AN ECONOMETRIC ANALYSIS OF PRIMARY EDUCATION AND HUMAN DEVELOPMENT OF AHMEDABAD DISRICT

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Abstract: [1]

Education is the foremost key factor for human development. It almost comforts to receive social change at rural to urban level. Gujarat is trying to achieve significant level in primary education. In this study we try to focus how primary education forcing to human development. Here we seized primary educational and human development indicators (total 19 indicators). An empirical exploration completed by correspondence analysis for receiving result. The paper explores 11 Taluka levels of primary education and human development scenario. The empirical result presents, in an existing position primary education impulses human development in Ahmedabad district.

Key Words: Existing Primary education and human development status, Correspondence analysis of all 19 indicators for 11 Taluka of Ahmedabad district. .

JEL Classification: I2, I21, O1

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[1] Present study is a part of ongoing PhD work, PhD topic is ""Empirical Analysis of Gender Inequalities and Human Development in Ahmedabad District" Ms. P Vyas doing PhD from Gujarat University.

INTRODUCTION:

Human Development and Education emphases on development during the course of the life span, from infancy through adulthood. It is well said that education is to be linked with socio-economic needs of the society. The aim of education is not to make human robot or to supply skilled manpower to the global market. In its place, education must become an effective instrument of economic development and social change. Education is a right, Article 26 of the 1948 Universal Declaration of Human Rights states that "everyone has the right to education". Education is not only a right but a pillar of human development. It opens accesses and increases opportunities and freedoms. It contributes to development peace, democracy and economic growth as well as nurturing health and reducing poverty. The final aim of Education for All (EFA) is sustainable development. Education donates meaningfully to the establishment of the socio-economic fundamentals for democracy: economic development, improved health and societal wellbeing. Consequently, investment in education can extremely impact democracy and the development of civil society. The link between education and better human development indicators has been proved extensively by a number of studies. It also upsurges access to social and economic opportunity, participation in political processes and promotes democratic practices of multiculturalism and pluralism — all vital ingredients in promoting human development.

LITERATURE REVIEW:

Many researchers has focused this issues and related problems, herewith we found some strong research on primary education and human development. Eric A. Hanushek & ludger Wobmann (2007) in their book entitled by "Education quality and Economic Growth" showed that indeed the quality of education, rather than mere access to education, is what impacts economic growth and the aim of this book was to contribute to the World Bank's education agenda by communicating research findings on the impact of education quality on economic growth. Patrions. Harry Anthony, Felipe Barrera- Osorio Juliana Guaqueta, (2009) under their book entitled by "The Role and impact of public-private partnerships in education" presented the results of the first phase of a multi-year programme to examine the role of public-private partnership in education. It focused on contracting models at the primary and secondary education levels. It reviewed the conceptual underpinnings for why such partnership might contribute to country's education goals, reviewed empirical evidence, and offered some

guideline for operations. A Report, (2002) - "Human Resource and Skill Requirements in the Education and Skill Development Services Sector" prepared by *ICRA Management Consulting Services Limited (IMacs),* concluded that there is an incremental requirement for about 5.8 million teachers and trainers till 2022. A portion of this requirement would be driven by industry demand – as in the case of Vocational Training. Also, there would be an increasing requirement for Higher Education as demonstrated by increase in enrolment rates into Higher Education. However, despite these initiatives, India would continue to witness significant drop-out rates between Class I-X and Class I-XII, given that the current drop-out rate between Class I-X is as high as 60%. Though this might decline to 45%-50% by 2022, it would continue to remain a challenge. Karmakar Nirbachita, (2006) in her article on "education correlates human development: Bangladesh perspective" examined the status of education in a developing country, like Bangladesh and showed how education correlates with human development. This study exclusively focused on the fact that, Bangladesh, although being in the lower strata of human development, has improved substantially in the field of education.

