.

Active students

The students enrolled for a particular programme are considered to be *active students* if they have *performed at least any one, more than one or all of the following*

components as applicable to the relevant programme by the time their prescribed maximum duration of that programme is over:

- i) submitted the assignment response(s) and the relevant Grades are reflected in their Grade cards;
- ii) appeared in the term-end examination (TEE) and the relevant Grades are reflected in their Grade cards;
- iii) performed the practical activities and submitted the report(s) thereof pertaining to the practical course and the relevant Grades are reflected in their Grade cards;
- iv) submitted dissertation and attended viva-voce examination and relevant Grades are reflected in their Grade cards.

Non-starters: If the students enrolled for a particular programme have not done any one of the above as applicable to at least one course of that programme before their prescribed maximum duration of the programme is over, then they are considered to be the *non-starters* of that programme.

Pass outs and non-completers: If the students enrolled for any particular programme have successfully completed all the courses of that programme within the prescribed minimum or maximum duration of the programme they are the *pass outs* or *successful completers* of that programme. Those active students who are unsuccessful in completing or passing the programme are the *non-completers*.

Explanation of 'Study Centre' (SC) code: Each Regional Centre (RC) of IGNOU is assigned with *specific code having two numerals*, which are of particular state or region code as per institutional policy. Under each RC, there are Learner Support Centres (LSCs) in the form of Study Centres (SCs) established for delivery of general programmes and Programme Study Centres (PSCs) established for delivery of professional and capacity building programmes in particular discipline. *These SCs and PSCs are also allotted specific codes.* Every SC/PSC is thus assigned with a specific code, with its first two digits being the code of the concerned RC or of particular state within its region and suffixed by a few more numerals or alphanumeric code. While the SCs are established for general programmes, the PSCs are established/activated for professional development and capacity building programmes in particular discipline. Generally, the specific codes of SCs/PSCs are entered in the admission database of the enrolled students indicating their allocation/attachment to particular SC/PSC as learner support centre for enabling them to avail the support services related to their programme. However, some arbitrary codes are also entered as tentative codes under 'SC' column in the database. These 'tentative or arbitrary' codes are so assigned by an RC when there is no SC / PSC established/activated for the relevant programme(s) under particular RC; and these codes indicate a 'tentative SC' instead of an existing SC/PSC code. A 'tentative SC' code may indicate the concerned RC itself (with letters RC-plus its numeric code, or by prefixing or suffixing

code '00' to RC code), or the Headquarters (indirectly the particular School of Studies at HQ) with the letter code 'HQ' or code '999' suffixed to RC code. For example, if an RC code is 29, in the database under 'SC' column, the relevant code entered will be either 'RC-29', '2900' or '0029' to indicate RC as 'tentative SC'; it will be 'HQ' or '29999' to indicate Headquarters as 'tentative SC'. And, sometimes, code 'NA' is assigned indicating that the student is not even allotted to any tentative SC. *Thus, 'SC' used in the analysis and interpretation of data under relevant section in the study represents all the codes, i.e. specific codes of SCs/PSCs as well as all the 'arbitrary' codes of tentative SC.*

Methodology of the Study

Concurrent mixed methods research design has been followed in this longitudinal study. Quantitative data has been collected periodically from the database sources of the institutional system. Beginning with July 2009 session, the enrolment data has been collected every year till July 2018 session, immediately after the admission process was over for each session. Thus, the data as available online from IGNOU website (www.ignou.ac.in) has been systematically retrieved by the author about these programmes over the years since their respective launch years. The data related to student enrolment has been collected from Registration Data Transfer Service system link of the said institutional website. However, some enrolment data, which was not available from online source for July 2009 session of PGDAE, which was essentially available offline only was collected from the relevant offline sources. Based on this data, the students' progress has been tracked after every Term-End Examination (TEE) of the respective programmes, This has been done so as a part of continuous monitoring of both, the enrolment of students and also their progress status over time in these programmes. In addition, the qualitative information as received from the students since the time of enrolment process and thereafter during the duration of the programme has been collated periodically to corroborate and validate the findings of quantitative data and vice-versa. This has even enabled the author (as the programme coordinator) not only to track the students' progress path but also to facilitate their progress and feedback.

Specific data pertaining to progress of the students year by year and their final status has been collected periodically from their online Grade Card status. Thus, the relevant quantitative data from authentic data-base sources of the institutional systems has been used for studying the students progress. *It is needless to say that, such a long-term and in-depth exercise over the years has not only been felt very essential but has also become possible because of low enrolment of these programmes.* As a part of it, and to study the reasons for low enrolment since the launch years, qualitative feedback has been compiled based on the problems faced by the admission seekers in different years regarding the issues of admission process, and applied it to corroborate the reasons for low enrolment, among other things.

Further, based on the findings of the quantitative data and in order to ascertain the reasons of the concerned students, i.e. non-starters, active students, pass outs and non-completers, about their existing status an attempt has also been made to collect qualitative information from them in the middle of December 2018 through telephonic conversation with the following samples of students selected at random from these relevant groups of students: i) four students each from among the non-starters of each of these programmes whose prescribed maximum duration of the programme was over, ii) five students each from among those who have successfully completed or passed out respective programmes when their maximum duration of the programme was over; iii) four students each from among those who have been active but could not complete the respective programme when their maximum duration of the programme was over (**Note:** Out of these 39 selected sample students, just four students whose mobile phones were either switched off, or not reachable or found to be incorrect, and those who did not receive / respond to even the second/ third telephonic call from the author, nor have they called back later have been left out).

In addition, the information collected during personal and telephonic interactions/ discussions the author had on different official occasions with two Programme In-charges of two PSCs of these programmes and four academic counselors of one PSC has also been collated to cross validate the findings based on the qualitative data collected from the students. Furthermore, one student of PGDAE and three students of MAAE from among those who attended the workshop as a part of their practical course activities at a PSC in October 2018 have also been personally interviewed by the author in unstructured manner to understand in-depth their problems, if any, in pursuing the relevant programme.

Results and Discussion

Quantitative data has been analyzed manually and the findings related to the three programmes are presented and discussed under sections A) to D) below followed by section E) wherein the qualitative data about the students' reasons, among others, has been collated with quantitative findings.

A) Status of Student Enrolment

To begin with, it is essential to have a look at the status of student enrolment since the respective launch years of the three programmes. Table 1 presents the enrolment details of PGDAE programme from its launch year/session (i.e. July 2009) and of PGCAE and MAAE programmes from their launch year/session (i.e. July 2011).

Table 1: Student Enrolment of PGDAE, PGCAE and MAAE programmes: Year-wise

Year	Number of Students Enrolled			Total Enrolment
	PGDAE	PGCAE	MAAE	
2009	6	NA	NA	6
2010	12	NA	NA	12
2011	7	0	1	8
2012	3	7 (4+3)*	4	14
2013	0	9 (2+7)*	13	22
2014	3	12 (7+5)*	11	26
2015	12	9 (5+4)*	33	54
2016	18	13 (6+7)*	35	66
2017	8	36 (14+22)*	140	184
2018	16	19 (12+7)*	137	172
Total Enrolment	85 (15.07%)**	105 (50+55)* (18.62%)**	374 (66.31%)**	564 (100%)**
Average enrolment per year [@]	8.5	13.13	46.75	56.4

Note: NA = Not Applicable, since PGCAE and MAAE have been launched in July 2011 session only*

Figures in parentheses indicate the break-up of respective enrolment of January and July sessions for PGCAE

** Indicates the percentage of enrolment in the programme taken for total enrolment of the three programmes.

@ Average enrolment of each programme is calculated by taking the launch year of each programme as base year, while the average enrolment for all these programmes taken together is calculated by taking into account 2009 as the base year.

From Table 1, clear trend is that:

- i) While the total enrolment of all the three programmes together is 564, the total annual enrolment of these programmes has been increasing every year except for two years (2011 and 2018), with minor fall in these two years as compared to that of their corresponding previous years;
- ii) The enrolment of MAAE (374), PGCAE (105) and PGDAE (85) respectively account for 66.31%, 18.62% and 15.07% of the total enrolment of these programmes;
- iii) While the enrolment of PGDAE and PGCAE programmes has not crossed double digit, the growth in enrolment of MAAE jumped forward from single digit to double digit to triple digit, albeit the ignorable fall in 2014 and 2018 compared to that of their corresponding previous years; and

- iv) Average enrolment per year of PGDAE (8.5) is low in comparison with that of PGCAE (13.13) and of MAAE (46.75).

Regarding certain fluctuations in enrolment of PGDAE and MAAE, it is important to recall one common feature of PGDAE and MAAE, that is, the modular relationship between them as explained elsewhere. Therefore, with proper pre-admission counseling by the programme coordinator (i.e. the author here) explaining to the concerned admission seekers the relative advantages of seeking admission into these programmes, the applicants interested to apply for PGDAE could be averted and diverted to apply for MAAE, as it has been done in 2013. Yet, in later years, some interested candidates such as those already pursuing a Master Degree programme elsewhere or from IGNOU, have preferred to seek admission into PGDAE only; they did so, expressly to avoid problems related to violation of official policy of pursuing double degrees simultaneously.

A. Point of Self-Determined Progression or Attrition from Admission to Re-registration

An in-depth examination of the relevant data of MAAE students' progress from 1st year to 2nd year in the form of re-registration by them into 2nd year revealed that on an average only 36% of those enrolled in 1st year did re-register themselves for its 2nd year. Further, from no one admission session/cycle all the students enrolled in 1st year have re-registered into 2nd year either in the immediately following year or in the later years. It means, there is attrition of 64% by the end of the first year of the five years maximum duration allowed for the programme. This, to some extent, supports findings by James and Wedemeyer (1959) that 93% of students dropout or withdrew before completing a quarter of the programme. The students are thus aware of the flexibility provided thereof and have used the provision either to proceed further as per their convenience, commitment and interest or dropout or withdraw accordingly.

In-depth examination of the enrolment data revealed the spread or coverage of the three programmes since their respective launch years across different RCs. There are 48 RCs having presence of student enrolment for any one, two or all the three programmes. More number of RCs (38) have students enrolled for MAAE, followed by 25 RCs having students enrolled for PGDAE and 24 RCs having students enrolled for PGCAE. Further, except in the year 2013 for PGDAE and in the year 2018 for PGCAE, *the growth in number of RCs having enrolment has spread by one or more of other RCs every year, and thus added RC(s) to those of the preceding year*, in respect of the three programmes. However, the number of RCs so added for a programme or across these programmes every year is not uniform. Minute details of the data revealed that *while some RCs have students enrolled for any one programme only, some other RCs have enrolment for any two programmes only and yet other RCs have enrolment for all the three programmes*.

While the average enrolment per RC for all the three programmes taken together is 11.75, the highest average enrolment of 31.5 is for RCs having enrolment for both PGDAE and MAAE programmes, followed by 21.44 for RCs having enrolment for all the three programmes.

Altogether 48 RCs have students enrolled for one or two or all the three programmes and their distribution is as follows:

- i) *25 RCs have covered only one of the three programmes with 113 students enrolled under them accounting to 20.04% of the total enrolment of the three programmes. 5 RCs have 7 students enrolled for PGDAE only, 3 other RCs have 14 students enrolled for PGCAE only, and 17 yet other RCs have 92 students enrolled for MAAE only.*
- ii) *7 RCs have covered any two of the three programmes with 108 students enrolled under them together accounting to 19.15% of the total enrolment of the three programmes. 2 other RCs have 10 students enrolled for both PGDAE and PGCAE, 2 other RCs have 63 students enrolled for both MAAE and PGCAE, and 3 other RCs have 35 students enrolled for both PGCAE and MAAE.; and*
- iii) *remaining 16 RCs have 343 students enrolled under them for all the three programmes (i.e. MAAE, PGDAE and PGCAE) whose contribution is 60.82% of the total enrolment of the three programmes.*

Further details show that, out of 48 RCs with 564 students, 25 RCs with each having student enrolment ranging between 1 and 5 together account to only 11.17% of total enrolment, just 4 RCs with each having the student enrolment of above thirty together account to 45.39% of total enrolment, and the rest range in between.

Minute details show that the 564 students enrolled for PGDAE, PGCAE and MAAE programmes under 48 RCs are found to be allotted/attached to 104 'SCs' as follows:

- i) *39 'SCs' have 157 students of only MAAE programme, 23 other SCs have 44 students of only PGCAE programme and 18 other 'SCs' have 27 students of only PGDAE programme. Thus, these **80 'SCs'** accounting to 76.92% of the total 'SCs' have **228 students** which account to 40.43% of the total enrolment of all the three programmes;*
- ii) *7 other 'SCs' have 70 students of both PGDAE and MAAE, 5 other SCs have 33 students of both PGCAE and MAAE, and 5 other 'SCs' have 17 students of both PGDAE and PGCAE. Thus, these **17 'SCs'** accounting to 16.35% of the total 'SCs' have **120 students** which account to 21.28% of the total enrolment of all the three programmes; and*

- iii) remaining **7 'SCs'** having enrolment for the three programmes accounting to just 6.73% of the total 'SCs' have **216 students** which account to 38.30% of the total enrolment of all the three programmes.

The students of PGDAE are allotted to 37 'SCs', the students of PGCAE are allotted to 40 'SCs' and the students of MAAE are allotted to 58 'SCs'; though the allotment of programmes to these centres is not mutually exclusive.

Average enrolment per 'SC' for all the three programmes taken together is 5.42, while the highest average enrolment of 30.86 is for 'SCs' having enrolment for all the three programmes, followed by 10 for 'SCs' having enrolment for PGDAE and MAAE programmes only.

Further details show that out of 564 students enrolled for all the three programmes, **74.47% of them have been allotted to PSCs/SCs with specific 'SC' codes, 21.09% of them have been allotted to tentative 'SCs' (21.04%) with arbitrary codes and the rest of 4.43% are not attached/allotted to any 'SC' at all.** It means, support services to more than 25% of enrolled students who are not allotted to particular PSC/SC are supposed to be provided by RCs and HQ directly with their mutual cooperation and support by involving the programme coordinator and other concerned faculty at the Headquarters, as well as those available at the concerned RCs, among others.

Minute details reveal that while 85 'SCs' out of 104 have only 27.84% of total students with their number ranging from 1 to 5, just 4 'SCs' together have 40.43% of the total students of these programmes. Out of these four 'SCs', two are the SCs duly activated for these programmes while the other two are the PSCs specially established for these programmes.

In the above background of student distribution across different RCs and 'SCs' with such low enrolment, a study of the progress path of the students assumes great significance. The findings regarding the progress of the students are presented under the following sections.

B. Non-starters, active students, pass outs and non-completers from among those whose respective maximum durations of the programmes are over

Details of non-starters, active students, pass outs and non-completers from among those enrolled for the three programmes since their respective launch years/sessions whose prescribed maximum durations of the programmes are over, are presented in Table 2.

Table-2: Non-starters, Active Students, Pass outs and Non-completers from among those students whose prescribed maximum durations of the programmes are over: Programme-wise

Programme	Sessions for which the prescribed maximum duration is over	Total Number of Students enrolled	Total No. of Non-Starters	Total No. of Active Students	No. of Active Students	
					Who have completed the programme (pass outs)	Who could not complete the programme (Non-completers)
PGDAE	July 2009 to July 2014	31	15 (48.39%)	16 (51.61%)	12 (75%)* (38.71%)**	4 (25%)@
PGCAE	July 2011 to July 2016	50	23 (46%)	27 (54%)	9 (33.33%)* (18%)**	18 (66.67%)@
MAAE	July 2011 to July 2013	18	9 (50%)	9 (50%)	2 (22.22%)* (11.11%)**	7 (77.78%)@
Total		99	47 (47.47%)	52 (52.53%)	23 (44.23%)* (23.23%)**	29 (55.77%)@

Note: * Indicates pass rate of active students of the programme.

** Indicates pass rate of the total students enrolled for the programme.

@ Indicates percentage of non-completers of active students of the programme.

Table 2 reveals that out of 99 students of PGDAE, PGCAE and MAAE, whose prescribed maximum durations of these respective programmes since their respective launch sessions/years are over:

- i) 47.47% of them remained as non-starters while 52.53% of them have been active. This is almost in conformity with Manohar (1994, p.77) who found that the dropout rate in Dr.BRAPOU was 50% of the total enrolment, and McIntosh (1972) who found that 58.5% of total number of students of British Open University had withdrawn from the programme;
- ii) out of the active students of these programmes, only 44.23% have successfully completed or passed out the programmes, and 55.77% could not complete the programmes. The pass rate of the active students of PGDAE, PGCAE and MAAE stand at 75%, 33.33% and 22.22% respectively; and
- iii) average pass rate of the students of the three programmes is 23.23%, which is almost three times higher than that (8.85%) of the average pass rate of the students of IGNOU programmes as found by Reddy (2002) while the pass rate of PGDAE students is 38.71%, and the same is 18% and 11.11% for PGCAE and MAAE students respectively.

In-depth examination of the relevant data of those, whose maximum durations of the respective programmes are over, has further revealed the following:

- a) Year-wise pass rates of the active students of PGDAE from its year-wise

- enrolments are in the range of 75% to 83.33%. Course-wise progress status of the four active students who are non-completers of PGDAE revealed that all of them have completed only assignment component of the theory courses while three of them have not at all attempted the practical course and only one of them has completed the practical course.
- b) Year-wise pass rates of the active students of PGCAE from its year-wise enrolments are in the range of 33.33% to 66.67%. Course-wise progress status of the 18 active students who are non-completers of PGCAE revealed that none of them has completed the practical course. Though 7 of them completed the theory courses, 11 of them have not completed either the assignment or TEE component of the theory courses.
- c) Year-wise pass rates of the active students of MAAE from its year-wise enrolments are in the range of 0 to 22.22%. Course-wise progress status of 7 active students who are non-completers of MAAE revealed that all of them have not completed the dissertation course, while 4 of them have not attempted the practical course, though half of them have completed the theory courses. The remaining three who have not completed even theory courses of first year have completed only the assignment component of these courses.

C. Non-starters, active students, pass outs and non-completers from among those who took lateral entry admission into 2nd year of MAAE and whose prescribed maximum duration was over

The PGDAE graduates who get lateral entry admission into 2nd year of MAAE are allowed maximum duration of three years to complete second year of MAAE. Since the launch of PGDAE in July 2009 to July 2014 (i.e. the six sessions whose prescribed maximum duration was over), there were 12 pass outs in all – 5 from 2009 session, 4 from 2010 session and 3 from 2011 session. Only ten out of these 12 PGDAE graduates took lateral entry admission into 2nd year of MAAE during 2012 and 2013 sessions and have completed their prescribed maximum duration of it. The details of their status are presented in Table-3. (on next page)

Table-3 makes it clear that all the ten students of lateral entry admission were active. However, only five of them have passed out MAAE programme. Thus, the pass rate of the students of lateral entry admission into MAAE is 50%, which is much higher than 11.11% pass rate of those of re-registration into MAAE. Minor details of course-wise progress status of the remaining five active students who have not complete the programme when their prescribed maximum duration for completion of 2nd year of the programme was over revealed that they have not attempted to complete the dissertation course, though they all have completed all the theory courses of it. *It means, only dissertation course alone has remained as their unfinished task to complete the programme.*

Table-3: Active students, pass outs and non-completers of MAAE from among the students of Lateral Entry admission whose prescribed maximum duration was over (N=10)

Year	No. of students (PGDAE graduates) who got Lateral Entry admission into 2 nd year of MAAE	No. of Non-starters	No. of Active students	No. of Active students	
				Who have completed the programme (pass outs)	Who could not complete the programme (Non-completers)
2012	7@	0 (0%)	7 (100%)	4 (57.14%)	3 (42.86%)
2013	3*	0 (0%)	3 (100%)	1 (33.33%)	2 (66.67%)
Total	10	0 (0%)	10 (100%)	5 (50%)	5 (50%)

Note: @ Indicates that PGDAE graduates who got lateral entry admission includes 4 from those of its July 2009 session and 3 from those of its July 2010 session.

* These PGDAE graduates who got lateral entry admission are from its 2011 session only.

D. Non-starters, active students, pass outs and those who are yet to complete the programmes from among those whose prescribed minimum durations only are over, but not their prescribed maximum durations

Tables 2 and 3 covered the details of non-starters, active students, pass outs and non-completers whose prescribed maximum durations of the respective programmes are over.

Nevertheless, it will be equally interesting to take into account the non-starters, active students, pass outs and those who are yet to complete the programmes *even from among those students whose minimum durations only are over, but not their maximum durations.* Data presented in Table 4 is an attempt in this regard.

Table-4: Non-starters, Active Students, Pass outs and those yet to complete the programmes from among those whose prescribed minimum durations only are over, but not their maximum durations: Programme-wise

Programme	Sessions that completed only minimum duration and still have the maximum durations	No. of Students Enrolled in these sessions	No. of Non-Starters	No. of Active Students	No. of Active Students	
					Who have completed the programme (pass outs)	Who are yet to complete their maximum duration
PGDAE	July 2015 to July 2017	38	19 # (50%)	19 (50%)	3 (15.79%)	16*
PGCAE	January 2017 to January 2018	48	25 ## (52.08%)	23 (47.92%)	8 (34.78%)	15**
MAAE	July 2014 to July 2016	79	33 ### (41.77%)	46 (58.23%)	2 (4.35%)	44***
Total		165	77 (46.67%)	88 (53.33%)	13 (14.77%)	75

Note: # Minute details indicate that 5 of them have only one year more, 7 of them have two years more and 7 others have three years more to become active, and their potential and chances of completing the programme before their respective maximum duration of the programme is over cannot be ignored.

Minute details indicate that 10 of them have six months more, 11 of them have one year more and 4 of them have one and a half year more to become active, and their potential and chances of becoming active and completing the programme before their respective maximum duration of the programme is over cannot be ignored.

Minute details indicate that 3 of them have just one year more to complete maximum duration and they cannot be expected to complete the programme even if they become active hereafter. But, 11 of them have two years more and 19 of them have three years more to become active and their potential and chances of becoming active to complete the programme before their respective maximum duration of the programme is over cannot be undermined.

