International Journal of Recent Technology and Engineering (IJRTE)
ISSN: 2277-3878, Volume-8 Issue-3, September 2019

An Insightful Foray into Odisha's Education Sector

Nikita Ahya, Achyuta Samanta, Satya Narayan Misra

Abstract: ***Gross Enrollment Ratio (GER) has witnessed a significant improvement in primary education in Odisha; thanks to the Right to Education (RTE) Act and Sarva Shiksha Abhiyan (SSA) initiative. While Odisha lags behind the better performing states like Kerala, Tamil Nadu& Maharashtra in terms of infrastructure and enrolment, the overall quality remains dismal as per the independent survey of Annual Status of Education Reports (ASER). The paper brings out how an extremely alienated section of the society receives the tender care of inclusive education and empowerment in a centre called Kalinga Institute of Social Sciences (KISS) in Odisha, which can form a templates for emulate, all over the country. The paper laments the tendency to outsource, basic education, which is a merit good, to the private sector, which can at best cater to the needy of the affluent few. There is a need to significantly bolster public allocation to primary education, invest it with the highest priority for capability development in future to improve India's HDI. The quest for high growth rates, must give way to inclusive growth, which puts a premium on public investment quality teaching through suitable training, pedagogical training, IT familiarity of the teachers.***

Index Terms: GER; RTE; SSA; ASER; HDI; KISS.

I. INTRODUCTION

There had been no strategic framework for education in India, though the education a National Policy on Education [1] was enunciated in 1986, which tried to promote access and dissemination of knowledge in science and technology across the country as a national policy. Post economic liberalisation the government had appointed three committees viz. one under Ambani-Birla (2000) [2], Knowledge Commission, Sam Pitroda (2009) [3] and a committee under Narayan Murthy (2012) [4] to look into the possibility of India's education sector meeting global standards and be in sync with globalisation which is waffling through sectors like infrastructure, automotives, biotechnology, telecom etc. All this committees were essentially for pro market reforms, where the driver of establishing education institution and meeting industry and global expectations would be the private sector. The thrust was to have public private partnership, encourage Foreign Direct Investment (FDI) inflow without conditionalities, establishing world class institutions and most importantly takeaway the control of University Grants Commission (UGC) [5] and supplant it with an independent asphyxiations regulatory authority on the lines Telecom Regulatory Authority of India (TRAI) in the telecom sector. RTE Act, 2009 [6] has been a watershed change, when right to primary education (age of 6-14 years) has been made a fundamental right.

This paper is about elementary education where the fundamental responsibility devolves on the government. Primary education is a merit good (Richard Musgrave) where the outcomes on investment is more beneficial to the society at large than to the individual. It is similar to investments in basic health care and sanitation which have a salutary effect on the society as a whole; than to an individual.

This paper tries to analyze

1. Tripod of equity, access and excellence
2. Trends of literacy rates and other trends of education in Odisha
3. Find out transition rates and inter-district comparison
4. Educational performance and outcomes: Inter-State comparison
5. Educational empowerment of tribal students at kiss
6. The way forward

II. TRIPOD OF EQUITY, ACCESS AND EXCELLENCE

The 12th Plan for the first time evolved a strategic framework where the three tripods viz. Expansion, Equity and Excellence were set out. It also brought out the expected outcomes, modality of financing and the governance structure. Figure below captures these parameters eloquently.

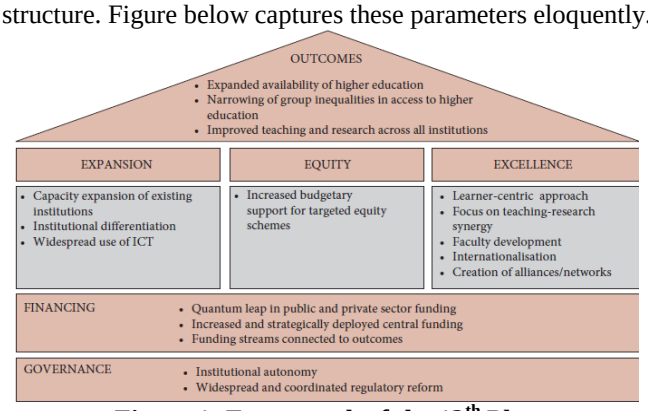

Figure 1: Framework of the 12th Plan

Source: 12th Five Year Plan 2012-2017, Social Sectors Volume-III, Planning Commission, GOI [7]

Manuscript published on 30 September 2019
* Correspondence Author
Ms. Nikita Ahya*, Research Scholar, School of Management, Kalinga Institute of Industrial Technology, Deemed to be University, Bhubaneswar, Odisha, India.
Dr. Achyuta Samanta, Founder, KIIT & KISS, Deemed to be University, Bhubaneswar, Odisha, India.
Dr. Satya Narayan Misra, Dean, School of Management, Kalinga Institute of Industrial Technology, Deemed to be University, Bhubaneswar, Odisha, India.