OBJECTIVES:

1. To explore primary education and human development of Ahmedabad district.
2. Analysis of primary education and HD at Taluka level (11 Taluka study)
3. To measure empirically education and HD by chi-square, T-test and P-value

METHODOLOGY:

Data will be collected from the necessary sources and the same shall be classified as per the requirements of the study. Statistics of both components collected from the Education Department, District offices (Ahmedabad district Panchayats) and DISE (district Information System for Education), especially of the year 2012-'13 of Ahmedabad District. The whole of the observations and interpretation and analysis is based on above-mentioned years. The present study is based on primary education and human development of Ahmedabad district. To get the empirical result we attained Correspondence analysis (CA) for chi-square and T-test and P-value value of all the variables. Inertia obtained by dividing total chi-square by N. For empirical

approach of the study, the collected information and required data will be tabulated according to the requirement of the research work.

Result and Discussion:

Chi-square independence test:	
Chi-square (observed value)	38.298
Chi-square (critical value)	182.865
DF	153
One-tailed p-value	1.000
Alpha	0.05

Eigenvalues and variance percentages:									
	F1	F2	F3	F4	F5	F6	F7	F8	F9
Eigenvalue	0.209	0.068	0.050	0.025	0.016	0.013	0.011	0.005	0.002
% variance	52.436	17.057	12.453	6.238	3.957	3.336	2.770	1.342	0.411
Cumulative %	52.436	69.493	81.946	88.184	92.141	95.477	98.247	99.589	100.000

	F10	F11	F12	F13	F14	F15	F16	F17
Eigenvalue	0.103	0.043	0.021	0.016	0.010	0.003	0.001	0.000
% variance	52.209	22.053	10.660	7.989	4.858	1.360	0.666	0.205
Cumulative %	52.209	74.262	84.922	92.911	97.769	99.129	99.795	100.000

	F18	F19
Eigenvalue	0.124	0.035
% variance	68.752	19.582
Cumulative %	68.752	88.334

Weights, distances from the origin and inertia of the points-rows:

| Talukas	Weight	Distance d	d²	Inertia	Normed inertia
Mandal	0.103	0.560	0.313	0.032	0.086
Detroj-Rampura	0.095	0.353	0.125	0.012	0.032
Viramgam	0.093	0.437	0.191	0.018	0.048
Sanand	0.096	1.171	1.370	0.132	0.355
City	0.092	0.398	0.159	0.015	0.039
Dascroi	0.097	0.432	0.187	0.018	0.048
Dholka	0.063	0.686	0.471	0.030	0.080
Barvala	0.089	0.524	0.274	0.024	0.066
Ranpur	0.084	0.689	0.475	0.040	0.107
Bavla	0.087	0.521	0.271	0.023	0.063
Dhandhuka	0.102	0.523	0.273	0.028	0.075

Weights, distances from the origin and inertia of the points-columns:

variable	Weight	Distance d	d²	Inertia	Normed inertia
GER	0.055	0.525	0.275	0.015	0.042
NER	0.082	0.125	0.016	0.001	0.004
GPI	0.031	0.928	0.860	0.027	0.074
DROPOUT	0.072	0.391	0.153	0.011	0.030
REPETITION RATE (PRIMARY GRADES 1-5)	0.017	1.677	2.813	0.047	0.130
REPETITION RATE (PRIMARY GRADES 1-5)	0.029	1.292	1.668	0.048	0.132
PERCENTAGE OF GOVT PRIMARY SCHOOL WITH PTR > 30	0.042	0.628	0.394	0.017	0.046
PERCENTAGE OF GOVT PRIMARY WITH UPPER PRIMARY SCHOOLS WITH PTR > 30	0.018	1.442	2.079	0.037	0.101
TOTAL NO. OF ENROLMENT IN SCHOOLS HAVING	0.049	0.738	0.544	0.027	0.073