* Minute details indicate that 6 of them have one more year, 9 have two more years and one has three more years to complete their respective maximum duration of the programme and their respective possibility of successfully completing the programme is relatively higher in that order.

** Minute details indicate that 3 of them have six months more, 5 of them have one year more and 7 of them have one and a half year more to complete their respective maximum duration of the programme and their respective possibility of successfully completing the programme is relatively higher in that order.

*** Minute details indicate that 7 of them have one more year, 21 of them have two more years and 16 of them have three more years to complete their respective maximum duration of the programme and their respective possibility of successfully completing the programme is relatively higher in that order.

Special note: Minute details have further revealed that **10 out of these 44*** active students** of MAAE have successfully completed all the courses of its 1st year, i.e. got **Awarded with PGDAE**.

As can be noticed from Table 4, there are 165 students of the three programmes whose prescribed minimum durations only are over, and still have varying time periods to complete their maximum durations. Out of them, 53.33% students have been active and 46.67% remained as non-starters, and out of the active students only 14.77% of them could successfully complete (pass out) these programmes. The percentage of active students in MAAE is more (58.23%) than that of PGDAE (50%) and of PGCAE (47.92%). But, contrary to or just reverse of this, the pass rate of the

active students is more in PGCAE (34.78%), than in PGDAE (15.79%) and MAAE (4.35%). Perhaps, it is attributable to the level and duration of the programme.

The remaining active students (i.e. 16 of PGDAE, 15 of PGCAE and 44 of MAAE) are the potential students who can be expected to complete their respective programmes as they still have varying time periods for completion of their maximum durations of the programmes. In addition, as mentioned in the notes under Table 4, the potential and possibility of some non-starters whose remaining time period of maximum duration is equal to or more than that of the prescribed minimum durations of the respective programmes to become active and even complete the programmes cannot be ignored at all.

Further, by reading Tables 2 and 4 together it is clear that, in all: (a) **25** (12+3+10) students from those enrolled for PGDAE and MAAE have completed PGDAE and got awarded with PGDAE till date; and (b) **17** (9+8) students have completed (passed) PGCAE till date. Likewise, by collective reading of Tables 2, 3 and 4 it is clear that totally **9** (2+5+2) students have completed (passed) MAAE till date. Thus, out of all those enrolled for these programmes since their respective launch years who have completed their maximum or minimum durations, as the case may be, ***in all 51 (i.e. 25 of PGDAE, 17 of PGCAE and 9 of MAAE) students have successfully completed or passed out these programmes.***

*The average pass rate of students of these programmes who completed their prescribed minimum durations only but not the maximum durations is 7.87% (Table 4) as against average pass rate of 23.23% of those students whose maximum durations of the programme are over (Table 2). **The combined average pass rate of these two average pass rates is 15.5%, which is exactly comparable with the average pass rate of 8.85% as found by Reddy (2002) using the cohorts of pass outs of each year with respective cohorts of enrolments of each year. It means, the average pass rate of these three programmes is nearly twice that of all the IGNOU programmes.***

E. Findings based on Qualitative Data and Triangulation

The findings based on the analysis of the quantitative data are triangulated with qualitative information collected from the concerned students and others. These findings are summed up as follows.

i) Reasons for low enrolment: Some of the important reasons for low enrolment of the programmes as found out from the feedback of the admission seekers during the offline and online processes of admission included the following:

a) Specific reasons noticed when the admission of students was being done offline for the programmes:

- The response of certain RCs to the admission seekers who approached them was that these programmes were not offered in the concerned regions. Several such instances have been reported to the programme coordinator through telephonic calls and e-mails by such discouraged, dissuaded and disappointed students. There could be many unreported cases too. Of course, the Headquarters had duly intervened to facilitate admission of the reported cases, to a large extent. Further, the standing instructions were given by the Headquarters to all the RCs that no RC should dissuade / discourage the admission seekers or deny admission to the eligible applicants. Yet, the change in response of some RCs was not so encouraging over the years.
- Surprisingly, there were certain instances too where an RC had even taken an undertaking from a serious and very interested applicant to the effect that he took admission into the programme in spite of the concerned RC informing him the fact that the RC was not activated for the programme, that there will not be any study support, counseling sessions or project support provided by the RC. It speaks volumes about the nature and intensity of the demand by certain students for these programmes, in spite of negative response from particular RC(s) regarding their admission.
- Some rare instances were that the admission seekers who enquired about the medium of instruction used to express their displeasure at non-availability of the instructional material in Hindi medium.
- In certain instances, the programme coordinator had assured the concerned RCs that he would put in best efforts to facilitate provision of academic support services if students are admitted under those RCs which do not have an SC/PSC activated/established for these programmes.

b) Specific reasons for problems when the online admission process started for the programmes

- When the online admission was started by IGNOU, in every admission cycle of admission, some applicants started complaining that in the RCs dropdown list of online application, some RCs' names and codes were missing under which the admission seekers wanted to apply. When the programme coordinator brought the issue to the notice of the concerned Division with a request to do the needful to facilitate submission of online application by the interested applicants, only then the suitable link was provided in certain cases, and, of course, not done in time in certain other cases, when the admission deadline was over.

ii) Reasons of those enrolled students who remained as non-starters when their maximum duration of the programme was over: Some reasons as given by the enrolled students who remained as non-starters of PGCAE, PGDAE and MAE are more interesting and are specified below:

a) Reasons given by non-starters of PGCAE

- “Purely because of my personal problems I could not start working even on an assignment”.
- “I was doing my PhD from a central university and looking for relevant material on adult education. After seeing the course titles of PGCAE from IGNOU prospectus, I simply enrolled for it with the main purpose of getting the course material and with little hope that if my time permits I may do it also. I got the desired material, but I could not spare any time for doing PGCAE”.
- “I got admission into a Master’s programme in a conventional university and could not find time to pursue PGCAE”.
- “It was an afterthought that instead of doing PGCAE better I enroll for MAAE and do it. I thus enrolled for MAAE and gave up PGCAE. Fortunately, I found the course material of MAAE very interesting and useful for me. I have completed all courses of MAAE except dissertation, which I am doing now. Of course, I already have two master degrees and a PhD in Extension and doing my post-doctoral work as well”.

b) Reasons given by non-starters of PGDAE

- “I got appointment as a Lecturer in a college, became busy thereafter and could not devote any time for the programme”
- “Due to some important personal works that began subsequent to my admission, I got fully involved with them only”.
- “I had health problem due to miscarriage and could not show any interest in the programme”.

c) Reasons given by non-starters of MAAE

- “I have already been involved in literacy mission work, thus developed interest to do MAAE and took admission. Meanwhile, I got engaged in some important personal and familial works, which did not allow me to do anything else.”
- “Both myself and my daughter together decided to do MAAE simultaneously and thus both of us enrolled for the programme. In fact, my daughter so prompted me to enroll for the programme along with her, as I was already having Post-Master’s Diploma in Adult Education and also working as a prerak in a programme under SRC, Kerala. Soon, my daughter became busy with Company Secretary course work and I too got busy with something else. Thus, both myself and my daughter could not even begin any activity of the programme.”
- “I got job in a private firm and could not find time to do the programme at all”.

iii) *Impressions of those who have successfully completed the programme*

- The pass outs of PGCAE have expressed that the content of all the courses

is excellent, well organised and very interesting to read and work upon. However, they felt that proper mentoring at a duly activated SC/PSC would be a great advantage in more effectively performing the practical activities.

- The pass outs of PGDAE programme have expressed that the load of practical activities has been felt to be somewhat heavy, though the activities are found to be very involving, relevant, essential and useful for maintaining high standard of the programme.
- The pass outs of MAAE expressed that the entire programme is beautifully structured and it provided good quality experiences required at master's level programme of its kind. The activities of the three components of practical course are very methodically organized to provide sound field experience, useful interactions and activities in the workshop as well as relevant institution-based experience. Yet, attending the 12 days workshop was felt to be very difficult task for the in-service or employed students in terms of getting leave and sparing such a long time at a stretch. But, after completing the full duration of the workshop, their reported impression was that they could realize the significance, relevance and usefulness of the activities provided for maintaining the high quality of the programme. Completion of dissertation work was very difficult task, which they could complete only because of their commitment, endurance and interest to do it seriously.

iv) Reasons of those who could not complete the programme: Some reasons given by those who could not complete PGCAE, PGDAE and MAAE, when their maximum durations were over, are as given below:

a) Reasons given by those who could not complete PGCAE

- “Meanwhile I started working with an institution and the busy schedule did not allow me to go ahead with PGCAE work”
- “Completion of assignments requires devotion and I could not spare time to do the same because of my personal engagements and difficulties”.
- “I could not attempt term-end examinations because of clash of the schedule with some important familial functions”.
- “I live in hilly terrain and faced serious problems in performing community-based practical activities and also in finding a mentor”.

b) Reasons given by those who could not complete PGDAE

- “I got involved in many projects later, became very busy with them and could not get any time for doing the programme”.
- The course material is in English medium. I could complete even the assignments with difficulty, and I was not confident to give TEE in English. So, I left it at that stage (Translated version of conversation in Hindi).

- “Later, I enrolled for PhD programme as a regular scholar and could not find time to appear even for TEE. Now I am holding my PhD in Sociology.”
- “I got admitted into MSW regular programme and completed it also. Thus, I could not complete PGDAE.”

c) Reasons given by those who could not complete MAAE

- “I was already having a master’s degree and based on that I got admission into PhD regular programme. So I gave up MAAE.”
- “It was because of my personal and familial problems I lost interest in the programme”
- “I realized that the dissertation work requires sustained devotion and hard work. I was not in a position to put in adequate efforts to complete it”.
- “Doing practical course was a problem for me. I wish to suggest you that it is better to remove it from the courses of MAAE by replacing it with one or two more theory courses only”.

d) Reasons of lateral entry admission students who could not complete MAAE.

- “The dissertation course was much demanding in terms of time and efforts. I could not cope up with it”.
- “Though I completed all the theory courses, I could not devote required time for dissertation work. Also, I felt that it was a difficult task for me”.

The above reasons confirm partly the barriers to completion of the programme as cited by Camacho Carr, et al (1996), partly the causes of student dropout as found by Fan and Chan (1997), partly the reasons for high attrition as found by Siquera de Freitas and Lynch (1986) and partly the reasons for dropout as found by Khan (1989).

v) *Opinion of academic counselors about the programmes*

- The counselors expressed that some students reported their genuine feelings, concerns, problems and difficulties related to the practical course in PGDAE and dissertation course in MAAE. And, they said, they agree with the students’ suggestions that if these two courses (Practical and Dissertation) are replaced with only theory courses, that would be more comfortable to complete the programmes by many students.

vi) *Experience shared by Programme In-charges of PSCs*

- There is felt need expressed by the participant-students to reduce 12-day workshop of PGDAE into a 5-day workshop. The employed students in particular expressed their extreme difficulty in attending the 12-day workshop.

- “As a PIC, I agree with the difficulties the students are facing in completing their practical course, and I share their feelings and empathise with their problems”.
- It is better if practical course from PGDAE and dissertation from MAAE are replaced with a few theory courses. That would also attract more takers for these programmes.

When the students participating in the workshop component of practical course of PGDAE and MAAE were personally interviewed in an unstructured manner by the author they expressed similar views as those mentioned at point vi) above. But, from the point of view of the quality of experience they gained from doing practical course, they all said that the course is really required for maintaining the standard of the programme. However, they expressed that the activity load and duration of workshop needs to be reduced to ease related problems and difficulties in doing the course.

The above qualitative findings have thus validated, corroborated and confirmed the findings of quantitative data.

Conclusions and Implications

It will be meaningful to have a glance at the gist of the findings of the study for drawing effective conclusions and implications thereof.

- 1) The study revealed that out of 564 students enrolled for the three programmes spread across 48 RCs and 104 SCs':
 - i) about 75% of them only are allotted to proper PSCs/SCs specially established or duly activated for these programmes and more than 25% of them have been allotted to tentative 'SCs';
 - ii) about 48%, 46% and 50% respectively of those students enrolled for PGDAE, PGCAE and MAAE whose prescribed maximum durations are over have been the non-starters, and the rest (i.e. 52%, 54% and 50% respectively) of them have been active students.
 - iii) while the pass rates of total enrolled students of these programmes are 38.71%, 18% and 11.11% respectively, the pass rates of active students of PGDAE, PGCAE and MAAE are 75%, 33.33% and 22.22% respectively;
 - iv) most of non-completers of these programmes could not complete the respective practical course of these programmes, while those of 2nd year of MAAE could not complete the dissertation course; and
 - v) in all 51 students (i.e. 25 of PGDAE, 17 of PGCAE and 9 of MAAE) have successfully completed or passed out these programmes till date and, *except four*, all of them are from those students who have been allotted to PSC specially established or SCs duly activated for these programmes.

One important conclusion based on the above findings is that it will be a great push for these programmes if every RC takes an initiative to activate/establish at least one SC/PSC for these programmes under its region. *Implication of this conclusion is that such initiative by all RCs of IGNOU will be a big boost not only to muster big enrolment for these programmes but also to contribute qualitatively to the cause of professional development and capacity building in 'adult education' in India.*

2) Other important findings based on in-depth examination of data are that:

- i) even though these three programmes continued with low enrolment, the increasing and steady spread of their enrolment to additional RCs across the country every year till date presents very positive sign of consistent and growing demand for the programmes and their expanding reach; and
- ii) *average pass rate of above 23% of the total students enrolled for the three programmes taken together for all the sessions which have completed their prescribed maximum duration till date should be seen as a quite encouraging trend, though 47% of the enrolled students remained as non-starters.*

Second important conclusion, the critical one, that can be drawn is by comparing 23% average pass rate of students of these three programmes with the findings of Reddy (2002) on the students' pass rates of IGNOU programmes; according to which the average pass rate of students of all IGNOU programmes taken together was 8.85 of, and that of BA/BSc/BCom programmes or of MBA was just around *one percent* only, though thousands of students got enrolled for these programmes. Even by taking note of the students' pass rates of 38.71% of PGDAE, 18% of PGCAE and 11.11% of MAAE there is comparatively very encouraging trend in respect of these programmes. *By implication, these programmes contribute relatively more to fulfillment of human resource needs of the economy.*

3) In view of the above, another important and interesting critical conclusion that can be drawn on comparative basis of enrolments and students' pass rate is that, each pass out of PGDAE, PGCAE, and MAAE programmes can be treated as equal to 100 students enrolled for MBA or BA/BSc/BCom programmes. Thus, even the 25, 17 and 9 pass outs respectively of PGDAE, PGCAE and MAAE programmes are as good as 2500, 1700 and 900 students respectively enrolled for these programmes till date. Therefore, *by implication, the total enrolment of 564 in these three programmes since their launch years can be effectively treated as equal to 5,100 (i.e. 2500 + 1700 + 900) students enrolled for these programmes till date.*

To conclude, the *final and global implication* of this in-depth tracer study is that it serves as an effective model for undertaking similar study vis-à-vis not only all low enrolment programmes but also all high enrolment programmes of IGNOU, or of any

other Open University (OU), or of any Open and Distance Education Institution (ODEI) in India to have critical understanding of the actual status of all the enrolled students and the true contribution of the respective programmes in fulfillment of human resource needs of the economy. Of course, equally, it also serves as an effective model for similar study of each programme of all OUs and ODEIs across the globe, irrespective of the size of their student enrolments.

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Environmental Education (EE) and Education for Sustainable Development (ESD) towards Sustainable Development (SD) – A Comparative Study

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Abstract

The concept of Sustainable Development (SD) grew from numerous environmental movements in the earlier decades and gained worldwide support with the publication of the Brundtland Report in 1987. Today humanity has been facing global environmental, societal, and economic problems. Even the current problems of today are for more intriguing, disturbing, destroying and even exasperating than what obtained centuries earlier. In this context, the citizens of the world will have the task of learning their way towards sustainability. A system of education envisaged as ideal by one and all is crucial in enhancing the ability of the leaders and citizens of tomorrow to find solutions as well as new paths to a better and more sustainable future. Education will, therefore, be central to learning and to a more sustainable future. The education for sustainable development (ESD) first took place in the 36th section of the Agenda 21 in 1992. This laid an important foundation to plan education for sustainable development over the world. Education for Sustainable Development (ESD) is a sub-field of education and a conceptual tool to aid policy makers in authoring educational policies that take into account the present environmental, societal and economic challenges. ESD touches every aspect of education including planning, policy development, programme implementation, finance, curricula, teaching, learning, assessment and administration. Education, within an ESD framework, can address contemporary challenges—whether environmental, social or economic, or whether they are local or global in scale. ESD, therefore, will help us create an environmentally robust, socially equitable and economically fair world. Environmental Education (EE), like many educational fields such as human rights education and ecological economics education, contributes to ESD in terms of content and pedagogy. Though the close relationship between ESD and EE is evident in the history of ESD, they are not significant enough to support the claim that EE and ESD are the same. The present paper proposes to outline the origin and growth of the concept of sustainable development and education for sustainable development and thereafter an attempt has been made to bring out the differences, or similarities between education for sustainable development (SD) and environmental education (EE). Further,

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it tries to examine whether environmental education should be continued alongside education for sustainable development.

Keywords: Environment, Education, Sustainable Development, Education for Sustainable Development, Sustainability, Sustainable Society

Sustainable development (SD) has its roots in the environmental movement in the history of the United Nations. Sustainable development can be traced back over several decades, including the 1972 United Nations Conference on Human Environment in Stockholm, which led to the establishment of many environmental protection agencies and the United Nations Environment Program (UNEP). In 1972, during the Stockholm UN Conference, environmental education (EE) was recognized as an important tool to promote the protection of the environment and, later was acknowledged as the pre-requisite for any development. Principle 19 of the 'Stockholm Declaration' called for EE from grade school through adulthood to 'broaden the basis for enlightened opinions and responsible conduct by individuals, enterprises, and communities in protecting and improving the environment in its full human dimension'. The Belgrade (1975) and Tbilisi (1977) meetings described the principles of EE in a broad and generous way. Since the phrase "sustainable development" gained prominence after the 1987 publication of 'Our Common Future', it has been defined in many ways. In the late 1970s and 1980s, EE underwent a series of changes in countries with varying socio-economic and cultural conditions. It focused primarily on natural resource conservation and environmental pollution, though in many cases more critical and often controversial socio-economic aspects were also included. The UN Conference on Environment and Development (Rio de Janeiro, 3–14 June 1992) devoted its Chapter 36 to Education as the basis of Sustainable Development. Education for Sustainable Development prepares people of all walks of life to plan for, cope with, and find solutions for issues that threaten the sustainability of our planet. The United Nations (UN) General Assembly on 20 December 2002 proclaimed the period 2005–14 as the UN Decade of Education for Sustainable Development (UNDESD). With this, there has been a transition which took the form of Education for Sustainable Development (ESD) in many countries. In this context, the present paper intends to outline the institutional growth of EE and ESD under the domain of sustainable development and thereafter an attempt has been made to bring out the differences, or similarities between education for sustainable development and environmental education. Further, it tries to examine whether environmental education should be continued alongside education for sustainable development. Now let's us make an in-depth study on the evolution from environmental education to education for sustainable development.

Conceptualizing 'Sustainable Development'

The root of "Sustainable Development" is the concept of "Sustainability". Sustainability is a paradigm for thinking about a future in which environmental, social and economic considerations are balanced in the pursuit of holistic development and

an improved quality of life (UNESCO, 2012). These three spheres – society, environment and economy – are intertwined. Today “Sustainability” is understood as a stable condition which balances three aspects, (i) environmental sustainability which consists of maintenance of use of Nature and resources, (ii) economic sustainability which maintains efficiency and technological innovation while building fair and appropriate economic systems, and (iii) social sustainability which maintains lifestyle quality and welfare through a system that maintains basic rights, needs and cultural and social variety. The concept of sustainability encompasses not only environment but also poverty, population, health, food security, democracy, human rights and peace. Sustainability is, in the final analysis, a moral and ethical imperative in which cultural diversity and traditional knowledge need to be respected (UNESCO, 1997). Sustainability is often thought of as a long-term goal (i.e. a more sustainable world), while sustainable development refers to the many processes and pathways to achieve it (e.g. sustainable agriculture and forestry, sustainable production and consumption, good government, research and technology transfer, education and training, etc.) (UNESCO, 2012).

The concept of Sustainable Development (SD) grew from numerous environmental movements in the earlier decades and gained worldwide support with the publication of the Brundtland Report in 1987. This landmark report drew our attention to the need to conceptualize sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Literally, sustainable development refers to maintaining holistic development over time. Sustainable development requires balancing environmental, societal and economic considerations in the pursuit of development and improved quality of life. Education is an essential tool for achieving sustainable development. Education at all levels can shape the world of tomorrow, equips individuals and societies with the skills, endowments, vision, perspective, knowledge and values to live and work in a sustainable manner.

Sustainable Development does not focus solely on environmental issues. The field of sustainable development can be conceptually broken into three constituent parts: environmental sustainability, economic sustainability and socio-political sustainability. The well-being of these three areas is inextricably intertwined. The notion of sustainable development is based on the assumption that societies need to manage three types of capital (economic, social, and natural), which may be non-substitutable and whose consumption might be irreversible.

Sustainable development, at the present time is a phenomenon of great individual and collective concern. Globally every country including most developing countries like India and China are concerned about it because they realise that their future generation is bound to suffer due to lack of resources which are essential for survival. The word sustainability is derived from the Latin ‘sustinere’ that means ‘tendered’, ‘to hold’. So, the term ‘sustainable development’ means simply “sustained growth”. ‘Sustained well being’, ‘sustained happiness’. The concept of sustainable development

emerged in the 80s in response to a growing realisation of the need to balance economic and social progress with concern for environment and stewardship of natural resources. The term 'sustainable development' was popularised by the Brundtland Report, 1987. Some definitions have been cited below for better understanding:

- **R. Allen (1980):** Sustainable development refers to “development that is likely to achieve lasting satisfaction of human need and improvement of the quality of human life”.
- **Caring for the Earth: A Strategy for Sustainable Living by the IUCN, the UNEP, WWF, 1991:** Sustainable development as “improving the quality of human life while living within the carrying capacity of supporting ecosystems”.
- **World Commission on Environment and Development (WCED, 1987):** “Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs”
- **M. Redclift (1987):** Sustainable Development encompasses the ideas in the World Conservation Strategy, providing an environmental rationale through which the claims of development to improve the quality of (all) life can be challenged and tested.
- **World Bank (1992):** Sustainable Development means basing development and environmental policies on a comparison of costs and benefits and on careful economic analysis that will strengthen environmental protection and lead to rising and sustainable levels of welfare”.

Considering the above definitions, it can safely be said that sustainable development is about maximizing economic, social, and environmental benefits which would promote total well being of the individual and the society subject to a set of constraints. Sustainable development means valuing biodiversity and conservation along with human diversity, inclusivity, and participation. Sustainable Development (SD) is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only for in the present, but also for generations to come. In this context, it may be pertinent to remember Bapu who had once observed 'Mother earth has given us everything that we need but certainly not to meet our greed'. Most definitions of sustainable development encompass the idea that there are three interdependent pillars of sustainable development: environmental, economic and social. It has the following three operational criteria:

- Economic benefits should not be stretched beyond a point without satisfying environmental and social constraints.
- Environmental benefits should not necessarily be stretched beyond a point without satisfying economic and social constraints.
- Social benefits should not be stretched beyond a point without satisfying economic and environmental constraints.

Institutional Growth of EE and ESD in the Context of SD***UN Conference on Human Environment in Stockholm, Sweden, 1972:***

Sustainable development has its roots in the United Nations history in a good number of environmental movements. In this long journey, mention may be made of the 1968 UNESCO Conference on Biodiversity and the landmark 1972 United Nations Conference on Human Environment in Stockholm, Sweden which first addressed the importance of environment and its link to development and quality of human life. This also led to the establishment of many environmental protection agencies, environmental ministries and non-governmental organizations (NGOs) and the United Nations Environment Programme (UNEP) to conserve planet's resources. The then Prime Minister of India, Indira Gandhi, while addressing the UN Conference on the Human Environment in Stockholm, stated:

Are not poverty and need the greatest polluters? For instance, unless we are in a position to provide employment and purchasing power for the daily necessities of the tribal people and those who live in or around our jungles, we cannot prevent them from despoiling the vegetation. When they themselves feel deprived, how can we urge the preservation of animals? How can we speak to those who live in villages and slums about keeping the oceans, the rivers and the air clean when their own lives are contaminated at the source? The environment cannot be improved in conditions of poverty (Gandhi, 1996, p. 15).

Hence, there exists an essential link between environment and development and one cannot be divorced from the other. Recommendation 96 of the Stockholm Conference on the Human Environment, 1972 called for the development of environmental education as one of the most critical elements of an all-out attack on the world's environmental crisis. In the years following the Stockholm Conference, there was a growing realisation among the global community of the need to balance economic and social progress with concern for the environment and the stewardship of natural resources. Thereafter, UNESCO came out with the Belgrade Charter, 1975 and the Tbilisi Declaration, 1977.

Belgrade Charter, 1975: The Belgrade Charter was developed in 1975 at the UNESCO Conference in Belgrade (formerly in Yugoslavia, now in Serbia), and it provides a widely accepted goal statement for environmental education:

To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones (UNESCO, 1976).

The Belgrade Charter made a strong foundation for a world-wide environmental education to develop new knowledge and skills, values and attitudes towards a better quality of environment and indeed, towards a higher quality of life for present and future generations living within that environment. The Belgrade Charter identified the following objectives of environmental education such as:

- **Awareness:** to help individuals and social groups to acquire an awareness of and sensitivity to the total environment and its allied problems.
- **Knowledge:** to help individuals and social groups to acquire basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it.
- **Attitude:** to help individuals and social groups to acquire social values, strong feelings of and concern for protection and conservation of the environment and the motivation for actively participating in its protection and improvement.
- **Skills:** to help individuals and social groups to acquire the skills for solving environmental problems.
- **Evaluation ability:** to help individuals and social groups to evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic and educational factors.
- **Participation:** to help individuals and social groups to develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to solve those problems.

The Charter also formulated the following guiding principles of environmental education:

- EE should consider the environment in its totality – natural and man-made, ecological, geographical, topographical, agro-climatic, demographic, political, economic, technological, social, legislative, cultural and aesthetic.
- EE should be a continuous life-long process, both in-school and out-of-school.
- EE should be inter-disciplinary in its approach.
- EE should emphasize active participation in preventing and solving environmental problems.
- EE should examine major environmental issues from a world point of view, while paying due regard to regional diversities.
- EE should focus on current and future environmental concerns.
- EE should examine holistic development and growth related issues from an environmental perspective.
- EE should promote the value and necessity of local, national and international cooperation in the solution of environmental problems.

Tbilisi Declaration, 1977: Following Belgrade, in 1977, UNESCO together with the UNEP held the Inter-governmental Conference on Environment Education in Tbilisi,

Georgia. Sixty- six UNESCO Member States and several NGO representatives adopted the Belgrade statement and prepared the Tbilisi Declaration, which characterized environmental education as a lifelong process, as inter-disciplinary and holistic in nature and application, as an approach to education as a whole, rather than a subject and about the interrelationship and interconnectedness between human and natural systems. The Tbilisi Declaration also formulated the goals, objectives and the guiding principles to guide UNESCO Member States in the development of environmental education policies. The Tbilisi Declaration thus became the document for implementers and practitioners in the domain of environmental education all over the world. Nations across the world began to introduce and promote environmental education through the development of curricula, courses, and training programmes.

World Commission on Environment and Development (1983): It was in 1987 that the World Commission on Environment and Development first drew global attention in its report “Our Common Future” (Brundtland Report) on the concept of sustainable development. The report highlighted how social and economic factors contribute to environmental problems. It also defined sustainable development as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (p. 43)”. It implies that development which is essential to satisfy human needs and improve the quality of life should occur in such way that the capacity of the natural environment to meet present and future needs is not compromised. The aim of the World Commission was to find practical ways of addressing the environmental and developmental problems of the world. In particular, it contains three general objectives:

- To re-examine the critical environmental and developmental issues and to formulate realistic proposals for dealing with them.
- To propose new forms of international co-operation on these issues that will influence policies and events in the direction of necessary changes.
- To raise the levels of understanding and commitment to action of individuals, voluntary organizations, businesses, institutes, and governments.

Earth Summit, Rio (1992): After the publication of its report, the Brundtland Commission urged for convening an international conference to review the progress being made by nations with regard to Sustainable Development in their respective countries and to identify the principles of an agenda for action towards sustainable development in the future. This resulted in the United Nations Conference on Environment and Development, popularly known as the ‘Earth Summit’ which was held in Rio de Janeiro, Brazil in 1992. At Rio, a global plan of action, titled ‘Agenda 21’ was developed which consists of 40 chapters, focussing on climate change, loss of biodiversity, management of the earth’s forests and the responsibilities and rights of nations.

The Chapter 36 of Agenda 21, 'Promoting Education, Public Awareness, and Training' laid the foundation of Education for Sustainable Development (ESD). It stated,

“Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. Both formal and non-formal educations are indispensable to changing people’s attitudes so that they have the capacity to assess and address their sustainable development concerns”.

The UNESCO was appointed to be the Task Manager for this chapter. This effort to promote education for sustainable development was further strengthened by embedding education as a component in the implementation strategy in each of the 40 chapters of the Agenda 21.

To further this initiative of identifying education to be inseparable for achieving sustainable development, it was in the Johannesburg World Summit on Sustainable Development (WSSD) in 2002 that the year 2005-2014 was proposed as the 'Decade of Education for Sustainable Development (DESD). As a result, the 57th Session of the UN General Assembly in December, 2002, adopted Resolution 57/254 declaring 2005 to 2014 as the 'Decade of Education for Sustainable Development (UNDESD) and designated UNESCO as the lead agency to promote and implement the Decade. UNDESD is a next step in the long UN history of supporting both education and sustainable development.

With this, there has been a transition in environmental education and it took the form of Education for Sustainable Development (ESD) in the process of implementation in many countries. Is this transition merely putting a new label on an old bottle as some believed in case of transition from old conservation practices such as conservation education, citizenship education, or resource management education to environmental education? Or is there any significant difference between the two? How different or similar is environmental education from ESD in philosophy and effect is still being debated amongst professionals. However, let's us talk about the concept of the education for sustainable development (ESD).

Education for Sustainable Development (ESD)

Education for sustainable development (ESD) is “an emerging but dynamic concept that encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future” (UNESCO, 2002, P. 5). Education for Sustainable Development (ESD) is a learning process (or approach

to teaching) based on the ideals and principles that underlie sustainability and is concerned with all levels and types of education. ESD supports five fundamental types of learning to provide quality education and foster sustainable human development – learning to know, learning to be, learning to live together, learning to do and learning to transform oneself and society.

ESD is much more than teaching knowledge and principles related to sustainability. ESD, in its broadest sense, is education for social transformation with the goal of creating more sustainable societies. ESD touches every aspect of education including planning, policy development, programme implementation, finance, curricula, teaching, learning, assessment, administration. ESD aims to provide a coherent interaction between education, public awareness, and training with a view to creating a more sustainable future. ESD is holistic and transformational education that addresses learning content and outcomes, pedagogy and the learning environment. Thus, ESD does not only integrate contents such as climate change, poverty and sustainable consumption into the curriculum; it also creates interactive, learner-centred teaching and learning settings.

Education for Sustainable Development must be seen as a comprehensive package for quality education and learning within which key issues such as poverty reduction, sustainable livelihoods, climate change, gender equality, corporate social responsibility and protection of indigenous cultures, to name a few, are found. The holistic nature of ESD allows it to be a possible tool for the achievement of the Millennium Development Goals (MDGs) and the Education for All goals. Both these initiatives have a set of objectives to be achieved by a certain time limit. ESD could be perceived as the vehicle for achieving those objectives

Four Thrusts of ESD

Chapter 36 of Agenda 21, 'Promoting Education, Public Awareness and Training', defined the four thrusts of ESD: promotion and improvement of basic education, reorienting existing education at all levels to address sustainable development, developing public understanding and awareness of sustainability, and training.

(1) Improving access to and retention in quality basic education: The first priority of ESD is improving the access to quality basic education since the content and duration of basic education differ greatly around the world. Enrolling and retaining both boys and girls in quality basic education is important for their well-being throughout their lives and for the society in which they live. Basic education focuses on helping pupils gain knowledge, skills, values and perspectives that encourage sustainable livelihoods and on supporting citizens to live sustainable lives (UNESCO, 2012). Basic education must be reoriented to address sustainability and expanded to include critical-thinking skills, skills to organize and interpret data and information, and skills to formulate questions. Skill development to analyze local issues and lifestyle choices that do not erode the natural resource base or impinge on the social equity and

justice of their neighbours should also be part of basic education. Such quality basic education alone can bring about sustainable societies (Shimray, 2016, p. 225).

(2) Reorienting existing educational programmes: Creating sustainable societies is at the heart of sustainable development. This can only be achieved by reorienting the content and relevance of education. Reorienting education requires revising education from early childhood care and up through higher education. It requires rethinking what is taught, how it is taught, what is the expected outcome of teaching, what is the actual outcome of what is taught and what is learnt and how the same are assured, with sustainability as the central theme. This process is future-oriented because the pupils of today will need to be able to address the challenges of tomorrow, which will require creativity as well as analytical and problem solving skills (UNESCO, 2012).

(3) Increasing public understanding and awareness of sustainability: Achieving the goals of sustainable development requires citizens who are aware of sustainability and have the knowledge and skills to contribute towards those goals. These citizens will require a widespread community education and responsible media that are committed to encouraging an informed and active populace to learn throughout life (UNESCO, 2012). Informed voting citizenry and knowledgeable consumers can help communities and governments enact sustainability measures and move toward more sustainable societies.

(4) Providing training: All sectors – including business, industry, higher education, governments, NGOs, and community organizers – should be encouraged to train their leaders/other stakeholders in sustainability issues such as environmental management, equity policies, etc., and to provide training to their workers in sustainable practices (Shimray, 2016, p. 225). Both public sector and private sector employees should receive ongoing vocational and professional training infused with the practices and principles of sustainability, so that all the members of the labour force can access the knowledge and skills necessary to make decisions and work in a sustainable manner. Addressing all four thrusts of ESD require action by the formal, non-formal and informal sectors of the education community. Thrusts one and two primarily involve formal education. Thrusts three and four are mainly concerned with non-formal and informal education. All sectors of the workforce can contribute to local, regional and national sustainability (UNESCO, 2012).

Characteristics of ESD

ESD has essential characteristics that can be implemented in many culturally appropriate forms. ESD:

- is based on the principles and values that underlie sustainable development;
- includes all three spheres of sustainability – environment, society, and economy – with an underlying dimension of culture;

- uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills;
- promotes life-long learning;
- is locally relevant and culturally appropriate;
- is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences;
- engages formal, non-formal and informal education;
- accommodates the evolving nature of the concept of sustainability;
- addresses content, taking into account context, global issues and local priorities;
- builds civil capacity for community-based decision making, tolerance, environmental stewardship, workforce adaptability and quality of life;
- is interdisciplinary: no single discipline can claim ESD for itself alone, but all disciplines can contribute to ESD. (UNESCO, 2005)

ESD and Environmental Education (EE) – A Comparative Study

There is a growing body of literature about the relationship between environmental education (EE) and education for sustainable development (ESD) (Kopnina, 2012). UNESCO (2012) coined the term “adjectival education” to characterize the fields of education that use the term education or study (ies) in their name. This list includes environmental education, fire safety education, disaster risk reduction education, human rights education, etc. These adjectival educations bring relevance and significance to education. Many people have tried to find out the relationship between ESD and various adjectival educations. The most frequently asked question is about the relationship between ESD and environmental education (EE). The close relationship between ESD and EE is evident in the history of ESD. Environmental educators were the first group to endorse ESD, and in many respects kept the interest in ESD alive in the post-Rio decade (i.e. 1992 – 2001). Furthermore, EE, like many educational fields such as human rights education and ecological economics education, contributes to ESD in terms of content and pedagogy. As a result, ESD has some of its roots in EE.

Differences between EE and ESD: An analysis of the foundational documents for EE – the Tbilisi Declaration from the Intergovernmental Conference on Environmental Education (held in Tbilisi, Georgia, 1977) – and for ESD – Chapter 36 of Agenda 21 (the Earth Summit, held in Rio de Janeiro in 1992 – reveal some similarities and many differences between EE and ESD (UNESCO, 2012). Agenda 21 emphasizes the importance of basic education to progress towards a sustainable world as well as social and economic components, while the Tbilisi Declaration states the goals of EE as awareness, knowledge, skills, attitudes, values, and participation in an environmental context. The authors of Chapter 36 of Agenda 21 “Promoting Education, Public Awareness and Training” built the chapter on the lessons of EE, but they did not create an educational vision that was equivalent to EE.

ESD teaches all the three domains of sustainability – environment, society, and economy, with an underlying dimension of culture. EE focuses more on the environment. ESD has four thrusts: (1) access to and retention in quality basic education; (2) reorienting existing education programmes, (3) increasing public awareness and understanding; and (4) providing training. EE primarily works in thrusts two and three.

Similarities between EE and ESD: There are, of course, similarities between how ESD and EE are currently practised. For example:

- Both EE and ESD have an environmental component.
- Both EE and ESD call for participatory learning and the use of pedagogies that promote higher order thinking skills, support decision making, and stimulate the formulation of questions.
- Both EE and ESD have a value component.
- The goals and dreams of environmental educators are similar to those of educators involved in ESD; both carry a vision for a better world.
- Both EE and ESD envision a more just and equitable society ‘in which business, industry, government, and citizens practise environmental stewardship, leave smaller ecological footprints, and participate in community-based decision making.’
- The well-being of the environment, society, and economy are balanced in the pursuit of development and quality of life for all members of society.
- Both EE and ESD call for behaviour change

Although some similarities between EE and ESD do exist, they are not significant enough to support the claim that EE and ESD are the same. Today, different aspects of ESD can be found in many fields within education (e.g. environmental education, human rights education, ecological economics education). ESD is an overarching paradigm that guides and transforms the core disciplines, second-tier disciplines, and adjectival educations so that they can all contribute to a more sustainable future. Education for sustainable development (ESD) is so inclusive that no single discipline could encompass all the four thrust of ESD as defined by the International Implementation Scheme (IIS) for the United Nations Decade of Education for Sustainable Development (UNESCO 2005a).

Concluding Remarks

Education for sustainable development develops and strengthens the capacity of individuals, groups, communities, organizations and countries to make judgements and choices in favour of sustainable development (UN, 2005). The aim of education for sustainable development is to make individuals think about not just the society they live in at present but also the sustainability of the planet they or their success would live in future. We must create economic and political institutions that will make sustainable development a reality. Poverty makes the delivery of education

and other social services more difficult and leads to population growth and environmental degradation. Poverty reduction is thus an essential goal and indispensable condition for sustainability (UNESCO, 1997).

Though education is an essential tool for achieving a sustainable future, yet it is not a 'magic bullet' in approaching sustainability. In fact, during the past decade, UN conference declarations have repeatedly called for education, public awareness, and training. And yet, little progress has been made in creating and implementing programmes. We have to ask ourselves why. Why is reorienting education to address sustainable development not occurring? What more needs to be addressed to move forward? All this is only possible by integrating Education for Sustainable Development into the current educational practices by enhancing curriculum development and supporting knowledge sharing among all sections of the society. ESD is only the hope for the future. Finally, recent ESD documents and discourses tend to show a shift from education to learning to emphasize the need for continuous engagement in sustainability in formal, non-formal and informal settings on the one hand and the need for capacity-building, participation and self determination for sustainable development on the other. We may conclude the discussion with the statement of the UNESCO (2012):

To live in a more sustainable world, we need to rethink the purpose of our education systems as well as what is learned, what is tested, and how it is taught. Education is one of several mechanisms available to governments and communities to bring about social transformation and thus create more stable, equitable and resilient societies. Education, within an ESD framework, can address difficult changes and contemporary challenges— whether environmental, social or economic, or whether they are local or global in scale. Aligning primary and secondary schooling with the purpose of sustainability will help us create an environmentally robust, socially equitable and economically fair world. ESD is our hope for this type of world.

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Health Status of Workers and Non-Workers in Daitari Mines of Odisha: LLL Strategy through Adult Education Intervention

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1.0: Introduction

The history of mineral development and production in India dates back to almost 6000 years. The remains of some of the old mines working bear witness to this phenomenon. Modern mining industry in India started its journey long back in 1774, when East India Company permitted an English Company to undertake coal mining in Raniganj area. At present India produces as many as 84 minerals comprising 4 fuels, 11 metallic, 49 non-metallic industrial and 20 minor minerals. The total number of mineral deposits are 13,000, occupying about 0.7 million hectares which is 0.21 percent of the total land mass of the country. Mining is carried out at more than 3100 locations in India for different minerals. The mining leases numbering 9244 are spread over 21 states.

India is largely self-sufficient in most of the minerals which include baryte, bauxite, chromite, dolomite, fluorspar, gypsum, iron ore, lignite, limestone, manganese ore, magnesite, and sillimanite, etc. Except that in respect of some minerals like copper, asbestos, lead and zinc, natural phosphates, sulphur, and crude petroleum domestic production meets the demand only partially (National Mineral Inventory, 2010). India is Asia's third and world's eleventh largest economy. It has resources of 12,745 million tons of Iron ore, 2525 million tons of bauxite, 76,446 million tons of limestone, 233 million tons of magnesite, 167 million tons of lead & zinc ore, 70 million tons of baryte, 176 million tons of manganese ore and 90 million tons of chromite ore. Of the total known global resources of the minerals, the reserves of iron ore, bauxite and manganese account for nearly 7 percent, 16 percent and 6 percent respectively. India is the largest producer of mica blocks and mica splitting. It is the third largest producer of coal & lignite and baryte. In case of chromite ore, production has been stepped up and India occupies third rank. It is among top 5 producers of iron ore in the world and comes among top 6 producers of bauxite and manganese ore. India occupies among the top 7 producers of steel and top 10 producers of aluminum.

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Mining industry in India has been progressing at an annual rate of 4% to 5% during the last three decades. The overall value of minerals being extracted in India exceeds US \$ 11.32 billion during 2011- 2012. Thus the contribution of mining as an economic activity to Gross Domestic Product has increased from 0.56 percent (pre independence period, before 1947) to 2 to 3 percent. Today India is one of the leading producers and exporters of several minerals in the world. Further, Indian mining industry provides employment to over 1.1 million people with 16 percent share in India's export.

Against this backdrop, mining industry is emerging as a major contributor to India's economic growth as well as generator of employment opportunities. However, their exploration, excavation and processing directly impinge upon and affect other natural resources like land, air, water, flora and fauna, which are to be conserved and optimally utilized in a sustainable manner. Mining is associated with different peripheral problems like dust, heat, fume, noise, traffic, road, communication and other related problems. As the roads of rural areas are mostly of village/block ones of low carrying capacity, the transportation of iron ore from mines to different locations creates a dust laden atmosphere later on in the peripheral areas. Due to surge in iron ore production and transportation, the clumsy roads are laden with heavy traffic throughout the day and night which restricts the emergency services like supply of essential commodities includes food, medicines and life saving drugs for health care.