SCR > = 60 (CLASSES 1-8)					
Percentage of school without boy's toilet	0.064	0.430	0.185	0.012	0.033
Percentage of schools having water facility	0.073	0.476	0.227	0.016	0.045
percentage of school having building facility	0.063	0.480	0.231	0.015	0.040
Percentage of schools having girls toilet	0.064	0.437	0.191	0.012	0.034
percentage of schools having electricity	0.057	0.486	0.237	0.014	0.037
percentage of schools having playground facility	0.048	0.660	0.435	0.021	0.058
percentage of schools having medical check-up facility	0.061	0.445	0.198	0.012	0.033
percentage of schools having computer	0.061	0.440	0.194	0.012	0.033
percentage of school having library	0.069	0.391	0.153	0.011	0.029
percentage of schools having kitchen shed	0.044	0.476	0.227	0.010	0.027

Variable	Observations	Mean	Std. deviation	t	DF	P
GER	11	.6561	.35336	6.158	10	.000
NER	11	.5610	.30092	6.183	10	.000
GPI	11	.8427	.03524	79.315	10	.000
DROPOUT	11	.3359	.35913	3.102	10	.011

RETENTION RATE (PRIMARY GRADES 1-5)	11	.6549	.35636	6.095	10	.000
REPETITION RATE (PRIMARY GRADES 1-5)	11	.1209	.29549	1.357	10	.205
PERCENTAGE OF GOVT PRIMARY SCHOOL WITH PTR > 30	11	.2511	.40017	2.081	10	.064
PERCENTAGE OF GOVT PRIMARY WITH UPPER PRIMARY SCHOOLS WITH PTR > 30	11	.3884	.25648	5.023	10	.001
TOTAL NO. OF ENROLMENT IN SCHOOLS HAVING SCR >= 60 (CLASSES 1-8)	11	.1610	.28952	1.844	10	.095
Percentage of school without boy's toilet	11	.5208	.35387	4.881	10	.001
Percentage of schools having water facility	11	.7228	.30801	7.783	10	.000
percentage of school having building facility (x3)	11	.8282	.30690	8.950	10	.000
Percentage of schools having girls toilet	11	.6438	.36150	5.907	10	.000
percentage of schools having electricity	11	.6975	.29646	7.803	10	.000
percentage of schools having playground facility	11	.5096	.35480	4.763	10	.001
percentage of schools having medical check-up facility	11	.4769	.36108	4.381	10	.001
percentage of schools having computer	11	.6065	.29048	6.925	10	.000
percentage of school having library	11	.6142	.30175	6.751	10	.000
percentage of schools having kitchen shed		.6927	.27341	8.403	10	.000

Symmetric Plot (axes F1 and F2: 77.86 %)
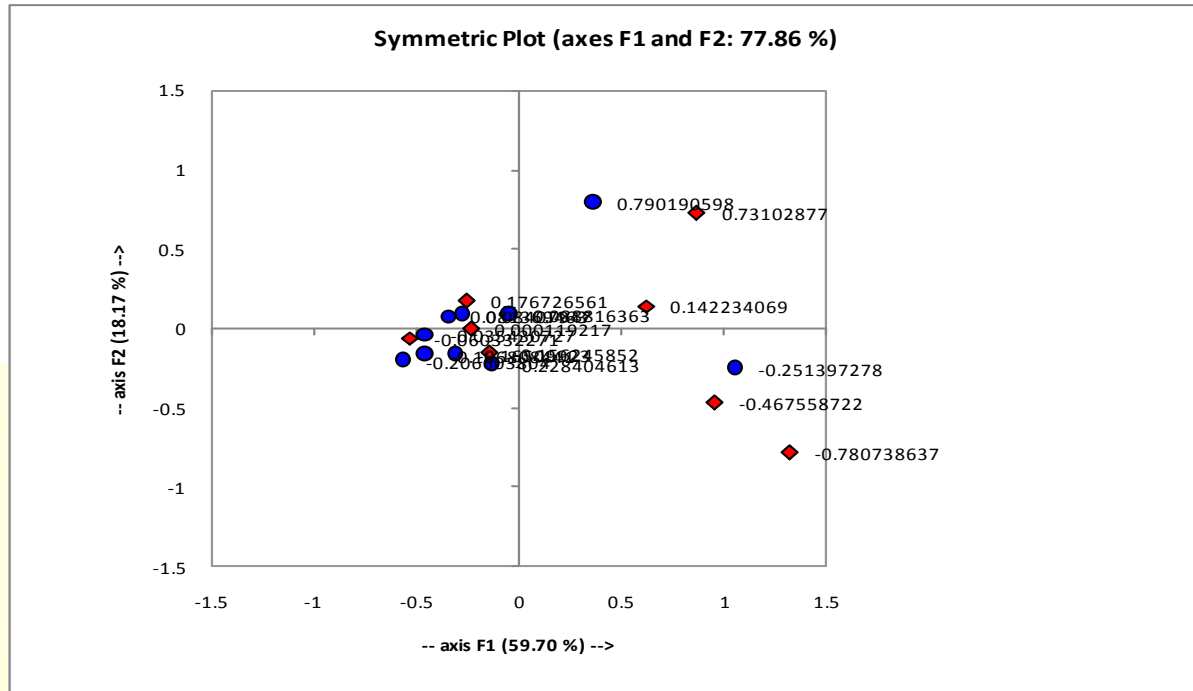
RESULT AND DISCUSSION:

Chi- square Analysis:

H0: The rows and the columns of the table are independent.

Ha: There is a link between the rows and the columns of the table.

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0, and accept the alternative hypothesis Ha.

The risk to reject the null hypothesis H0 while it is true is lower than 0.01%.

A Chi-square test is computed to test if the rows and columns are independent. As the p-value is lower than the significance level (0.05). The quality of the analysis can be evaluated by consulting the table of the Eigenvalues or the corresponding screen plot. If the sum of the two (or a few) first Eigenvalues is close to the total represented, then the quality of the analysis is very high. The first two Eigenvalues sum is close to the total represented because first two Eigenvalues are high that is (0.209, 0.103) The correspondence analysis in this example is of good quality as the sum of the first two Eigenvalues adds up to 77.86% of the total. The most interesting result in Correspondence analysis is the map of the categories including both rows and columns. If the quality of the analysis is good (77.86% as in this example), the map can be

used to interpret the data. Correspondence analysis is a very effective technique for analysing 2-way tables.

When more than two categorical variables are used in a survey, the best technique to use is Multiple Correspondence analysis (MCA). That means above study is significant and primary education is insisting to the human development in Ahmedabad district.

INERTIA values define:

The Quality of a point represents the proportion of the contribution of that point to the overall inertia (Chi-square) that can be accounted for by the chosen number of dimensions. Note that a particular solution may represent a point very well (high Quality), but the same point may not contribute much to the overall inertia (e.g., a row point with a pattern of relative frequencies across the columns that is similar to the average pattern across all rows). Relative inertia for each dimension. This column contains the relative contribution of the respective (row) point to the inertia "accounted for" by the respective dimension. Thus, this value will be reported for each (row or column) point, for each dimension.

T-test analysis:

The independent-samples t-test (or independent t-test, for short) compares the means between two unrelated groups on the same continuous, dependent variable. The Hypothesized mean is the difference between the two means are comparing. P-values for 1 indicate what the alpha level actually calculated from the t-stat in number. Its depending on what alpha level is set it is 0.05. That p-values less than 0.05 that is <0.0001 in GER and in all other variables contenting same p value. The test is called one-sided to the right.

The hypothesis H0 is rejected the calculated value of a statistic, Here in all variables Ho is rejected and accepted alternative hypothesis Ha. Here 95% confidence interval on the mean is same for t test so their value and degrees of freedom is also same.

Conclusion of Analysis: Here the screen plot area is up to 77.86% and in t-test all variable containing < 0.0001 and null hypothesis H0 is rejected and Ha is accepted, the calculated value of statistics. It means all rows& columns are independent from each other. And primary education is somehow assertive to human development in Ahmedabad district.

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