To protect the environment, mining sector in general, is regulated by the Environment (Protection) Act: 1986, the Forest Conservation Act: 1980, the Mines and Minerals Development and Regulation) Act: 1957, Wild Life Act: 1972, Water (Prevention & Control of Pollution) Act: 1974 and Air (Prevention & Control of Pollution) Act: 1981. In order to protect the environment from iron ore mines, environmental standards specific for Indian Iron Ore Mines are proposed under Environment (Protection) Act, 1986. The proposed standards are primarily based on the studies conducted, normal background information, (collected through actual site monitoring during the mines visit and collected from different mining authorities and regulatory bodies), comparison and evaluation of national and international standards as well as the presence of different harmful elements and their likely impact on health. There is not much precedence of existing iron ore mine specific environmental standards, internationally. Only United States Environment Protection Agency has specified the discharge standards for iron ore mining, whereas the same is covered by Canada through a blanket standard for all the metalliferous mines. The World Bank has also issued certain guidelines on pollution limits for air, water and noise.

1.1: The Study Area

Occupying an important position on the country's mineral map, Odisha's rich mineral reserves constitute 28% Iron ore, 24% coal, 59% Bauxite and 98% Chromite of India's total deposits. Iron ore is abundantly available in the districts of Mayurbhanj, Sundargarh, Keonjhar and Jajpur. About 30% of its area is under forest cover, which

provides for the livelihood of a large and growing tribal population. It is both an irony as also a disquieting augury that, the forest area of the State is super-imposed with its mineral deposit, richest bio-diversity regions, and water catchment of major rivers and native habitat of tribal community of the State which euphemistically is a rich State (rich in minerals) with poor people.

Daitari mine is situated in the district of Keonjhar and Jajpur in the State of Odisha. With deposits of 50 million tonnes of ore, the Daitari mines at Talipada village under Keonjhar and Jajpur districts are OMC's flagship operations. The Daitari mines had recorded production of 7,03,440 tonnes of ore in the year 2013.

1.2: The problem

The mining sector has been facing severe criticism on several issues relating to its performance vis-à-vis sustainable development because of the following reasons. The minerals, forests and tribal tracts are concentrated in the same geographic areas. As seen from the mineral map of India, several areas with very high mining activity are in the poorest districts. The historical and ongoing conflict between mining mineral reserves and conserving environmental resources will continue to exist even in future as India's forests, mineral bearing areas, major river watersheds, tribal habitat regions and most backward regions overlap significantly. A closer look shows that many of these share a common geography with the most ecologically rich and culturally sensitive areas in Odisha. This brings home the reality that in recent decades, mining activities have resulted in little local benefit, and in fact, have been at the cost of environmental degradation and the health of workers and non-workers in the mining areas. While there are some economic benefits that may accrue to the communities living around mining areas in terms of employment and business, it is the vulnerable sections: women, children and elderly people, who have to weather several negative impacts, as they have limited coping mechanisms. These impacts range from health, reduced access to resources, increased drudgery, insecurity due to influx of outsiders and finally little benefits from mining by way of employment or development of the area where the mines are located. Mining companies are the biggest defaulters on issues like provision of safe working environment, health, safety, welfare and human rights issues of labour especially in quarry sites. While mines are expected to provide employment opportunities in this sector, they also demonstrate a poor record on and commitment to these issues. Irregularities, illegality, under-reporting, widespread violation of labour, health, safety and welfare norms, persistence of child labour, poor working conditions, and a general disregard for environmental safeguards have all been reported in the mineral segment.

As the literature review reflects, the workers in iron ore industries are likely to suffer from lungs related diseases due to continuous exposure to iron oxide and silica. The diseases like pneumoconiosis and silicosis usually develop after ten years of continuous working in the mines. If the workers are exposed to noise more than 85 dBA, the same may be accompanied by hearing loss leading to occupational

noise induced hearing loss. The workers also suffer from high urea, high serum creatinine in blood, diabetes, impaired glucose tolerance, hypertension, dyslipidemia, restrictive and obstructive impairment, abnormal pulmonary function, urine abnormality, albuminuria, mellitus and dyslipidemia, polycythemia, lymphocytosis, erythrocyte sedimentation rate (ESR), acute and chronic infections, polycythemia and lymphocytosis etc. Dust can be a significant nuisance to surrounding land users and potential health risk in some circumstances. The major gaseous pollutants of concern in iron ore mines are sulphur dioxide and oxides of nitrogen. Sulphur dioxide can cause respiratory problems. Oxides of nitrogen can react in the atmosphere with hydro-carbons and produce photo-chemical smog. In addition to this, the sulphur dioxide and oxides of nitrogen can generate an acid rain harmful to vegetation and human health.

1.4: Objective

In view of the problem stated above the objective was “To study the impact on the health of mining workers of the local population in mining areas”

1.5: Universe

The study was conducted in Daitari mine under the jurisdiction of OMC located in Keonjhar district of Odisha. All the workers and the non-workers engaged directly or indirectly in mining activities in and around Daitari mines constitute the population of the study.

1.6: Sample

For the purpose of sampling the investigators used purposive sampling method. 200 mine and 200 non-mine workers constitute the sample of the study.

1.7: Development of the tool

For the purpose of investigation, the investigators developed an interview schedule with help of the doctors who are working in different health settings.

1.8: Data Collection

The data was collected by the investigators and the same was verified from the doctor's prescriptions. In absence of the doctor's prescription, the workers and non workers opinion were taken on face value.

1.9: Statistical Techniques used

For the purpose of analysis of data, 't' test and simple percentage was used.

1.10: Analysis and interpretation of Data**Table 1.1: Age group of miners**

SI No	Age-Groups (years)	No of Miners	Percentage
1	18-25	16	8.00
2	25-35	53	26.5
3	35-45	45	22.5
4	45-55	47	23.5
5	55 and above	39	19.5
	Total	200	100

The table shows the age group of miners engaged in different activities associated with mining. Out of 200 miners, 8 percent are in the age group of 18-25 years, 26.5 percent in the age group of 25-35 years, 22.5 percent are in the age group of 35-55 years, 23.5 percent are in the age group of 45-55 years, and 19.5 percent are in the age group of 55 and above.

Table 1.2 : Age group of family member/ relative of the miner who is a non-miner

SI No	Age-Groups (years)	No of Non-Miners	Percentage
1	18-25	22	11
2	25-35	39	19.5
3	35-45	62	31.0
4	45-55	37	18.5
5	55 and above	40	20
	Total	200	100

The table shows the age group of non-miners who are not engaged in any of the activities associated with the mines. They are all males. Out of 200 non-miners, 11 percent are in the age group of 18-25 years, 19.5 percent in the age group of 25-35 years, 31.0 percent are in the age group of 35-55 years, 18.5 percent are in the age group of 45-55 years, and 20.0 percent are in the age group of 55 and above

Table 1.3: Symptoms among miners and non miners due to the effect of dust (Bronchitis)

SI No	Symptoms	Miners (N=200)	%	Non Miners (N=200)	%
1	Persistent Cough and sputum	12	6.00	07	3.5
2	Wheezing in Chest	23	11.50	12	6.0
3	ess	38	19.00	13	6.5
4	Chest Congestion	25	12.5	11	5.5

$t = 2.5043^{**}$ $df = 6$ $SED = 5.491$

P value = 0.0463

The table shows the symptoms among miners and non-miners due to the effect of dust which may lead to bronchitis in future. It was found that out of 200 miners, 98 of them have shown the symptoms of bronchitis at some time or the other. It was revealed that 6 percent of the miners have suffered from persistent cough and sputum, 11.50 percent have experienced wheezing in chest, 19.0 percent have experienced breathlessness and 12.5 percent have suffered from chest congestion at any point of time.

In case of non-miners, who reside in the nearby villages of mines; out of 200 non-miners 43 of them have shown the risk towards bronchitis. It was revealed that 3.5 percent of the non-miners have suffered from persistent cough and sputum, 6.00 percent have experienced wheezing in chest, 6.5 percent have experienced breathlessness and 125.5 percent have suffered from chest congestion at any point of time.

The t value for both the groups (Miners and Non-miners) was found to be 2.504 at $df=6$ with SED of 5.491 and P value of 0.046. The result reveals that there exist significant differences in the symptoms of bronchitis among the miners and non-miners.

Table 1.4: Infections among miners and non-miners due to environmental

Sl No	Infections	Miners (N=200)	%	Non Miners (N=200)	%
1	Pneumonia	16	8.0	07	3.5
2	Influenza	24	12.0	12	6.0
3	Cystitis	17	8.5	03	1.5
4	Viral Infection	48	24.0	11	5.5
	Total	105	28.5	33	16.5

t = 2.3246* df = 6 SED = 7.743 P value = 0.0591

The table shows the different type of infectious diseases suffered by the miners and non-miners in the mining areas. It was found that out of 200 miners, 105 of them have shown the symptoms of infection related diseases at some time or the other. It was revealed that 8 percent of the miners have suffered from pneumonia, 12.00 percent have suffered from influenza, 8.5 percent have suffered from cystitis and 24.0 percent have suffered from viral infection at any point of time.

Out of 200 miners, 33 of them have shown the symptoms of infection related diseases at some time or the other. It was revealed that 3.5 percent of the miners have suffered from pneumonia, 6.0 percent have suffered from influenza, 1.5 percent has suffered from cystitis and 5.5 percent have suffered from viral infection at any point of time.

The calculated t value was 2.324 at df=6 and SED = 7.743. The p value was 0.0591 at 95 percent confidence interval. The difference on suffering by infectious diseases between the miners and non-miners was found to be statistically significant. It indicates that there were no significant differences between the miners and non miners on their suffering from infection related diseases

**Table 1.5: Diseases related to heart faced by the miners and non miners
(Multiple responses)**

Sl No	Diseases	Miners (N=200)	%	Non Miners (N=200)	%
1	Cardiovascular diseases	16	08	04	02
2	Left Ventricular Hypertrophy	12	06	04	02
3	Sinus Bradycardia	27	13.5	11	5.5
5	Hypertension Heart diseases	28	14.0	10	5.0
6	Hypertensive heart diseases	27	13.5	06	03
7	Ischemic heart disease	11	5.5	03	1.5
8	Dyslipidemias	10	5.0	02	01
9	Cardio-vascular heart diseases	10	5.0	01	0.5
10	Endocrinal diseases	18	09	03	1.5
11	Diabetes Mellitus	17	8.5	06	3.0
	Total	200		200	

t = 4.9789** df = 18 standard error of difference = 2.531 P value is less than 0.0001

The table shows the different type of heart related diseases suffered by the miners and non-miners in the mining areas. It was found that out of 200 miners, 8 percent of the miners have suffered from cardiovascular diseases, 6.00 percent have suffered from left ventricular hypertrophy, 13.5 percent have suffered from synnus bradycardia, 14.0 percent have suffered from hypertension heart diseases, 13.5 percent from hypertensive heart diseases, 5.5 percent from ischemic heart diseases, 5.0 percent from dyslipidemias, 5.0 percent from cardio-vascular heart diseases. 9.0 percent afflicted with endocrinal diseases and 8.5 percent from diabetes mellitus at any point of time. This data was verified from the medical report of the workers.

With regard to the non miners, 2.00 percent of the non-miners have suffered from cardiovascular diseases, 2.00 percent have suffered from left ventricular hypertrophy, 5.5 percent have suffered from synnus bradycardia, 5.0 percent have suffered from

hypertension heart diseases, 3 percent from hypertensive heart diseases, 1.5 percent from ischemic heart diseases, 1.0 percent from dyslipidemias, 0.5 percent from cerebrovascular heart diseases, 1.5 percent afflicted with endocrinal diseases and 3.0 percent from diabetes mellitus at any point of time.

The calculated t value was found to be 4.978 at 18 df and with SED =2.531. The p value was 0.0001 at 95 percent confidence interval signifying that there was extremely significant difference between the two groups on heart related diseases suffered by the workers and non-workers. The workers are more prone to heart related diseases than the non-workers.

Table 1.6: Hematological abnormalities and pulmonary disorders because of mining activities

Sl No	Diseases	Miners (N=200)	%	Non Miners (N=200)	%
Hematological abnormalities					
1	Anemia	22	11	13	6.5
2	Polycythemia	12	06	06	3.0
3	Lymphocytosis	06	03	01	0.5
5	Leucopenia	02	01	00	00
6	Thrombocytopenia	01	0.5	00	00
Total		43	21.5	20	10
t = 0.9976*		df = 8	SED = 4.611	P value = 0.3477	
Pulmonary disorders					
1	Pneumoconiosis	05	2.5	02	01
2	Pulmonary function abnormality	01	0.5	00	00
3	Total	06	3.0	200	01

t = 0.8944* df = 2 SED = 2.236 P value = 0.4655 .

The table shows the hematological abnormalities suffered by the miners and non-miners because of mining activities. With regard to hematological abnormalities among the mine workers, it was found that 11 percent of them suffered from anemia, 6 percent suffered from polycythemia, 3 percent suffered from lymphocytosis, 1 percent suffered from leucopenia and 0.5 percent from thrombocytopenia. In case of non-miners the incidences of anemia was 6.5 percent, polycythemia was 3.0 percent and lymphocytosis was 0.5 percent.

The calculated t value was 0.997 at df = 8 and SED= 4.611 with a P value of 0.34. This difference was considered to be not statistically significant at 95 percent confidence interval. This indicates that there was no significant difference between the miners and non-miners with regard to getting affected with hematological abnormalities.

The second part of the table shows pulmonary disorders suffered by the miners and non-miners. It was found from the data that 2.5 percent of the miners suffered from pneumoconiosis and 0.5 percent suffered from pulmonary function abnormality. Where as in case of non-miners the incidence of pneumoconiosis was 1 percent and there was no incidence of pulmonary function abnormality.

The calculated t value was 0.8944 at df=2 and SED= 2.236 with a P value of 0.46. This difference was found to be not statistically significant at 95 percent confidence interval. This indicated that there was no significant difference between miners and non-miners with regard to their sufferings from pulmonary disorders.

Table 1.7: Hearing problem, defective vision, renal diseases, and urine abnormalities by the workers and non-workers in mining environment

SI No	Diseases	Miners (N=200)	Percent	Non Miners (N=200)	Percent
1	Hearing Loss	11	5.5	05	2.5
2	Defective vision	23	11.5	12	6.0
3	Renal diseases (kidney)	10	5.0	03	1.5
5	Renal impairment (Kidney)	11	5.5	01	0.5
t = 2.1737* df = 6 SED = 3.910 P value = 0.0727					
Urine abnormalities					
1	Albuminuria (protein in the urine)	02	01	01	0.5
2	Glycosuria(Glucose in the urine)	03	1.5	00	00
3	Pyuria (Abnormal Pus Cells in urine)	01	0.5	01	0.5
4	Hematuria (Red Blood Cells in urine)	03	1.5	01	0.5
5	Bacteriuria (Bacteria in the urine)	03	1.5	00	00

t = 3.8376** df = 8 SED = 0.469 P value = 0.0050

The table shows the diseases suffered by the workers and non-workers with respect to hearing loss, defective vision, renal diseases and renal impairment. It was revealed from the data that 5.5 percent of the workers suffered from hearing loss, 11.5 percent suffered from defective vision, 5.0 suffered from renal diseases and 5.5 percent suffered from renal impairment. With regard to the non-workers 2.5 percent of them suffered from hearing loss, 6.0 percent suffered from defective vision, 1.5 suffered from renal diseases and 0.5 percent suffered from renal impairment. The calculated t value was found to be 2.17 with df=6 and SED= 3.91. The P value was

0.072, indicating no statistical difference on hearing loss, defective vision, renal diseases and renal impairment between the workers and non-workers.

With regard to urine abnormalities, it was found that 1 percent of the workers and 0.5 percent of the non-workers suffered from albuminuria, 1.5 percent of the workers and 0.0 percent of the non workers suffered from glycosuria, 0.5 percent of the workers and 0.5 percent of the non-workers suffered from pyuria, 1.5 percent of the workers and 0.5 percent of the non-workers suffered from hematuria, and 1.5 percent of the workers and 0.0 percent of the non workers suffered from bacteriuria. The calculated t value was found to be 3.83 with df=8 and SED= 0.469. The P value was 0.0050, indicating statistical difference on urine abnormalities suffered by both the workers and non workers.

Table 1.8: Respiratory infections suffered by miners and non-miners in the mining areas

SI No	Diseases	Miners (N=200)	%	Non Miners (N=200)	%
1	Infection in Larynx	12	06	02	01
2	Infection in Trachea,	03	1.5	01	0.5
3	Pleura	03	1.5	01	0.5
5	Infection in bronchus,	13	6.5	03	1.5
6	Infection in Lungs	11	5.5	02	01

$t = 2.9225^{**}$ df = 8 SED=2.258 P = 0.0192

The table shows the respiratory infections suffered by miners and non-miners in the mining areas. It was found from the data that 6 percent of the workers and 1 percent of the non-miners have infection in larynx, 1.5 percent of the workers and 0.5 percent of the non miners have infection in trachea, 1.5 percent of the workers and 0.5 percent of the non-miners have infection in Pleura, 6.5 percent of the workers and 1.5 percent of the non-miners have infection in bronchus and 5.5 percent of the workers and 1 percent of the non-miners have infection in lungs. The calculated t value was found to be 2.922 with df=8 and SED= 2.258. The p value was found to be 0.0192 indicating significant differences with respect to respiratory infections suffered by the miners and non-miners.

Table 1.9: Susceptible Cancer related diseases because of mining activities suffered by the workers and non-workers

SI No	Diseases	Miners (N=200)	%	Non Miners (N=200)	%
1	Lung	06	03	01	0.5
2	Esophagus	00	00	01	0.5
3		02	01	00	0.0
5	Larynx	01	0.5	00	0.0
6	Liver & bile duct	00	00	00	0.0
7	Oral	02	0.5	01	0.5
8	Pancreas	01	0.5	00	0.0
9	Stomach Bladder	00	00	00	0.0
	Total				

$t=1.5403^{*}$ df=14 SED=0.730 Pvalue=0.1458

The above table shows the susceptible cancer related diseases because of mining activities suffered by the workers and non- workers. It was found that 3 percent of the workers and 0.5 percent of the non-workers suffered from lungs diseases, 0.5 percent of the non workers suffered from diseases related to esophagus, 1.0 percent of the workers suffered from diseases related to larynx, and 0.5 percent of the workers suffered from diseases related to their liver and bile duct, 0.5 percent of the workers and 0.5 percent of the non- workers suffered from oral diseases, and 0.5 percent of the non-workers suffered from stomach bladder related problems. The calculated t value was found to be 1.54 with df=14 and SED= 0.730. The P value was 0.145, indicating no statistical difference on cancer related diseases suffered by both the workers and non-workers.

Table 1.10: Other miscellaneous diseases suffered by miners and non-miners

SI No	Diseases	Miners (N=200)	%	Non Miners (N=200)	%
1	Malaria	32	16	28	14
2	Acute Respiratory Infection	21	10.5	12	06
3	Water borne diseases	11	5.5	12	06
5	Fever	45	22.5	32	16
6	Typhoid	32	16.0	23	11.5
7	Blood Pressure	12	06	18	09
8	Tuberculosis	06	03	01	0.5
9	Jaundice	03	1.5	01	0.5
10	Cardiovascular Diseases	25	12.5	12	06
11	Lung Cancer	03	1.5	01	0.5
12	Mesotheriora	01	0.5	00	00
	Total				

t=0.8271* df=20 SED=5.606 Pvalue=0.4180

The above table shows the other type of diseases suffered by the workers and non-workers. It was revealed from the data that 16 percent of the workers and 14 percent of the non-workers suffered from malaria, 10.5 percent of the workers and 06 percent of the non-workers suffered from acute respiratory infections, 5.5 percent of the workers and 06 percent of the non-workers suffered from water borne diseases, 22.5 percent of the workers and 16 percent of the non-workers suffered from fever, 16.0 percent of the workers and 11.5 percent of the non-workers suffered from typhoid, 6 percent of the workers and 09 percent of the non-workers suffered from blood pressure, 3 percent of the workers and 0.5 percent of the non-workers suffered from TB, 1.5 percent of the workers and 0.5 percent of the non-workers suffered from jaundice, 12.5 percent of the workers and 06 percent of the non-workers suffered from cardiovascular diseases, 1.5 percent of the workers and 0.5 percent of the non-workers suffered from lung cancer and 0.5 percent of the workers suffered from mesotheriora. The calculated t value was 0.827 at df=20 with SED=5.606. The P value was 0.4180 indicating no statistical difference between miners and non-miners with related to other common diseases.

1.11: Main Findings on Health of Workers and Non-workers

1. It was found from the data that maximum percentage of miners associated with mining activities is in the age group of 25-35 years followed by 45-55 years. With regard to non- miners, maximum non- workers belonged to 35-45 years of age group followed by 25-35 years of age group.
2. The data revealed that the miners are more susceptible to bronchitis with the symptoms of persistent cough and sputum, wheezing in chest, breathlessness and chest congestion than the non-miners. Significant differences in this regard were observed between the miners and the non-miners.
3. It was also revealed that the miners are more susceptible to infections and they are more likely to suffer from pneumonia, influenza, cystitis, and viral infection than the non-miners. However, no significant differences in this regard were observed between the miners and the non-miners.
4. Further the miners are at high risk with respect to sinus bradycardia, hypertension heart diseases and hypertensive heart diseases. They are at moderate risk to cardiovascular diseases, left ventricular hypertrophy, ischemic heart disease, dyslipidemias, cerebrovascular heart diseases, endocrinal diseases and diabetes mellitus. On the other hand, the non-miners are at moderate risk to sinus bradycardia, and hypertension heart diseases and low risk to cardiovascular diseases, left ventricular hypertrophy, hypertensive heart diseases, ischemic heart disease, dyslipidemias, cerebrovascular heart diseases, endocrinal diseases and diabetes mellitus. The statistical difference shows that there is an extremely significant difference between the two groups on heart related diseases suffered by the workers and non-workers. The workers are more prone to heart related diseases than the non-workers.
5. With regard to hematological abnormalities and pulmonary disorders, no significant difference was observed between the mine and non-mine workers although the mine workers are more susceptible to these diseases than the non- mine workers.
6. With respect to diseases like hearing Loss, defective vision, renal diseases (kidney), and renal impairment, the workers are more prone than the non-workers. Similarly for the diseases related to urine abnormalities like albuminuria (protein in the urine), glycosuria (Glucose in the urine), pyuria (Abnormal Pus Cells in urine), hematuria (Red Blood Cells in urine), and bacteriuria (Bacteria in the urine) the workers are more prone than the non workers. Whereas in the former case no significant difference was observed

but in the latter case significant difference was observed between the workers and the non-workers.

7. As regards respiratory infections like infection in larynx, infection in trachea, infection in pleura, infection in bronchus, infection in lungs suffered by miners and non- miners in the mining areas, significant difference was observed between the miners and non miners indicating higher respiratory infections among the miners than the non-miners.
8. With reference to cancer related diseases, it was observed that the workers are more susceptible to lungs, esophagus, kidney, larynx, liver & bile duct, oral, pancreas and stomach bladder cancer than the non workers. However, no statistical difference was observed among the two groups.
9. There was no statistical difference observed between the mine and non-mine workers with respect to the common diseases like malaria, acute respiratory infection, water borne diseases, fever, typhoid, blood pressure, tuberculosis, jaundice, cardiovascular diseases, lungs cancer, and mesothelioma although the incidences of these diseases are more pronounced among the workers than the non-workers.

Conceptually and in a much wider sense, occupational health is adaptation of an individual to work and adaptation of work to an individual. It further means the following:

- Promotion and maintenance of the highest degree of physical, mental and emotional well being.
- Protection of workers in their employment from risks resulting from factors adverse to health.
- Placement and maintenance of workers in an occupational environment in a manner which will enable them to adapt to their physiological and psychological capabilities.
- Prevention of workers as human beings to enter certain avocations which are positively injurious to their health.

The second important dimension of occupational health is a scientific understanding of occupational diseases, why they occur and recur and what are the preventive and corrective measures to be taken to deal with occupational diseases.

The occupational disease syndrome may be perceived and internalised in the following manner:

- diseases which are purely occupational in origin, (Pneumoconiosis)
- diseases in which occupation one of the causal factor (bronchogenic carcinoma)
- diseases in which occupation is a contributory factor in complex situation (chronic bronchitis)

- diseases in which occupation may aggravate a pre-existing condition (asthma)

The third dimension of occupational health is occupational hazard which emerges in course of actual discharge of an occupation such as:

- Physical;
- Chemical;
- Biological;

The physical hazard relates to

- Abnormal temperature;
- Noise;
- Vibration;
- Ultra-sound;
- Defective illumination;
- Defective colours schemes;
- Ionising radiation
- Alpha particles;
- Beta rays;
- Gamma rays;
- X-rays;
- Neutrons;
- Ultra violet;
- Infrared;
- Micro-wave;
- Laser beams;
- Abnormal air pressure;
- Defective layout;
- Bad house keeping;

The chemical hazard relates to

- Irritant chemicals;
- Asphyxiants
- Narcotics;
- Anaesthetics;
- Chemicals affecting central and peripheral nerves;
- Chemicals which are toxic to kidneys;
- Chemicals which are toxic to the heart;
- Toxic dusts which causes *Pneumoconiosis*

The biological hazard relates to:

- bacteria;
- Yeasts;
- finge;
- viruses;

- Parasites which may causes dermatological complications like eczema, skin disorders etc.

The primary objective of adult education in relation to occupational health, occupational disease and occupational hazard is to (a) promote correct understanding of all the 3 dimensions (b) who are the statutory authorities to whom occupational diseases are to be notified (c) what is the first aid and emergency care available (shoulders, arms, elbows, forearm, wrist and hand hip, thigh and knee, legs, ankle, foot, backbone, eye, skin etc) (d) what should be the nature of medical surveillance (pre-employment, periodical examination after employment, resumption of work after a prolonged absence for health reasons, health surveillance not to be used for discriminatory purposes, communication of diagnosis by the physician concerned, maintenance of personal health files) (e) training of workers and supervisors for prevention of occupational diseases, how to design training strategy, frequency and recency, how to frame the training curriculum in such a way that it enables us to respond to the recognized needs of the working population with special reference to work related diseases.

1.12: Lifelong learning Strategy for workers and non workers: Adult Education Intervention

The single most pollutant in iron ore mines is the dust emitted during the mining process. The dusts are usually in the form of SO₂, NO_x, PM₁₀, PM_{2.5}, and CO. Along with dust pollution the people from the area suffer from water and noise pollution. The land degradation problem is also encountered in the long run. It has been observed that the indoor pollution is even higher than the outdoor pollution. Therefore, the workers, non-workers, children and the women are all affected by the mining activities. The human health and the affected ecosystems need an integrated approach. Health problems are not only problems for the worker, but above all they are problems of work and the work environment. Geographic and climatic conditions also have a detrimental impact on the work environment. Therefore, OMC needs to organize primary health care services (both preventive and curative) as close as possible to places where the workers live and work. High priority should be given to the workers most in need, including the working populations at high risk. There should be periodical risk assessment exercises to evaluate the association between exposure and disease risk among workers and non workers. The preventive activity should aim at identification, assessment and control of hazardous factors at the workplace and generation of competent and effective actions to ensure a healthy work environment and healthy worker through a comprehensive workers' health programme. This should include identification and control of health hazards at work, identification of priorities, evaluation of occupational health measures, provision of information to employers and workers, and efforts to meet the needs of high-risk groups of worker. This can go a long way in protection and promotion of the health of workers by preventing and controlling occupational diseases and by eliminating occupational factors and conditions hazardous to health and safety at work.

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Adult Education in Bihar: Understanding the Gaps

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Abstract

India is a developing country. To ensure quality education to all in the most democratic way is surely one of the major challenges that confronts us. In order to emerge as a developed nation and in order to reap the demographic dividend, it is essential to train and educate the masses for better productive output and to bring about holistic social, economic and cultural development in the country. The concept of adult education fits into the framework when the objective is to train and educate the masses. It is not merely the achievement of the goal of literacy, but to enhance the productive efficiency of the individual and to help to achieve a state of real social and economic self-reliance. In this context, self reliance this paper aims to study the socio- spatial differences that exist in the educational attainment of the adult population of Bihar.

Keywords: Adult learners, educational attainment, Bihar, Socio-Spatial differences.

Introduction

India is a developing country. Socio-economic challenges resting on inequality in distribution of income and wealth as also lack of equal opportunity of productive employment to all able bodied adults impede the developmental process. To ensure quality education to all in the most democratic way is surely one of the major challenges that confronts us even though, as far as improvement in literacy rates is concerned, it can be said that rapid progress has been made since independence from a mere 18.3 percent in 1951 to 72.99 percent in 2011. However, this progress is not evenly distributed across regions, states, areas communities and gender. States like Tripura, Kerala and Mizoram have literacy rates over 90 percent and States like Bihar, Arunachal Pradesh, Rajasthan, Jharkhand, Andhra Pradesh, J&K, Uttar Pradesh and Madhya Pradesh have a low literacy rate of little above or below 60 percent. Similarly while the overall national male literacy stood at 82.14 percent, it was only 65.46 percent for females. In some States the difference in male female literacy

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rates is nearly an higher than 20 percent in Bihar (male literacy – 71.20 %; female literacy – 51.50 %), Jharkhand (male literacy – 76.84 % ; female literacy – 55.42%), Uttar Pradesh (male literacy – 77.28 % ; female literacy – 57.18%), Chhattisgarh (male literacy – 80.27 % ; female literacy – 60.24%).

In order to emerge as a developed nation and in order to reap the demographic dividend, it is essential to train and educate the masses for a better productive output and to bring about equitable social, economic and cultural development of the country.

The concept of adult education fits into this objective which is to train and educate the masses. It is not merely the achievement of the goal of literacy, but to enhance the productive efficiency of every able bodied adult and to help him/her to be socially & economically self-reliant in life. Kothari Commission (1966) stated that "The function of adult education in a democracy is to provide to every adult citizen an opportunity for education of the type they wish and which they should harness for their personal enrichment, professional advancement and effective participation in social and political life." It is in the context of human development, continuing education and demographic dividend that this study was undertaken. In the context of globalization, basic learning and education, competencies and skills (life skill, communication skill, survival skill, business skill, leadership skill) are important for children, youth and adults all alike.

Objectives

This paper aims to study the socio spatial differences that exist in the educational attainment of the adult population of Bihar. The paper proceeds with the following objectives:

1. To understand the recent history of adult education in India vis a vis various governmental and non-governmental initiatives and policies.
2. To study the gross enrolment ratio of adult learners in Bihar and study the pattern of enrolment across various categories of education.
3. To study the inter-district variations of educational attainment of adult women in Bihar.

Database

The study is based on secondary data obtained from the Census of India 2011. The tables of the C series (Socio Cultural Tables) of the Census of India for Bihar have been used for the analysis.

Methodology

The tabulated data was screened to have the age specific data required for the study. Further, percentages have been calculated for various categories of educational

attainment, district wise and range tables have been prepared to study the socio-spatial differences.

Adult education perspective of the time

The youth population has a productive role to play in the social environment. This realization led to efforts to promote adult education by the Christian Missionaries which became a sub-part of the larger social reforms movement in the 19th century in India. Other scattered efforts of these times, included the initiatives of some nationalist leaders like Bharat Ratna Sir M. Vishveswariya, who started schools within the jails and Rabindra Nath Tagore, who made efforts through Shanti Niketan, for rural reconstruction and organized a number of night schools for mass education. Swami Vivekananda emphasized education as a life building, man making and character making assimilation of ideas and stressed that education and intelligence should not be monopolized. Instead, it should move to the masses if the overall progress and elevation of the nation to great heights is to be assured. The social reform societies like the Brahmo Samaj, Arya Samaj, Prarthana Samaj, Satya Sodhak Samaj (founded by Mahatma Joyti ba Phule) and Indian Social Conference did some pioneering work by educating the masses through publications and public lectures.

The purpose of education as redefined in the post- independence period was to address the requirements of the democratic model, that India had chosen to steer its destiny in the coming years. The Indian Adult Education Association in its annual conference in 1947 observed that 'adult education must enable the common man to live a richer life, in all its aspects, social, economic, cultural and moral'. The social-aspect of adult education was highlighted by many renowned educationists of that time and this led to the adoption of the term 'social education'. The CAFE proceeded in the direction of promoting social- education through different State governments.

With the announcement of the National Education Policy (1968) on the recommendations of Prof. D.S. Kothari Education Commission (1964-66) the concept of 'functional literacy' was introduced. The developments around the world also influenced the changes that were being introduced in India. The World Conference on Adult Education in Canada (1960) emphasized linkages of education with productive activities, work and development. The World Conference of Education Ministers in Tehran (1965) adopted a simple and workable definition of functional literacy and linked it with occupation and socio-economic development. The UNESCO's experimental World Literacy Programme (EWLP) spurred India's programme on Farmer's Training and Functional Literacy Project (1968-77) which had three basic components vis farmer's training, literacy and farm broadcasting. Similarly, Functional Literacy for empowerment of adult women through functionality and awareness (FLAW) was a functional literacy programme launched in mid 70s. The non-formal education around the same period, as advised by the CAFE thus, became the means for increasing the benefits of functional literacy for the masses. The CAFE also recommended integration of developmental schemes of various Ministries,

Departments, Agencies, sectors and areas for the functional literacy, Krishi Vigyan kendras and other such institutions were also an outcome of this phase. The period also witnessed the establishment of National Board of Adult Education and the Directorate of Adult Education.

Further modifications of the concept got reflected in the National Adult Education Programme (1978), which encompassed functionality and awareness as the twin objectives of AEP and emphasized active participation by all in the said programme for holistic human development. Adult Literacy Learning Centers were established at the grass root level. Over 50 evaluation studies taken up (1978-85) to assess the strengths and weaknesses of NAEP revealed a few strengths but mostly weaknesses of the programme.

This phase was followed by expansion of adult education through the Universities of India (1978 onwards) when UGC gave funds to Universities to set up Departments of Adult, Continuing Education and Extension which undertook adult, continuing education and extension activities. Over 100 such departments were set-up in 80s. The National Policy on Education (1986) envisaged that adult education would be a means of "reducing economic, social and gender disparities and would focus on skill development and creation of awareness among the masses for achievement of national goals". Following this, a Mission was launched to operationalize the mandate of NPE 1986, which was to impart functional literacy to 50 million unlettered persons by 1990 and an additional 30 million by 1995. It also focused on reducing the gaps of gender, region and social groups. It adopted an area specific cost effective, time bound and volunteer based Total Literacy Campaign (TLC) as a strategy for promoting literacy on a mass scale and proposed a 3-way strategy for adult education which was TLC (total literacy campaign) followed by PLP (post literacy programme) and CEP (continuing education programme for creating linkages between literacy and skill enhancement and subsequently, betterment of quality of life. The Mission also aimed at achieving functional literacy in a wider perspective.

The Mission was also a programme but with a difference. There was clarity about the goals as also, the human, material and financial resources needed to translate the goal to a concrete action programme. There was unmistakable political will, commitment and determination fortified by a sense of urgency, sincerity of purpose and courage of conviction. It rested on the realization that total literacy through adoption of a campaign approach within the definition provided by UNESCO was not utopian but possible, feasible and achievable. It further rested on the realization that a campaign implied social mobilization and such mobilization in a heterogeneous and stratified social structure cannot be undertaken by govt. but only by an NGO with credibility, respectability, experience and expertise. Since no such NGO was in sight, the Ministry of HRD, Department of Education, GoI promoted formation of one such NGO called Bharat Gyan Vigyan Samiti (BGVS) under Chairmanship of Dr. Malcolm. S. Adiseshiah, former DY DG, UNESCO, former Vice Chancellor, Madras University and a distinguished educationist. The BGVS essentially represented a

conglomeration of creative thinkers, writers and artistes, social and educational activists. The BGVS was guided by realization that a natural and spontaneous demand for literacy must be generated first before the delivery mechanism could be thought of this realization led to launching of a massive Bharat Gyan Vigyan Jatha from 2.10.90. The Jatha which comprised activists, volunteers and communicators par excellence moved from one end of the country to another at a tumultuous phase of Indian history when the nation was being torn apart by a caste war and a movement in the name of religion. It weathered these vicissitudes, effectively spread the message of literacy through what is known as kalajatha performances by harnessing the rich folk culture and succeeded in generating a natural and spontaneous demand for literacy. Once this was achieved, the delivery mechanism was set-up in shape of Zilla Saksharta Samiti or District Literacy Societies at the district level and literacy centres at the grass root level. The centres were to be manned by an Instructor but unlike the NAEP he/she was not required to be paid any honorarium but was required to render voluntary services. Thus voluntarism constituted the bedrock of the TLCs. It is only the cost of teaching learning materials, (printing and distribution of adult literacy primers, teaching aids like blackboard/roller board, slate, chalk, duster, etc.), cost of training of Instructors and supervisors through adoption of a cascading approach, cost of survey and environment building, cost of monitoring and evaluation were to be met from out of the budget meant for every TLC on a very modest scale ranging between Rs. 50/- to Rs.70/- towards per learner cost. (one of the lowest in the world when the rates are compared with similar campaigns launched in Cuba (1959-61), Myanmar (1969-70), Ethiopia (1974-79), Nicaragua (1980) and Vietnam (1948-77).

The TLC rested on a few basic principles. The first such principle was universality of coverage which means that once an area was selected to be covered by TLC, it was to be fully covered and no part of the area was to be left out. The second principle was selectivity. Only those volunteers who had the urge, inclination and commitment to work for TLC were selected and not those who craved for the loaves and fishes of office or for awards, rewards and incentives. The third principle was that TLC was not a loose and unstructured approach and effort but a highly structured one. At the national, state and district level we had NLMA, SLMA and ZSS. We had a team of coordinators at the State, district, block and village panchayat level for reporting. Whatever was the ground level reality of TLC was to be honestly and faithfully reported. There was to be no window dressing. The system of reporting rested on a 2 way communication process and was not to be a top down approach. All the gaps, omissions, differences and shortcomings which were reported from the ground level were sought to be connected/reminded by instructions, discussions, counseling, and field visits. In other words, the culture of equality, consultation and consensus ran through all the veins and arteries of the TLC.

The fourth principle was one of progression i.e. learning from stage to stage 'चरणों से चरण चले'. This principle was replicated in the strategy and methodology of preparation of teaching learning materials called 'Improved Pace and Content of Learning' or IPCL. In all there were to be 3 primers which were multi-graded and integrated. At the

end of every lesson in the primer, there were to be drills and exercises which were to be attended to by the learner as a tool of self learning. At the end of every primer, there were 3 tests and in all 9 tests in 3 primers. The central objective behind this was to inject a sense of confidence in the mind of every learner 'That he/she can and Learn, there is no need for guided learning'. The Instructor was meant to act as a promoter, catalytic agent and required to remain in the background and was to be withdrawn from the scene the moment learners achieved complete self-sufficiency in reading, writing and arithmetic. The fifth principle was training of functionaries which rested on a cascading approach and was to be participative and communicative. For this teams of Key Resource Persons/ Resource Persons and Master Trainers were formed who were to impart primer-specific, discussion-oriented and empowerment related training.

The sixth principle was monitoring and evaluation which were to be used as tools of correction and not tools of witch-handling. While monitoring was to take place on a day-to-day basis through coordinators (the third principle), evaluation of the content, process and impact of TLC was to be undertaken through University Departments, Institutes of Social Science and Research, NGOs and distinguished adult educators. A large number of excellent evaluation reports imparted a new dynamism to the content and process of TLCs.

The seventh principle in this Saptapadee as that every campaign for total literacy was to bring in its trail campaigns for planned parenthood , promotion, protection and conservation of environment, women's equality and empowerment and national/ emotional integration and communal harmony. Such combination imparted yet another unique dimension to the TLCs.

There may have been operational flaws in actual conducting of the TLC but even 30 years after the TLC was conceptualized none can question the soundness and sensibility of approach and the altruistic character of the strategy.

As subsequent events would show, the positive outcome of TLC [except Kerala where it was for the whole state (1989-91)] launched at the district level and were reflected in increased literacy rates for the States and nation as a whole. The continuing education centers (CECs) were created for lifelong learning opportunities for adults. At the administrative level, The NLM emphasized on decentralized management and devolution of financial and management powers from the Centre to the States/districts for revival of existing institutions and increased involvement of Panchayati Raj Institutions, NGOs and other local bodies. In the revised framework, it also proposed strengthening linkages between education and other development departments to attain objectives of functional literacy.

The Education Policy was revised in 1992 and the entire education system was restructured in response to the 'neo-liberal economic reforms'. The NPE proposed eradication of adult illiteracy and laid stress on continuing education.

In the wake of the judgment of the Hon'ble Supreme Court in J.P. Unnikrishan Vs State of AP (1993), the 86th amendment of the Constitution was carried out in 2001-02 inserting Art 21 A i.e. right to free and compulsory education for all children in 6-14 age group. Sarva Shiksha Abhiyan was launched the same year and Right to Free and Compulsory Education Act was enacted in 2009 but came into force from 01.04.2010 to make free and compulsory education for all children in 6-14 age group a guaranteed fundamental right. With this the focus shifted to a large extent to UPE and UEE not realizing the AE, UPE and UEE are 2 sides of the same coin; they compliment, supplement a rain force each other.

The World Education Forum in Dakar, Senegal in 2002 approved the vision document on Education for All (EFA) to be achieved by 2015 on the basis of six goals namely, early childhood care and education, universal elementary education, adult education, towards gender equality in education, education for adolescents & young adults and quality of education. The Indian action plan for achievement of EFA through adult education was also influenced by the endorsement of the EFA, earlier adopted by the World Conference on Education at Jomtein (1990) and acceptance of the declaration of the 5th International Conference on Adult Education (CONFINTEA V). However, the focus still remained on basic education and not on lifelong learning. As such, a vast majority remained either illiterate or at a low level of literacy. The literacy rate of adults (aged 15 years and above) increased to 61% in 2001-04, it was still behind many countries of similar demographic characteristics such as China (90.9 %) and Sri Lanka (90.7 %). The country still faces the challenge of being confronted with the World's single largest number of unlettered persons in the vicinity of 300 million and also uneven spread of literacy across different States and regions. Of equal concern is the quality of literacy acquired which means functional and empowerment related literacy and not alphabetical literacy.

The Study and major findings

Bihar is one of the eastern states of India with 9 Divisions and 38 districts. The river Ganges partitions the State into two halves namely north and south Bihar. The districts of north and south Bihar are shown in table -1.

Table -1: Districts of North and South Bihar

North Bihar	Begusarai, Kishanganj, Saran, Khagaria, Darbhanga, Siwan, Saharsa, Madhubani, Gopalganj, Madhepura, Samastipur, West Champaran, Supaul, Muzaffarpur, East Champaran, Araria, Sitamarhi, Shivhar, Katihar, Vaishali, Purnea
South Bihar	Patna, Gaya, Jehanabad, Aurangabad, Arwal, kaimur (Bhabhua), Buxar, Bhojpur, Nalanda, Lakhisarai, Munger, Bhagalpur, Banka, Sasaram, Nawada, Jamui, Sheikhpura

Source: Constructed from Wikipedia.

The State has a rich alluvial plain and has a prominent agricultural character. The important rivers passing through north Bihar are the Kosi and the Gandak and the important rivers of the south are Sone and Punpun. The State's population was over 10 crores in 2011 and shared 8.60 PC of the total population of India. The sex ratio was reported as 918 and literacy level stood at 61.80 % in 2011 as compared to 72.99 % for India. Male literacy stood at 71.2 % and female literacy stood at 51.5 % in 2011. Female literacy was further down at 44.3% in rural areas.

As per the Statistical Year Book (2017), there were around 85 thousand schools (those who reported to DISE) in Bihar of which more than 50% are at the primary or upper primary level. The schools at secondary and senior secondary levels are much less. The gross enrolment rate (2015-16) at the elementary level in Bihar was 107.4 (including early enrolment, late enrolment and repeaters) against the all India average of 96.91. However, this considerably drops to 78.37 at the secondary level against the all India average of 80.01. This further comes down to 35.62 at the senior secondary level against the all India average of 56.16. The GER at higher education level was abysmally low at 14.3 against the average 24.5 for India. The NSSO source states that out of the many reasons for the drop-outs, amongst males, the most cited reason was engagement in economic activities and amongst females, the main reason was engagement in domestic activities, followed by financial constraints and lack of interest in studies for both males and females.

The total number of higher educational institutions as in 2019 in Bihar is shown in table -2.

Table -2: Number of Higher Educational Institutions in Bihar

Sl No.	Type of Institution	Numbers
1	Central Universities	4
2	State Public Universities	15
3	Private Universities	5
4	Agriculture Universities	2
5	Veterinary Institute	1
6	Yoga University	1
7	Law University	1
8	State Open University	1
9	Deemed University	1
10	Institutes of National Importance	3
11	Colleges (General Universities)	745 (constituent and affiliated)
12	Colleges (engineering)	55 (government and private)
13	Colleges (medical)	14
14	Polytechnics (government)	43

Source: Constructed from Wikipedia.

In addition to these, there are some Institutes of State importance, private polytechnics and quite a number of industrial training institutes (ITIs) in the government and the private sector.

The study of Socio Cultural Tables of the Census of India 2011 gives us the details of age wise attainment of education at various levels for each district of the State. A district wise analysis was undertaken for the population termed as 'Adult' and falls between the age group of 30 – 59 years. The following are the major findings.

1. The sex ratio for 2011 census reflects the dominance of number of males over females. For 25 districts out of 38, the female population is less than 48% of the total population of the State. Eleven districts have a female population which is more than 48% but less than 50% and only two districts it is fared beyond 50%. The details are shown in table -3.

Table -3: Sex Ratio in the Districts of Bihar

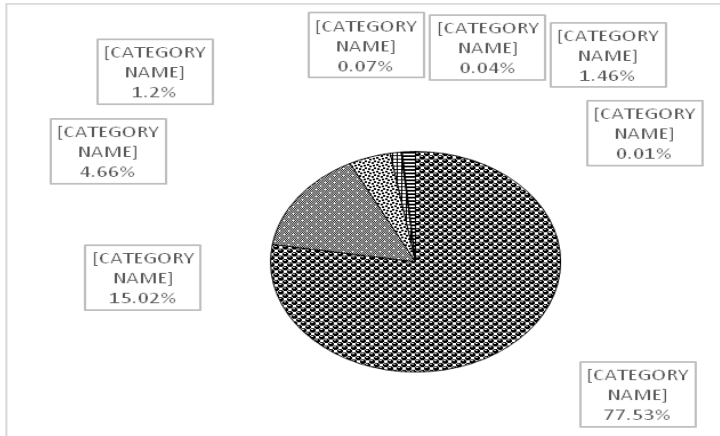
Category	No Of Districts	Names
Female Population < 48 %	25	Bhagalpur, Munger, Khagaria, Begusarai, Sheohar, Vaishali, Muzaffarpur, Pashchim Champaran, Sitamarhi, Patna, Purba Champaran, Banka, Lakhisarai, Katihar, Araria, Samastipur, Bhojpur, Madhepura, Purnia, Saharsa, Darbhanga, Rohtas, Jamui, Kaimur (Bhabua), Aurangabad
Female Population < 48% > 50%	11	Nalanda, Madhubani, Jehanabad, Buxar, Arwal, Supaul, Gaya, Sheikhpura, Kishanganj, Nawada, Saran
Female Population > 50%	2	Siwan, Gopalganj

Source : Constructed from Census 2011.

2. The GER of the adult population between the age of 30 to 59 years was as low as 5.95 %. That is the number of persons who enrolled for studies at the graduation level or above, was 5.95% of the total population in that age group. The percentage was abysmally low for females at 2.54 % whereas for males, it stood at 9.18 %. The percentages show a steep decline indicating that the adult population of Bihar has over the years been affected by high drop-out rates and there could be several socio economic barriers that have created such a scenario.
3. Out of the 5.95 % of the adult population that opted for a level up in studies, went for graduation and post-graduation studies in the non-technical disciplines. 77.53% of the adult population went for graduation from the non-technical fields whereas, 15.02% went for post-graduation. Enrolment in other disciplines like engineering and technology and teaching shared 4.66% and 1.46 % respectively. Enrolment in other disciplines like veterinary sciences, agriculture and dairying etc. remained at the level of negligible

percentages. The graph below depicts the scenario of enrolment in various disciplines.

Graph – 1: Enrolment in various disciplines of higher education for the 30-59 age group of population. (2011)



Source: Constructed from Census tables.

4. Out of the total enrolment across all disciplines at the higher education level, the share of female' enrolment does not exceed 20%. Except for Post-graduation from the non-technical stream (23.37%) and degree in teaching (29.05%). This is indicative of the fact that there exists a substantial gap between the educational attainment levels of males and females in Bihar. The figures in table – 4 depict the scenario.

Table -4: Higher Education Attainment of Males and Females Across Disciplines in Bihar

Categories of Educational Attainment	Total	Male	Female	% of Female
Total Adult Population (30-59)	29058482	14924341	14134141	48.64
Graduation and above	1729202	1370144	359058	20.76
Graduation (other than technical)	1340641	1064985	275656	20.56
Post Graduate (other than technical)	259708	199017	60691	23.37
Engineering and technical	80633	69305	11328	14.05
Medicine	20835	17122	3713	17.82
Agriculture and dairy	1156	1063	93	8.04
Veterinary	777	576	201	25.87
Teaching	25276	17933	7343	29.05
Others	176	143	33	18.75

Source: Computed from Census tables.

5. The trend of low enrolment from amongst the females is also reflected spatially across the districts. Districts like Patna (28.71%) and other districts close to Patna like Gaya (20.48%), Muzaffarpur (26.68%) and Vaishali (20.72%), as compared to other far away districts have a slightly higher percentage of educational attainment amongst females. Though in terms of percentages there are minor differences but they reflect large when absolute numbers are considered.

Similarly, except for Munger (23.16%) and Bhagalpur (23.75%), all other districts of south Bihar have comparatively lesser percentages of enrolment of the adult population. Most of these districts are poor and some of them are either drought affected or naxal affected. Arwal (12.87%) and Kaimur (15.65%) and Banka (16.96%) are some such districts.

Most of the districts of north Bihar have low percentages of adults enrolled for higher education. Araria (14.48%), Kishanganj (15.22%), Madhepura (16.96%), Madhubani (16.29%) and Sheohar (16.92%) are some such districts. These are the districts which are affected by seasonal floods, poverty and high population of the minority communities. These could be some of the reasons of low enrolment of adult population into higher education.

Teaching however, remains a popular discipline amongst the females after graduation as is evident in the table below, almost for all districts.

Table-5: District wise and Discipline Wise Educational Attainment of Females in Bihar (2011)

	Graduation & Above	Graduation(Non Tech)	PG (Non Tech)	Eng. & Tech	Medicine	Agriculture & Dairy	Veterinary	Teaching	Others
BIHAR	20.76	20.56	23.37	14.05	17.82	8.04	25.87	29.05	18.75
Araria	14.48	14.62	14.79	10.31	9.86	25.00	41.67	15.03	0.00
Arwal	12.87	13.14	11.21	8.52	14.29	12.50	50.00	19.01	0.00
Aurangabad	15.74	16.04	15.17	8.41	12.65	0.00	0.00	21.22	0.00
Banka	16.96	16.64	19.91	12.30	16.39	0.00	40.00	19.26	0.00
Begusarai	24.30	24.05	28.11	17.42	18.51	8.16	30.00	32.19	18.18
Bhagalpur	23.75	23.49	27.46	15.84	19.68	2.63	25.00	30.58	33.33
Bhojpur	17.32	16.95	19.30	13.74	16.26	20.00	23.53	25.51	0.00
Buxar	16.31	16.23	18.08	11.19	11.72	4.55	14.29	17.96	25.00
Darbhanga	19.96	20.09	21.36	11.85	17.85	8.51	13.33	28.20	6.67
Gaya	20.48	20.44	21.31	16.20	13.60	0.00	21.43	28.39	0.00
Gopalganj	19.11	19.45	19.41	11.38	11.28	6.25	25.00	22.00	25.00

Jamui	16.93	16.83	18.13	11.27	14.02	0.00	0.00	26.11	0.00
Jehanabad	16.96	17.24	15.49	9.46	18.75	5.56	0.00	29.82	0.00
Kaimur (Bhabua)	15.65	15.98	15.26	10.75	10.13	0.00	30.00	15.01	33.33
Katihar	18.93	19.32	18.82	11.03	19.35	16.67	40.00	24.70	100.00
Khagaria	19.89	20.41	20.52	11.84	14.29	14.29	31.25	21.80	0.00
Kishanganj	15.22	15.46	14.81	10.02	15.03	0.00	25.00	20.11	0.00
Lakhisarai	19.75	19.71	21.62	12.32	18.18	5.56	12.50	28.63	0.00
Madhepura	16.96	17.49	17.32	9.20	15.10	22.22	22.22	20.27	0.00
Madhubani	16.29	16.73	16.01	8.89	13.44	10.34	21.43	21.97	8.33
Munger	23.16	22.81	28.72	13.41	14.77	13.64	28.57	29.95	16.67
Muzaffarpur	26.68	26.22	31.20	17.89	21.47	12.50	41.67	34.88	25.00
Nalanda	18.55	18.34	21.52	14.08	16.38	5.00	23.53	24.26	9.09
Nawada	16.07	16.30	15.82	8.37	11.30	3.70	0.00	23.50	0.00
Pashchim Champaran	16.61	16.65	17.04	10.57	17.15	4.08	29.73	23.42	37.50
Patna	28.71	27.88	36.01	18.00	24.55	11.69	21.38	47.61	26.32
Purba Champaran	17.72	17.87	18.62	11.02	14.41	7.14	34.78	23.67	0.00
Purnia	19.53	19.48	21.87	12.97	16.56	0.00	27.27	24.14	0.00
Rohtas	17.92	17.92	19.33	11.47	13.70	9.30	30.77	22.50	14.29
Saharsa	18.60	19.68	17.92	9.61	15.36	5.56	23.53	17.06	14.29
Samastipur	20.82	20.84	23.22	13.68	13.94	4.76	35.90	29.98	0.00
Saran	18.60	17.90	23.24	15.48	16.50	11.11	0.00	29.54	0.00
Sheikhpura	17.14	17.68	16.55	9.01	11.49	7.69	0.00	19.46	100.00
Sheohar	16.92	17.71	14.35	12.68	15.87	6.25	0.00	17.89	0.00
Sitamarhi	20.15	20.44	21.18	12.43	15.33	4.35	20.00	25.26	0.00
Siwan	18.55	18.53	20.33	12.00	12.19	12.00	17.65	23.95	0.00
Supaul	14.08	14.87	12.23	8.50	10.28	9.09	38.46	18.11	40.00
Vaishali	20.72	20.82	22.14	14.14	15.03	6.52	27.78	26.46	60.00

Source: Computed from Census tables.

Recommendations

There might be myriad reasons of low levels of education amongst the adults in Bihar, high drop-outs, lesser participation of females and higher spatial differences. The requirement of the time is to reap the demographic dividend of the State which has the third largest population size amongst the States of India. The following measures might ensure better out-reach, increased motivation among the adult learners and dissemination of wider opportunities of livelihoods to all.

1. The concept of functional literacy should be revisited, revived and broadened to include functional education (beyond literacy). It should be modern

- technology oriented and should incorporate in the curriculum the basic nuances of digital literacy. Training of farmers should also be linked with it, who generally belong to the economically weaker sections and have lost interest in education.
2. The State bears an agrarian character. Therefore, the institutions linked with agriculture should be strengthened to become the hubs of education and training. The Krishi Vigyan Kendras exist in almost all the districts of Bihar. The host organizations of these KVKs, which in most cases, are the agricultural universities of Bihar, should strengthen these institutions by organizing, modular education and training programmes as per the needs of the local farmers and their traditional knowledge.
 3. Agro-based food processing, cottage production of food items and other such fields of training could be identified for training through the agricultural universities and NABARD.
 4. Dairy, Poultry, small scale manufacturing, metal works, clay work, carpentry and other non-farm activities etc. can also be promoted as disciplines of study and training for the adult population.
 5. Open and distance learning Institutions could be roped in for preparing need based certificate level / modular courses, if required, through institutional collaboration, for education and training of adult learners who reside in remote rural areas so that higher education becomes more accessible to them especially the females.
 6. Allocation of funds to the hitherto neglected sector must be increased in proportion to the need, keeping the huge gaps between educational goals and educational attainments in various streams and at various levels and the sector should be prioritized for funding.
 7. Lifelong learning should be encouraged and concept of recognition / certification of prior learning could be strengthened further, to encompass the related issues.

Paulo Freire's, an outstanding adult educator of our time has in his classic work 'Pedagogy of the oppressed' (original is Portuguese in 1967 with English translation in 1972) has presented a lucid, scintillating and well reasoned out analysis of the strength and weaknesses of the oppressor and the oppressed and has presented convincingly as to how adult education can be perceived as a powerful tool for liberating the oppressed from their make-believe world, their unbridled passion and temptations and eventually form the oppressor's vice like grip over his life. He has demonstrated as to how education can enable them to formulate the instrument of their own liberation, can promote the culture of self-reliance - both social, economic, self-assertion and self-efficacy. It can release the oppressed from the culture of silence and dependence. It can infuse new strength, confidence and resilience in the minds of all adult learners to the effect that they have infinite possibilities and potentialities, that there is nothing beyond their reach and that they alone can make the impossible possible. Adult Education can make them perceive and internalize the causes and factors which

contribute to their generative source of disadvantage - caste related, employment related and gender related and provide the wherewithal to overcome the disadvantage and invest them with opportunities, resources and strength.

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A Glance at the Development of Adult and Lifelong Learning in India

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Abstract

Education is a lifelong process. One can aspire to learn at any stage of life. It can be out of an urge for self-development, furthering career prospects, desire to learn any skill or mere interest. There has been phenomenal increase in the number of people who seek to learn across the world. At the same time, the meaning and scope of education is changing. Now, instead of being confined to the traditional methods of learning, alternative ways of learning are emerging. With the advancement of technology, ICT and online courses are providing an affordable and quality education. In this context, the present paper makes an attempt to understand the development of adult and lifelong learning in India.

Keywords: Adult education, Lifelong learning, ICT, online courses

Introduction

Today, in an era of heightened competition and ruthless elimination, acquiring education and skills corresponding to certain needs and levels has become a key determinant for human survival. It is an important component of everyone's life for the simple reason that education provides access to knowledge, information and skills and if skills for day-to-day survival are changing, education and educational technology has to undergo necessary changes. Besides, both education and skills cannot be static and confined to narrow and restricted traditional contours; they must provide the wherewithal instrument to grapple with and overcome the challenges of life. This is now more than 5 decades ago, Paulo Freire had prophetically said, 'To read the word is to read the world'. In other words, Education has to be comprehensive and all encompassing.

Adult Education in India has a chequered history. Following Bapu's call in 1937, 'it is a matter of sin and shame that millions in India have remained unlettered. We

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have to liberate them,' campaigns for total literacy were taken up in the 6 Congress ruled provinces of colonial India with much fervour but were short-lived as second World war started in Sept. 1939. Attainment of India's independence saw launching of a series of experiments in social education and literacy such as 'Gram Shikshan Mohim', Satara, 'Each one Teach one, 'Farmer's training and Functional Literacy', 'Non-formal Education for the youth', 'Functional Literacy for Adult Women (FLAW)', Polyvalent Education through Shramik Vedyapeeths National Adult Education programme, etc. which except the last had limited spread a minimal impact.

The National Literacy Mission Authority (NLMA), Government of India has defined Functional Literacy as "achieving self-reliance in prescribed minimum norms of Reading, Writing, Arithmetic (Numeracy) in any language with understanding & comprehension; becoming aware of the causes of one's deprivation and moving towards amelioration of the condition through organisation and participation in the process of development; acquiring skills to improve the economic status and general well being and becoming aware & responsible citizenry (imbibing values of national integration, communal harmony, protection and conservation of the environment, women's equality and empowerment, and reproductive behaviour etc.)"¹ Adult education can be understood in the following words of Ms. Lakshmi Reddy. It states:

"Adult education is part-time or full-time education for men and women of all ages either organised by themselves or provided by schools, learning centres, or other agencies which enable them to improve their general or professional knowledge, skills and abilities by either continuing their education or resuming their initial or incomplete education of previous years. Adult education is, thus, usually more flexible in its structure than traditional mandatory education. Adult education may offer credits towards higher education degrees or may not offer any degrees or credits. Its clientele includes all those adults who have never been to school, who have dropped out of school or who are continuing their education in formal, non-formal or vocational educational institutes of different kinds or who are seeking employment or who are engaged in different occupations or professions."²

With increasing competition, learning has become an essential aspect for human survival. An individual has to keep learning for survival, growth, development and welfare of self, families, societies and the nation at large. In this scenario adult and lifelong learning seems to be an important and effective instrument.

India has a long history of education. During ancient times, education was imparted orally through discourse and discussion. However, during the early times, reading and writing was the 'sacred monopoly of a small circle of elites'.³ Temples and mutts were the centres for dissemination of oral knowledge for adults by way of *keertans*, *bhajans*, *jagran*, and *satsang*. This continued during the medieval times and is practised in many parts of the country even today.

Moreover, as Prof. S.Y. Shah has observed institutionalization of adult literacy began with the colonial rule in India with the opening of night schools. These were based on the model of British Adult Schools, the Christian missionaries, social reform organizations and the Nationalist leaders were instrumental in establishing night schools.⁴

During the national freedom movement, need for spread of education among the masses was felt. With the efforts of British and Indian educators, 1939 witnessed the formation of Indian Adult Education Association by Dr Zakir Hussain and a series of Provincial Mass Literacy Campaigns⁵ were organised in different parts of the country for promoting adult education in India. As a result, 1938-42 saw an expansion of literacy among the adults, out of 2.77 crores adults who attended literacy classes 1.38 crores became literate. This development continued after the second world war and the urgency to tackle the massive problem of illiteracy was felt. The Report of the Post-War Educational Development in India (1944) shows that responsibility of adult education squarely rested on the shoulders of the State. The importance of Voluntary Organizations to share a portion of this responsibility of the State was also emphasized.

The present paper makes an attempt to understand the development of adult and lifelong learning in India. What is the importance and need of adult and lifelong education? Which aspects constitute part of education of adults? What efforts are being made by the government to enhance education for adults? Can adults learn? Apart from the traditional methods of learning, what alternative ways are emerging? Are the alternate ways useful? Whether ICT and online courses through various platforms help in acquiring education? These are some of the questions which this paper seeks to answer.

Development

Thomas H. Nelson pointed out that till the beginning of the 20th century, 'adult education was an individual concern'. Any attempt by an individual for self-advancement who had dropped out of school was considered adult education.⁶ The motivation for gaining literacy through enrolment in adult education was mainly "increased earnings", "get ahead", "beat the other fellow to achievement and success", etc. Thus, it also includes the vocational interests and individual needs of adults. Hence adult learning can be understood as acquiring 'new ideas, skills, attitudes, experience and understanding' by those who are engaged in some other aspects in life other than education and wish to learn to enhance their horizon of thinking and acting in life.

Learning is a lifelong process. This has been discussed in an interesting book by Dorothy Canfield Fisher, entitled *Why Stop Learning?*. It begins with birth and continues till the death of a person. Studies since long time have shown that

psychologists to have proved that 'the impulse to learn is an irresistible urge in the presence of a new situation demanding a new adjustment'.⁷ And it continues even today.

In an endeavour to improve the prevalent lifestyle, people aim to gain literacy and education. There are many ways of learning. These can be broadly classified on the basis of the learning process in four categories- learning by association, learning by conditioning, learning by doing and learning by insight.⁸ For details see, M.C.R. Reddy, 2005, *Adult learning: Theories and Principles*, Unit 7 of core paper-1 of PG Diploma in Continuing Education and Management, Dept. of Adult, Continuing Education and Extension, University of Mumbai, Mumbai.

There has been an increase in the number of people learning, studying, training and involved in various educational initiatives. For instance, the literacy rate in 2001 was 64.84%, which increased to 72.99% in 2011. In the past few decades the idea of lifelong learning has gained a lot of currency and acceptance. The government from time to time has been reviewing the concept and has made efforts to expand the scope of lifelong learning. During the 11th Five Year Plan, in order to promote 'adult education and skill development', the Government of India has introduced two schemes- *Saakshar Bharat*⁹ and *Scheme for support to Voluntary Agencies for Adult Education and skill development*.¹⁰ The aim is to promote its expansion and make it accessible to all those who are interested. Thus, there is need to re-think and re-design the condition of learning in society.

Alternative Methods of Learning

As we discussed, education is a continuous process. It is self-initiated education for personal growth. Adults have always been engaged in making "effort to learn- a skill, a subject, an escape from life's limitations, a hobby that promises an adventure in new experience, a method of self-improvement, a point of view or a new philosophy of life."¹¹ This continues even today. However, it is very difficult to provide formal education to an adult who is engaged in earning livelihood, managing family affairs and having lots of responsibilities to discharge. In this they are always in search of alternative modes of education which they can undertake according to their convenience and in this the Information and Communication Technology (ICT) and various online courses can be of immense help. ICT is 'fast emerging as an effective tool to improve the access as well as quality of adult education' and some successful experiments have already been made to teach through radio and television.¹²

In recent times the trend of online learning and courses are increasing throughout the world. The online learning offers more flexible scheduling than the traditional mode of education; offers a more personalized learning experience in the form of videos, discussion forums, websites; accessibility and affordability. In this the various programs under Massive Open Online Courses (MOOC) and Open Educational

Resources (OER) are of great help. In the case of India, SWAYAM (Study Web of Active Learning for Young Aspiring Minds), a Government of India initiative is part of Digital India and provides the platform to facilitate access to quality education, support lifelong learning and enhance access to higher education. These online courses and learning methods provide an opportunity to learn at one's own pace and convenience. These offer cheaper, easily accessible, interactive and flexible modes of learning. Education is not the privilege of a selected fortunate few, rather it is the need and demand of the majority. Thus, these online learning methods are emerging as and can provide an alternate method of adult and lifelong education.

Conclusion

To sum up, it can be said that adult education “aims at extending educational options to those adults, who have lost the opportunity and have crossed the age of formal education, but now feel a need for learning of any type, including literacy, basic education, skill development (vocational education) and equivalency.”¹³¹³ Mhrd.gov.in/adult education Education is a continuous process and an individual can decide at any point of time to learn. Along with the traditional methods, the alternative modes can be of immense help in attaining affordable and equitable education. In this context, there is requirement for broadening the access to adult and lifelong learning opportunities. The online learning and online courses provide authentic and quality education. The certification after the successful completion of courses further enhances the career prospects.

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Endnotes:

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² Lakshmi Reddy, 2000, Dynamic Role of Adult Education: Marching Towards A Learning Society, New Delhi, Aravali Books International (P) Ltd., pp. 7-8.

³For details on the development of literacy in West refer to, C.M. Cipolla, Literacy and Development in the West, London: Penguin Books, 1969.

⁴ For a detail study, refer to S.Y. Shah, 1995, Indian Adult Education: A Historical Perspective, New Delhi: Directorate of Adult Education and S.Y. Shah, 1999, An Encyclopaedia of Indian Adult Education, New Delhi: National Literacy Mission.

⁵For instance, some of the adult education agencies which were established by this time include Bombay Presidency Adult Education Association, South Indian Adult Education Association, Bengal Adult Education Association, Indian Adult Education Society in Delhi, etc.

⁶Thomas H. Nelson, Changing Concepts of Adult Education, *The Journal of Educational Sociology*, Vol. 10, No. 9, Adult Education (May 1937), p. 515

⁷Jessie Allen Charters, Educational Research Bulletin, Vol. 8, No. 10, Studies in Adult Education (May 15, 1929), p. 207

⁸For details see, M.C.R. Reddy, 2005, Adult learning: Theories and Principles, Unit 7 of core paper-1 of PG Diploma in Continuing Education and Management, Dept. of Adult, Continuing Education and Extension, University of Mumbai, Mumbai.

⁹*Saakshar Bharat* is the new variant of earlier National Literacy Mission, set following goals: to raise literacy rate to 80%, to reduce gender gap to 10% and minimize regional and social disparities, with focus on women, SCs, STs, Minorities, other disadvantaged groups.

¹⁰Mhrd.gov.in/adult_education

¹¹Thomas H. Nelson, Changing Concepts of Adult Education, p. 516.

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Women Empowerment through Education in India: Some Critical Reflections

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Abstract

This paper looks into the scenario of women's higher education in the contemporary world with specific reference to Indian scenario. As a matter of fact the rate of women's education in India is low in comparison to western countries due to certain historical, socio-cultural and other reasons. Starting from primary to higher to technical education, the participation of women is not encouraging in India. In that context, it is necessary to bring some policy changes to encourage women to go in for education at all levels. Though in recent times, the situation is changing in India due to awareness among the people, reservation for women in jobs, as well as policy intervention from successive governments at the centre and States. There is also an attempt from the women by themselves. This is one of the most positive indicators. Women have to come out and demand for higher education. In that background, this paper is a modest attempt to critically examine the existing situation and suggest some remedial measures.

Keywords: Women's Education, Empowerment and Participation, Women in Job Sector, Role of Women in Society.

Introduction

The all-round development of a society in a holistic manner is possible only when the female members thereof are well educated. As the first teacher of the child at home, the role of a mother is extremely important in shaping the future of the latter by properly nurturing him/ her. However, this is possible provided the mother herself is educated and well aware of the basics of nutrition which is the science of food in relation to health. She can provide the holistic upbringing of a child, if she herself is aware of the importance of health, nutrition, factors which cause illness and how a child can be made less vulnerable to infection and illness. She has to take care of the health, hygiene, sanitation, immunisation and early education of the child at home. Above all, the socialization process of the child starts from home, particularly from the mother. If she is educated, she can add some incremental income to the

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family. As a manager of the household activities, she has to do a number of things at home which means that she has to be aware, agile, alert and actively conscious of her role. Hence educating the women is one of the primary tasks of any society and State, as it is one of the solid foundations for social development. Importance of women's education is, therefore, universally recognized. Starting from family to nation building, a woman plays a crucial role. She has to balance a number of things at home and outside at the same time. The all round development of society is possible, only when the women are holistically educated in the true sense of the term.

In the pre-independence period as also in the first 3 decades after independence of India, the overall scenario of women's literacy and education was not very encouraging. Due to continuous endeavor of successive governments at the Centre and States and due to individual efforts of some social activists, policy makers and educationists, the overall situation has gradually registered some improvement. Female literacy and education are one of the important segments of the total gamut of education. Historically the girls' education was inhibited due to prevalence of bundles of fads, taboos, obscurantist ideas and practices. Programmes like Functional Literacy for Adult Women (FLAW) in 70s launched with the best of intentions did not create the desired impact. Whatever little has been achieved, is due to the relentless efforts by some public spirited individuals like Savitri Bai Phule, Durgabai Deshmukh, Chitra Naik and many other such public spirited and progressive minded individuals, continuous encouragement and support of parents in a few cases as also the talent and ability of the girls themselves. Any improvement in the girls' educational status is bound to produce a positive impact on the economic status of the family, which in turn improves the prospects of the entire community, society and nation. In the poorest countries of the world, majority of girls even do not attend primary school. Improving female education, from primary, elementary, secondary, university to vocational education will enhance women's earning potential, which automatically will improve the standard of living for the family, as normally women invest more in the health and education of the family including betterment of education and health of their children.

Women's Education in India: Historicity & reality

In the Indian context, historically female education has not been encouraged due to a number of reasons, primarily due to inequitable social structure, socio-cultural prejudices and blind beliefs as well as patriarchal structure of the society. Though there were efforts by many individuals and administrators, the renaissance and reformation in Indian society, which started during British regime in the later half of the 18th Century, tried to bring some perceptible changes. As a result of this, the abolition of sati & child marriage, widow remarriage & inter-caste marriages were promoted. The contribution made by Sir William Bentick, Raja Ram Mohan Roy, Ishwar Chandra Vidyasagar, Henry Vivian Derozio, and many of the then social reformers and activists was exemplary. Subsequent legislation and its implementation

have provided a further filip to social reforms including promotion of literacy and education of women in our society. Gradually girls were admitted to co-ed schools and in some cases, schools and colleges exclusively for girls were also established, as a result of which at a number of places, particularly in Presidencies, girls started attending schools & colleges.

Over a period of time, it was observed that a number of female graduates passed out, particularly from Kolkata, Mumbai and Chennai presidency. It was also found that girls went in for nursing, medical science, teacher training courses and started working with their male counterparts. Slowly a silent revolution started. Parents encouraged their girl children to go in for higher studies because they found that girl's education provides value addition to a number of economic activities. It not only gives access to higher education, but also empowerment through jobs & income. It led to up-gradation of the status of women in our society. This was confined to urban & metropolitan areas and particularly the places, where access to higher education is somewhat possible. That was not the case of rural areas and mufossil towns.

It has also been observed that low levels of literacy in general and those of the girls and women in particular have contributed to poor human development indicators such as malnutrition, poor health and low levels of life expectancy. It also leads to low levels of female participation in work which is somewhere around 20 to 25 in India and which incidentally is the lowest in the world.

In the last 3 decades, various schemes of Government of India and respective State governments for higher investment in primary, elementary, secondary, higher levels of education including vocational and technical education has boosted enrolment, reduced dropout rate and promoted higher levels of achievement for both boys and girls. Establishment of Girls' Schools, High Schools, Colleges, Universities like - SNTD, Mother Teresa University, Banasthali Vidyapeeth, number of Girls Polytechnics, Women's Engineering College, Nursing Colleges, Teacher Training Institutes, Vocational Institutes for Women, Institute of Home Economics/Home Sciences, Institutes of Textile for Fashion Designing, etc. have encouraged the girls' enrolment in these institutions and have yielded rich dividends. Not only girls got educated, but also joined professions as Doctors, Engineers, Architects, Barristers, Nurses, School Teachers, Bank Officers, Corporate sector employees, communication experts in media-both electronic and print, mangers in Corporate enterprises. In the current scenario, most of the State of our country have got a women's university. However, the trend is not uniform and wide variations have been noticed. There is urban-rural divide and varying levels of achievement in different States, regions and even within the same region.

Current educational Scenario in India

It is a happy augury that the number of women students enrolling for higher education in India has gone up, particularly in professional courses, which used to be principally in the male domain previously. The States like Kerala, West Bengal,

Himachal Pradesh, Tamil Nadu, Karnataka, and Meghalaya have done wonders, not only in case of universal primary education but also women's enrolment in all types of education- starting from primary to secondary, higher, vocational, professional etc. However, the performance of BIMARU States (UP, Bihar, Jharkhand, Chhattisgarh, Rajasthan, Uttarakhand). Women enrolment in higher education which was less than 10% of the total enrolment on the eve of Independence has risen to 41.5% in the academic year 2010-11. Out of 169.75 lakhs students enrolled in higher education in 2010-11, almost 70.49 lakhs were women as compared to about 47.08 lakhs women enrolled in 2006-07, as brought out by the University Grants Commission (UGC) report. Among the States, Goa with 61.2% topped in terms of women enrolment followed by Kerala (56.8%), Meghalaya (51.8%) and Nagaland (50.5%). Though Kerala is amongst the 17 States which had higher enrolment of women than the national percentage of 41.5%, the State has actually witnessed a decline in enrolment of women in higher education in 2010-11, as compared to those who enrolled in 2006-07.

In many States, the percentage of women enrolled was less than the national average, with Bihar recording the lowest at 31.2%. The majority of women in the country are enrolled in non-professional graduate level courses, with 41.21% of the women being enrolled in the Arts stream, followed by 19.14% in the Science Stream 16.12% in Commerce and Management. The number of women enrolled in the faculty of Education was 4.60%, medicine 3.85% and in engineering and technology in 2010-11 11.36%. Women enrolment in the faculties of Agriculture and Veterinary Science has been miniscule. The enrolment position of women students enrolled for Master's level courses has been 12% while a very small proportion, that's 0.8% of the total number of students has been enrolled for research.

At the end of the fourth year of XIth Plan (2007-2012), the number of universities has gone up to 523 (43 Central, 130 deemed and 345 State Universities and the number of colleges to 33,023), thus registering an increase of 44% in the number of Universities and 56% in the number of colleges in comparison with the figures at the end of Xth Plan. The contribution by institutions like DBT, DST, ICMR, UGC, ICSSR, CSIR, ICAR, Council of Forestry Research, Medical Council of India (MCI), Pharmacy Council of India, AICTE and other Councils and recognized bodies is indeed praise worthy. Special schemes for women by providing fellowship to them, grants for higher studies and research and, fee waiver for girls in technical institutions to a certain extent as also reduced fees, have had a positive impact on the overall admission of girls in higher and professional institutions.

There has been a phenomenal growth in enrolment of women students in Higher Education in the country. The share of girls' enrolment which was 11.3% of the total enrolment in 1950-51, has increased to 38.6% (provisional) in 2008-09. Gross Enrolment Ratio (GER) of girls has increased by 4.6 percentage point during 2001-02 to 2008-09. University Grants Commission (UGC) has taken a number of steps for promoting access of women to higher education. Some of these are Indira Gandhi

Scholarship for Single Girl Child for pursuing Higher and Technical Education. Special provision for construction of Women's Hostels in Colleges and Universities, construction of girls hostels in Schools, opening up of the Department of Women's Studies in Universities and Colleges, Schemes of capacity building of women scientists and technologists, special Post-Doctoral fellowships to women only, encouraging women to be Research Fellows by DST/ UGC/ ICSSR/ CSIR/ ICAR, are some of the accelerating factors in the domain of women's higher educational attainment. Some of the women scientists/ professors have risen to the level of heads of prestigious institutions like CSIR, ICMR, ICAR, ISRO, DRDO laboratories, ICSSR, UGC, IAAS etc.

A Comparative Analysis of Pre and Post- Independence Period

No doubt, there has been considerable amount of progress in female education both in PC terms as also in absolute number but the pace of the same has been rather slow. The initial focus was on primary level mostly confined to the affluent sections of society. The overall literacy rate for women increased from 0.2% in 1882 to 6% in 1947. In 1878, the University of Calcutta became one of the first universities of the country to admit female students to its degree programme (Bachelor of Arts - B.A.) before this could happen in any of the British Universities. After India attained independence in 1947, the University Education Commission was created to recommend suggestions to improve the quality of education. However, the fact that the female literacy rate was at 8.9% in the post-Independence period could not be ignored. In 1958, a national committee on women's education was appointed by then Government of India, and most of its recommendations were accepted. The crux of its recommendations was to bring female education on the same footing as that of general education. Subsequently, a number of committees were set-up that spoke of promoting equality between men and women in the field of education. The committee on differentiation of curricula for boys and girls (1959) recommended equality and adoption of a common curricula at various stages of their learning. Efforts were made to expand the education system, and the Education Commission which was set up under the chairpersonship of Prof. DS Kothari in 1964, recommended a national policy on girl's education for the whole country.

The 86th Constitutional Amendment Act, 2002, after which Act 21A was inserted in the Constitution has been a path breaking step towards the growth of education, especially for females. This makes elementary education as a fundamental right for children between the ages of 6 and 14. The government has undertaken to provide this education free of cost and make it compulsory for those in that age group. A universal national campaign captioned 'Sarva Shikshya Abhiyan (SSA)' was launched in 2001-02. Since then, the SSA has come up with many schemes for inclusive growth of Indian education as a whole, including schemes to foster the growth of female education.

With the onset of globalization, liberalization and privatization (LPG), there are significant changes in the employment scenario in India. With the opening up of the IT sector and its application to all sectors, of economic activities BPO, KPO, proliferation of information due to internet, application of ICT, aviation sector, tourism and hospitality sector, proliferation of media – both electronic as well as print, a remarkable transformation has occurred in the job market which is pro gender. There are a plethora of jobs for women who are skilled or highly skilled. That's why the number of B. Tech, M. Tech. MBA, MCA, Ph.D., Doctors, lawyers, Media Professionals, top executives in MNCs, Bank Officers, Civil servants, Biotechnologists among women has substantially gone up. Educated girls are getting jobs better than boys; reason being, in professional courses and institutions, in general girls are performing better than their boy counter parts. As there is a dramatic shift, from the hard core courses to soft skill oriented jobs in recent times, girls are joining in large number in these sectors which are lucrative due to good money, glamour and exposure these jobs brings them while simultaneously improving their creativity, talent, ability, income and personality.

Over the years, there was a big surge in the number of women applicants at such prestigious institutions, such as IIMs, IITs, Schools of Planning and Architecture (SPAs), Indian Institute of Science, IISER, NISER, NITs, JNU, Delhi University, Indian Institute of Information Technology (IIITs), all the Central Universities- old and new, Institutes of National Importance, ICAR. affiliated bodies, Agriculture Universities, ICMR and its affiliated bodies and Medical Colleges, Deemed Universities, National Law Universities (NLUs), CSIR laboratories, National Institute of Fashion Technology (NIFT), National Institute of Design (NID), Engineering Colleges, Polytechnics, Teachers' Training Colleges, etc. (for B. Ed. & M.Ed. programmes) across the country. The number of female students taking the IIT entrance exam is increasing every year. This increase has been attributed partly to reduction in application fees. These are positive indicators of women's achievements in higher education and professional front. Still they have a long way to go.

In India, in the corporate sector women have secured the top positions like CEO in various companies such as Ms. Kiran Majumdar Shaw in Biocon, Ms. Indra Nooye in Pepsi and many more. In banking sector, Ms. Arundhati Bhattacharya, Ms. Sikha Sarma, Ms. Chanda Kochhar have climbed to the top of the ladder. Similarly in bureaucracy, there are a number of outstanding female civil servants in this country, from a District Magistrate to the level of Cabinet Secretary i.e. late Ms. Sarla Grewal. Indian Police Service, which normally used to be a male dominated profession have also witnessed the head of police organization, i.e. D G level officer, being occupied by women like Ms. Kiran Bedi, late Kanchan Choudhury Bhattacharya etc. In the domain of politics, they are visible from Panchayat to Assembly and Parliament. Our country has also witnessed number of outstanding female Chief Ministers and Governors. It is important to mention here that the 1st lady Prime Minister Smt. Indira Gandhi, 1st lady President of the Republic Smt. Pratibha Singh Debi Patil belong to

this country. In judiciary, there are a number of extraordinary female lawyers and judges, from local courts to Supreme Court of this country. The outstanding contribution of Late Kalpana Chawla, the distinguished space scientist is still fresh in our memory. Similar contribution of Bharat Ratna iconic MS Subhalakshmi, Bharat Ratna, Lata Mangeshkar, Asha Bhonsle, Samsar Begum, Sandhya Roy, Geeta Dutt, Rukamani Devi Anindale, Gangubai Jangal, Suchitra Sen, Washeeda Rehman, Balasaraswati, Nargis Dutt, Nutan, Baijyantimala Bali, Meena Kumari, Mahasweta Devi, Amrita Pritam, Mahadevi Varma, Elaben Bhatt, Godavari Parulekar, to mention only a few which have remained unforgettable in the world of dance, drama, music, fine arts and literature and social work.

Critical Analysis

Of late, female students outnumber male, at some Indian academic institutions and examinations, including professional courses. This may even accelerate further. This may not be a new trend in the West, but it's significant for any developing country like India. The growing presence of women in colleges and universities is a significant achievement in many ways. It is a matter of pride and distinction that more and more are gaining entry into some of the most competitive and prestigious higher-educational institutions, i.e. IITs, NITs, AIIMS, IIM, NIFT etc. on their own development. During the 1980s, women were largely enrolled in the humanities and selected social science programmes. Subsequently they started taking up male-dominated disciplines, such as Engineering, Medicine, Architecture, Agricultural Sciences, Computer Science and IT, Business Management, Pharmaceutical Sciences and now they are not only at par with their male counter parts, but also marching ahead of them. This has really created a process of women empowerment in India at different level.

The Beijing Platform for Action (Sept. 1995) is pertinent in this context. It has identified several areas which constitutes barriers to over all women's empowerment. It includes negative stereotyping, which have kept decision making process and institutions, primarily in the domain of men. Starting from politics to academics, from running business to government the decision making process is dominated by males. The Platform provided an opportunity to create a gender balance in government and administration, integrate women into political parties, recognized the importance of shared work and parental responsibility, promote women's increased participation in public life, promote gender balance within our society, work towards equality between women and men in the private jobs, corporate sector, establish equal access for women to training, increase women's capacity to participate in decision-making, increasing level of leadership roles, in the electoral process and political activities. It has to be remembered that the structural barriers that are unfriendly to women are not usually the result of deliberate policies but the consequence of certain historical incidents, socio-cultural bias, attitudinal problems, and the patriarchal nature of our society.

Conclusion and Recommendation

In any developing society like ours', women are vulnerable because of a number of reasons. Particularly, an uneducated woman from a poor working class community, belonging to a lower caste remains weak and more vulnerable in the ladder of social development and empowerment. However, the rising number of women in higher education is a positive sign of growth and reflection of good human development indicator of this country. The growth in female enrolment reflects the changing values and attitudes related to the role and aspirations of women in our society. Some social scientists relate it to the legacy of social change and women empowerment movements which emerged globally in the 1960s and 1970s. However, we need to recognize the fact that female representation in higher education is not reflected in the labor market. Women are not in equal terms in regard to payment of same wages for same or similar work or work of equal value as also in regard to decision making process in corporate enterprises and business. In spite of having equally good education, degrees, competence, and outlook and over all aptitude. Hence, there is an urgent imperative need to create an environment which will remove male mindsets and create a critical consciousness that women need to be paid same wages for same or similar nature of work or work of equal value and given the educational qualification and quality of human resource, equality in States and equality of opportunities in matters of career advancement. Simultaneously there should be attitudinal changes in the society, apart from family encouragement, reservation of jobs for women by way of governmental intervention and policy implementation. If we concede reservation of 33% in political institutions, starting from Panchayat to Parliament, why not in jobs, including private sectors? There are certain jobs, where women can do much better than their male counter parts, i.e. nursing, office management, school teacher, aviation sector, hospitality sector, hotel and tourism, event management, media - particularly electronic media, due to their skills and endowments, which may not necessarily be found among their male counter parts.

There should be reservation for girl's education at all levels i.e primary, secondary, higher secondary, college, university, technical education, vocational education, which will further promote and encourage their participation. They will be automatically attracted to education and subsequently for higher education. Assurance of jobs after higher and professional education must be given due consideration. This will boost their morale and increase their confidence level. Women's participation at all levels- starting from home to nation building, from village welfare to national politics, from cooking at home to space science and nuclear science and formidable contribution in all these areas are mile stones in the history of our country & the world. Our journey from a milieu when we were observing 'sati pratha' to a situation, when 'a lady became Prime Minister/President of the country on the strength of their own competence', to a situation when we sent 'lady astronaut to space', has been one full of challenges. Women should be promoted, encouraged and supported at all stages of life with all types of incentives. However, women as 'a group' have to come

forward on their own. Wherever and whenever they have demanded autonomy, independence and separate role for themselves, starting from home to nation building process, they have acquired remarkable achievements. The current Indian scenario is an example of this complex process. However, they have to go a long way to achieve parity with the so called western, developed countries.

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Imparting Soft Skills to Police Personnel through Open and Distance Learning in Bihar

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Abstract

Police forces are involved closely with the community in any healthy society. There is, therefore, a need for a strong police-citizen relationship based on mutual respect and trust. There are studies that show that the nature of police work can cause stress and strain and lead to health issues amongst police personnel. There is, therefore, a growing realisation that the components of training for the police personnel must include 'soft skills' so that police personnel are able to deal better with the community and also remain in good physical and mental health. The open and distance learning system is seen as an effective means for reaching out the police force as it is able to provide a flexible system of learning. This policy paper is an attempt to develop a framework for training of police personnel in soft skills through the Bihar Board of Open Schooling and Examination (BBOSE), which is the State Open School of Bihar.

Keywords: soft skills, open and distance learning, open schooling, police stress

Introduction

Open and distance learning (ODL) is accepted as a viable educational system for providing education to diverse social groups. The basic philosophy of open and distance learning is based upon ideas of flexibility and learner – centeredness and this makes it an acceptable system for all those groups who are not able to attain education through a formal mode. In recent times, with the spectacular growth of technology geographical distance has lost its meaning and has ensured that education supported by technology is directly able to reach the learners. The opportunities for greater access have also expanded the scope of open learning; consequently this is being sought out by many hitherto unreached groups.

In this context, police personnel constitute one of the potential groups for effective use of the ODL. India has a very large police force, with every State having its own State police force. Before going into the role of open and distance learning for

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imparting soft skills to police personnel, it is necessary to highlight the role of police in/discharge of functions assigned to it under Cr PC, 1975 read with some of the some of the judgements of the Hon'ble Supreme Court.

In State of Rajasthan Vs Gurucharan Das AIR 1979 SC 1895, Hon'ble Supreme Court has laid down the following roles for the police personnel such as:

- To contribute towards liberty, equality and fraternity in human affairs;
- To help and reconcile freedom with security and to uphold the rule of law;
- To uphold and protect human rights;
- To contribute towards winning faith of people;
- To strengthen the security of persons and property;
- To investigate, detect and activate the prosecution of offences;
- To facilitate movement on highways and curb public disaster;
- To deal with major and minor crisis and help those who are in distress,
- Every policeman is an agent of the Govt. who is required to maintain a proper equilibrium between the public and the govt. and protect one against the other;
- The police are required to be an efficient and impartial law enforcement machinery;
- A policeman is the axis on which the rule of laws rests and rotates it is he who enforces the law, maintains public order, keeps the lawless elements in check, brings the offender to book, and by his constant vigil preserves the coherence and solidarity of the social structure;
- Police has to be accountable to the people as they represent the law and order of the organised society.

Chapter V (sections 41 to 60 A) dealing with arrest of persons, Chapter VI (sections 7D to 81) dealing with warrant of arrest and its execution, Chapter VII (Sections 106 to 124) dealing with security for keeping the peace and for good behaviour, Chapter X (Sections 129 to 132) dealing with unlawful assemblies, Chapter IX (Sections 149 to 153) dealing with preventive action of the police, Chapter XII (Sections 157 to 176) dealing with information to the police and their power to investigate comes are some of the seminal provisions contained in Cr. PC, 1973 (as amended) when deal with the powers of police personnel.

S. 154 C1) Cr PC makes it mandatory for an officer-in-charge of a Police Station to register an FIR, when information is given to him regarding commission of a cognisable offence. S 154C2) Cr PC enjoins him to give a copy of the FIR forthwith and free of cost to the informant.

Increasing crime with a rising population, revolution in cyber technology, growing incidence of terrorism and left-wing extremist violence, religious fanaticism and bigotry have added new dimensions to the role of police.

Growing participation and political interference has resulted in non-performance of duties by the police personnel; this also has caused enormous damage to the image of the police which ensures them to be non-political or a-political and totally impartial in performance of their duties. Functioning of the criminal justice system will be reduced to zero if absolute professional independence of the police in the matter of investigation of crime is not ensured.

The Police Department in every State has its own training outfit. The outfit caters to the training needs in various ranks of police personnel in general and those of the constabulary in particular. The target group for the training programme includes newly recruited constables as also the in-service police personnel. Training is also inducted for pre-promotion courses for the constables. It is seen that the focus of training is generally on "hard skills," which are aimed at enhancing professional understanding and improving performance on the job. The National Crime Record Bureau annual training calendar (2019) gives details of the training programmes to be conducted for police personnel. These include specialised areas such as training in finger print science, technology of law enforcement and data analysis amongst others. Other professional training programmes include programmes in forensic science. There is a lot of emphasis on the use of technology in policing. According to NCRB, Crime and Criminal Tracking Network & System (CCTNS) connects over 12,794 police stations and 6000 higher offices in the country (NCRB, 2019). Hence whether it is tracking cases or in relation to record keeping, technology has come to play a very important role. Training helps a police officer to perform his/her duties to become a better law enforcement functionary; it also imparts the ability to ensure a more efficient criminal justice system.

Why Soft Skills for the Police Force?

There are many studies that have been conducted on issues related to the police force such as nature of work, factors that affect performance, their behaviour and professionalism etc. The relationship between society at large and the police has also been studied. Studies show that in many cases people do not report crime, whenever crimes are reported they are not entertained and FIRs not registered and as a result there is the issue of under-reporting of crime. This tends to happen when the issues involved are sensitive especially in the cases that involve domestic violence and abuse. This raises the basic question as to why people do not report crime. In a household survey study by Durani and Sinha (2018) on safety trends and reporting of crime in 4 cities Delhi, Mumbai, Bengaluru and Chennai, it was found that satisfaction with police response was highest when the victims found an attentive police response. On the other hand, the reasons for lack of reporting arose when the police delayed filing of the FIR, or tried to dissuade the victim from filing a report or when the police did not file the FIR. In a study related to the encounters between police and citizens, Weitzer and Tuch (2005) found that encounters that have a negative impact are remembered for a long time. The manner in which police may differentiate between people also affects the image of police force. In his research

study, Shane (2010) found out that organizational stressors played a role in the performance of police personnel. As per his findings, the performance of police personnel decreases as stress of the force increases. Shane categorized the sources of stress into those that come from “job content’ and those which are a result of “job context.” Therefore, the stress could be from work related issues such as long hours, irregular timings, events of policing that may cause trauma or it could be from issues such as work environment, co-workers etc. Violanti et al, (2017) have done an exhaustive review of research studies in the area of “police stressors and health”. In this study, research work related to police stress and health issues such as sleep disorders, depression, health, neurological disorders, suicides, etc has been reviewed. All these studies related to police force from all over the world show that police personnel undergo a great deal of stress due to the complex nature of their job.

Soft skills through ODL for Police Personnel

It is observed that in today’s environment, the members of the police workforce undergo stress at individual level along with friction with internal and external pressure groups. In addition to this, there is an already challenged public image. According to Banerjee et al, (2014), the Rajasthan police, in collaboration with J-PAL affiliates found that there were many issues such as public image of the police and the dissatisfaction amongst the force itself that was responsible for poor performance of the police. This study showed that two types of training related to investigation and soft skills were responsible “for improving police work and public satisfaction.” According to this study, following these trainings the response within the police station showed that, “victim satisfaction increased by 30 percent, while fear of the police decreased by 17 percent.”

Soft Skill training aims at building up skills of empathy, sensitivity and a complete image makeover. This can happen through a sustained effort towards collective attitudinal and behavioural change in Police personnel at the field level by giving them conflict resolution skills, leading to improved public image and credibility.

A Soft Skills programme also addresses professional attitude development for better teamwork better understanding of stressful work situation and other daily challenges that lead to emotional vulnerability resulting in disruptive individual and social behaviour.

Strong Soft Skill or ‘People Skills’ along with the occupational skill of the Police force, will increase the force’s capability to project themselves as a people friendly and citizen centric organization.

The training of a large force is a herculean task. The 24x7 nature of police duties requires that police personnel may be required for an impromptu deployment. There is acute infrastructure deficiency both at the Directorate level as well as at the training centers. The planned training schedules get hindered due to deployment of trainees in law and order duties as also the acute paucity of instructors for indoor

classes. This is why there is an urgent and imperative need for a training programme that can be flexible and yet at the same time follow an interactive personalised learning style. The use of technology would also help in the learning process.

The case of soft skills training for Bihar Police

Bihar Police is one of the largest State Police Forces of India. The Bihar Police serves 9 Divisions covering 38 districts of the State and bordering three States of West Bengal, Uttar Pradesh and Jharkhand. It also covers the neighbouring international boundary of Nepal. The Bihar Police is responsible for 101 Sub-divisions, 8471 panchayats, 45,103 revenue villages, 130 towns and 09 urban agglomerations. This large territory is covered through 853 police stations that include 813 civil police stations and 40 railway police stations. Bihar has 43 Police districts with 39 civil police districts and 04 railway police districts (Census 2001)

The Bihar Police has a long and chequered history which goes back to 1862(modern times). However, with changes in the social and economic fabric of the state, this fifty thousand plus strong workforce faces today many challenges in performance of its duties. With emergence of high rate of crimes and cognizable offences which include theft, robbery, dacoity amongst others, there has been erosion in its credibility. In addition, the hostile work environment with poor public image, the police face many difficulties in its day to day working. These challenges are partly the cause and effect for each other due to working within existing constitutional parameters and responsibilities embedded in an archaic colonial law governing Police structure which on the one hand restricts the force's capability to emerge as a proactive, responsive and professional modern day law enforcement authority, and on the other, results in low morale and low efficiency and thus an unsatisfactory public image.

About Bihar Board of Open Schooling & Examination (BBOSE)

The Bihar Board of Open Schooling & Examination (BBOSE) was established in 2011 as an autonomous Organisation of Education Department, Government of Bihar. BBOSE is an open learning institution which caters to general education as well as skills development. BBOSE has been authorized to conduct school level examination as well as certification. Its certificates have equivalence with the certificates issued by other formal School Examination Boards like C.B.S.E./I.C.S.E. and other Secondary Boards of the country. BBOSE has been successfully running skill development programmes. Its Hunar programme is recognised as one that is able to cater to the skilling needs of the minorities. In addition to these programmes, the BBOSE is the appropriate agency for conducting programmes for other sections who cannot attend regular daily training programmes.

In view of its special characteristics and domain competence in the area of open learning, Bihar Board of Open Schooling & Examination (BBOSE) will be the most

suitable agency to address the needs for Soft Skill training at field level of Bihar Police. Such a training programme that covers all categories of Police Personnel i.e from Constable to Inspectors will lead to better behavioural and emotional management for balanced life and work situation, professional growth, improved inter-personal communication, finally resulting in improved public image of the Police Force. A well designed programme will be able to deliver cutting edge soft skills to the entire 50,000 plus workforce in Bihar Police in a phased manner, without disrupting daily law enforcement activities at the Police Station level.

The Vision of this programme

The vision of this policy is centers round the overall development of the Police force and creation of a healthy and efficient work force. It is envisaged that stronger soft skills through a training mechanism would lead to improvements in the thinking and working of the Police force, develop good inter-personal communication skills and co-operative behaviour. It would sensitize the police force, create greater gender awareness, respect for human dignity and decency and lead to effective leadership at all levels. It would lead to designing pathways for more effective communication within the organization, promoting transparency, and free flow of information leading to confidence building both vertically and horizontally. Finally this effort would raise awareness in public leaders to invest in development of Soft Skill at all levels to meet the goal of a harmonious law abiding society .

Focus Areas

The focus areas of this policy revolve round providing Soft Skills training in the basic police training at the PTC level and at the Police Academies. It also visualises a community based leadership programme to provide opportunities for Police personnel to understand, develop empathy with others in a working situation and also to develop communication skills to articulate clearly and convincingly in all fora. Finally such training would lead to greater Police – Public interaction for mutual understanding and role appreciation.

Relevance of Soft Skills

Soft Skills relate to a person's (EQ) Emotional Intelligence. They are personal and social skills that add value to the occupational (hard) skills that a person needs for a particular task. Soft skills include personal attributes that enhance an individual's interactive ability, job performance and career prospects. Unlike hard skills, which are about a person's skill set and ability to perform a certain type of task or activity, soft skills are interpersonal.

People Skills help organizations in presenting themselves as representing the more sensitive work environment. Soft skills are important in all jobs but they are

even more important in matters like legal affairs, citizen centric services, hospitals, law enforcement, as well as marketing, IT.

Soft Skills in this training programme for police personnel would include

- Communication
- Negotiation
- language skills
- social graces
- friendliness
- conflict resolution
- Personal effectiveness,
- Creative problem solving
- Team building
- Influencing skills
- Positivity

Emotional Intelligence is defined as the ability, capacity, skill or, a self-perceived ability, to identify, assess and manage the emotions of one's self, of others and of groups. (Bradberry, Travis and Greaves, Jean). (2009). It is understood in terms of emotional empathy, attention to, and discrimination of, one's emotions, accurate recognition of one's own and others' moods, mood management or control over emotions, response with appropriate (adaptive) emotion and behaviour in various contingencies...(www.psychologicalconsult.com/resources/glossary.html). EI is thus the awareness of and ability to manage one's emotions in a healthy and productive manner.

Importance of EI

In today's stressful world, all persons are at the risk of being emotionally vulnerable. Problems affecting youth are caused by social and emotional risk factors-relationship between low EI and disruptive behaviour. In the past, emotions were a private aspect of one's personality but now there is a realization of the need to address the issues of social and emotional aspects. Economic well being does not necessarily lead to emotional well being. Wealth of the society does not necessarily guarantee citizen satisfaction and happiness. This is applicable to all sections of society. This is why knowledge and understanding of **Emotional Intelligence** is even more necessary for police personnel who have to deal with all sections of the society-happy & unhappy, contented & discontented, stable and volatile

Emotional Intelligence Skills include

- Self-awareness - ability to recognise feelings and awareness of the relationship between thoughts, feelings and actions.
- Managing emotions – understanding emotions and dealing with negative thinking - channelising negative emotions towards positive thinking

- Empathy – understanding the emotions of others and putting them into perspective ‘Do unto others as you would like to do un to yourself’ is the essence of empathy’
- Communicating – expressing feeling and communicating them to others
- Co-operation – building teams and sharing responsibilities – working together
- Resolving conflicts – understanding emotions and their interplay

Soft Skills/ EI and its Relevance for Policing

These skills are directly linked to personal success, interpersonal relationships, personal and social adjustment.

Law enforcement involves a state of interaction with general public, peers, anti-social elements and disadvantaged groups where police personnel must be able to manage their emotions as well as understand the emotion of others.(EI and interpersonal relationships). Persons with better soft skills /higher EI are less prone to depression and stress while being able to adjust better to work situations and cope with problem solving, (EI and Psychological well being).

The ability to deal with negative stress and recover from mishaps plays a decisive role in mental health of the individual, which affects the performance of a learner (EI and work performance). Persons with low EI exhibit low interpersonal and social skills, reflect undesirable behaviour as ‘crutches’, and are unable to cope with a stable performance (EI and disruptive behaviour)

Soft skills training is essential for law enforcing persons for many reasons

Police personnel are a part of the Society/community which is a dynamic area and a melting pot of emotions. Police personnel are also exposed to many external forces that act upon them and have the potential to disturb his/her equilibrium.

Police personnel have to be taught to manage their emotions and convert negative emotions into positive ones.

The training of Police persons in Soft Skills/ EI will help them to manage their interpersonal skills especially related to dealing with general public. Such training would help them to improve their work performance.

Strategies for Developing Soft Skills

There are many strategies for developing Soft Skills. Some of these include:

- Provision for including soft skills in training programmes
- Developing leadership programmes /Community based programmes that provide opportunity for children/learners to develop and express

- themselves and develop high EI
- Police-Public interaction programmes for understanding the environment in which police persons work and its effect on their emotions
- Identification of counsellors who would be accessible to assist and guide police persons
- Creation of an online support system(learner call centre) for 24x7 support for learners with Interactive Voice Response System(IVRS) and human counselling support

If a police person is able to cope with his/her workplace challenges, then the workplace can be a stress free and joyous experience where challenges may appear with a regular frequency but they can also be overcome simultaneously. In addition, factors which contribute to employee fears related to performance, ego hassles, stress and management of domestic and professional responsibilities can also be reduced with such training.

Strategies for building EI at workplace

Some of the strategies that may be adopted:

- Need for training at different levels – preparing both managers and workers to deal with contentious issues
- Need for good interpersonal relations, cooperative behaviour, effective leadership, gender awareness
- Designing pathways for effective communication within the organisation that allows transparency and free flow of information leading to confidence building amongst employees
- Raising awareness of core workplace leaders to invest in emotional intelligence and equipping them with soft skills
- Encouraging creativity and innovation in workplace that allows space for personal satisfaction of employees and ultimately leads to greater professional success
- **Raising awareness** of core leadership skills for creating and sustaining a high performance culture and achieving extraordinary results.

Implementation Strategy: Practical Challenges:

It is a fact that in-service training/refresher course at regular intervals with ideal frequency for the police force is next to impossible as it is difficult to release the rank and file of the force for a classroom training. Since the total workforce is approx. 50,000 plus who are spread over the 38 Districts of Bihar, any such effort for classroom training be both time consuming and logistically unmanageable. Not only would the cost of formal classroom training be very high but it would be very difficult to maintain the momentum of the training.

In addition, it is necessary that the agency involved in undertaking this training has complete knowledge not only about soft skills but also about the educational and social background of the target group ie police personnel of Bihar. The content also has to be developed considering local ground level realities.

The BBOSE Solution

BBOSE is the ideal agency for implementing this training programme as it is the nodal agency for many such programmes for the state of Bihar. As an open learning agency, BBOSE has developed expertise in conducting programmes in all 38 districts of Bihar using both face to face as well as distance learning methodology. Further BBOSE is well versed with the culture and language of the State. BBOSE has expertise to work in Hindi and other regional languages of Bihar for Soft Skill Training.

In this training programme, BBOSE would use a technology based, open and distance learning framework to impart training to large number of Police personnel simultaneously without dislocating them. This can be done before/after working hours/ on holidays/break days at the police station level.

Printed material in intelligible local language, use of audio/video materials and intensive Personal Contact Program (PCP) three times a month would be used extensively. Usage of Tutor Marked Assignment (TMA), practical demonstration, role play, interview and public speaking will also form a part of the training.

Community involvement and utilization of top Police Officers and at the mid-level Police personnel as Master Trainers will ensure real time customization of the training packages and to deliver effective contact lectures.

Local Police Stations will serve as study centres for BBOSE. All enrolment, admit card issuance, study material distribution and in some cases Personal Contact Programme (PCP) will happen at the PS level.

The following steps would be taken to make this programme operational:

Step-1: Identification of defined Target Group – All constables/havildars/ASI/ SI/ Inspectors to be included in the training. Approx 50% (25,000) to be included to start with, so that PS level activities do not get affected.

Step-2: Identification of defined Study Centres- All Police Stations of Bihar to be notified as “Study Centres” of BBOSE and the following activities would be covered from PS level Study Centre:

- Participant registration
- Admit card distribution
- Study Material distribution in printed and audio-video format.
- Venue for PCP (If CI/SDPO's office is far away)

- Examination centre.

STEP-3: Content development for the target group- Collaborative approach-BBOSE and specialist partner to hold joint workshop with field level Police Personnel/ PHD Officers to convert the generic Soft Skill course into a tailor made Soft Skill course for Bihar Police Force.

STEP-4: Additional resource support - Collaborating partners of BBOSE would be involved to draw upon the best practices/experiences of imparting soft skill training to Police Force in other States and if possible in other countries.

STEP-5: Enhanced training - exchange programmes, field visits, guest lectures and seminars, inviting other stake holders and experts for lectures would be held.

STEP-6: PCP schedules - SDPO office would act as the venue for holding of Personal Contact Classes and practical demonstration. To ensure both attendance and quality at least 3 classes should be held in a month. In case of locational problems, PCP can also be held at Police Station level.

STEP-7: Conduct of Examinations - Holding of public examination at the end of the programme at a venue not below sub-divisional level- with active involvement of supervisory Police Officers and district education officials- third party supervision- graded certificates to be given after written and practical exams- good performers to be identified as master trainers/mentors to be used in phase II and for re-fresher courses.

Monitoring and Quality Issues

The SDPO's / CI's would be closely involved to ensure that PCP is held on time as it will be held in their office premises or premises arranged by them under their active supervision and control.

District Superintendent Police would exercise power of supervision and monitoring on the orders of PHQ.

SHOs of local Police Stations would be identified as in-charge of Police Station-BBOSE "study centers" of Bihar State. They would be paid honorarium, if required.

It can be later scaled up to involve Police Stations in other related socio-educational activities in their area. Such efforts would bring the police into a closer positive relationship with the local community and it would help to improve the police public face profile. This can be done first on a pilot basis.

Third party inspection and random, periodic inspections by joint teams of PHQ / BBOSE and local district level functionaries of HRD department would help to ensure quality.

It would also lead to better motivation if high performing candidates from phase-I of the training are identified and trained as master trainers for 2nd and subsequent phases.

Cost Implications

- Some of the **costing heads** may be as follows:
- Cost of content development
- Development of Course Curriculum – according to the specific requirement of Bihar Police – within puts from field officers & PHQ.
- Conduct of workshops.
- Study material printing – audio-video material development, printing of cards and distribution of Study materials to Police Station.
- Approved honorarium to be paid to volunteers from Police Force, other stake holders for supporting material development, supervision and acting as resource persons.
- Empanelment of key resource persons, master trainers, trainers and field level instructors for holding PCP & their cost.
- Exchange programmes, field visits, sharing of best practices through the partnering agencies of BBOSE.
- Tutor Market Assignments, their evaluation, feedback & analysis for periodic assessment of progress of the trainees.

THE WAY AHEAD

This innovative programme would be path breaking and would be very useful for the State of Bihar. The experience and learning lessons in Phase – I would help in designing and implementing the subsequent phases by documenting each phase by BBOSE and BPF. Such a programme could also be included as a training package in PTC training and training in Bihar Police Academy.

BBOSE would be able to design and develop special in-service courses and packages based upon current trends/problems faced by Police Force in Bihar. It would pave the way for more training courses such as for IT, English speaking, life skills courses, etc. BBOSE could also further take up such type of trainings with Armed Police and other specialized wings of Bihar Police Force like CID, Special Branch etc.

The imparting of Soft Skills to Bihar Police through Bihar Board of Open Schooling & Examination (BBOSE) would be beneficial to Police as also to all the citizens of Bihar. It would also pave the way for Open Schools across India to take up such soft skills training programmes for police personnel in their respective States and ultimately lead to promoting a healthy and harmonious society.

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