It would be seen from the above that the outcomes include expanded availability, narrowing down of group inequalities in access and improved teaching and research across all institutions. The 12th plan also envisaged institutional autonomy and coordinated regulatory reform. The Planning Commission envisaged significant increase in public and private sector funding, strategic central funding and funding connected to learning outcomes.

III. TRENDS OF LITERACY RATES AND OTHER TRENDS OF EDUCATION IN ODISHA

The State of Odisha, formed in 1936, occupies 9th position in India in terms of area (1.55 lakh kilometres) and 11th position in terms of population (41.9 million) (Census of India 2011). The average rate of growth of Gross State Domestic Product (GSDP) during (1950-1981) in constant terms was around 2.77%, while the Net State Domestic Product (NSDP) was around 1.11%. Odisha compared unfavourably with India during this comparable period, when the GSDP grew at3.64% and 1.3% in terms of NSDP. However, Odisha has witnessed significant improvement since 2001-02 as would be seen from the real growth rate of Odisha compared to the real growth rate of all India GDP. It is generally believed that the long term upward shift in growth in Odisha has happened around 2003-04.

3.1. Literacy Rates in Odisha

The literacy rate of all communities shows significant increase from 33.6% (1991) to 73% (2011) (Indian Census). It has also seen significant improvement in literacy levels of tribals (constitute 22.1%) of the population to move up from about 14% to 52%. However, the female literacy amongst the tribal students still shows a very low achievement level. The Figure below would bring out the details.

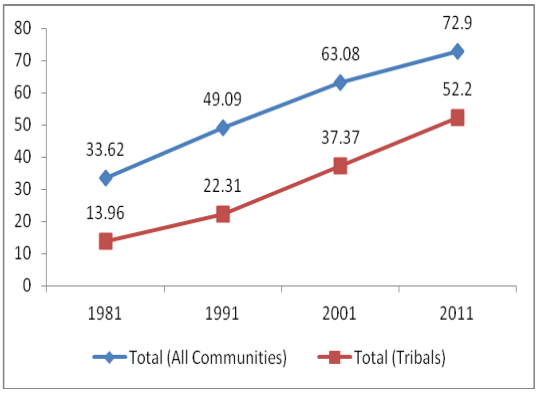

Figure 2: Literacy Rate Trends in Odisha

Source: Census 2011

It would be seen from the above that, while the literacy levels in tribals has significantly increased, they still lag considerably behind the general category. Also female literacy remains an area of concern for the female tribals.

3.2. Gross Enrolment Ratio

Both at the elementary, upper primary and primary levels, the gross enrolment ratios since 2012-13 show very encouraging trends. Figure below explain the details.

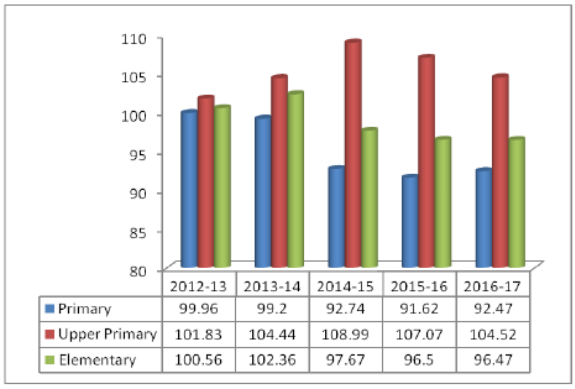

Figure 3: Gross Enrolment Ratio

Source: Status of Elementary Education in Odisha 2016-17 Report [8]

3.3. Pupil Teacher Ratio

The following diagram will show that Odisha has achieved the Pupil Teacher Ratio 30:1 over the last five years across different tiers of education. The figure below would reveal the details.

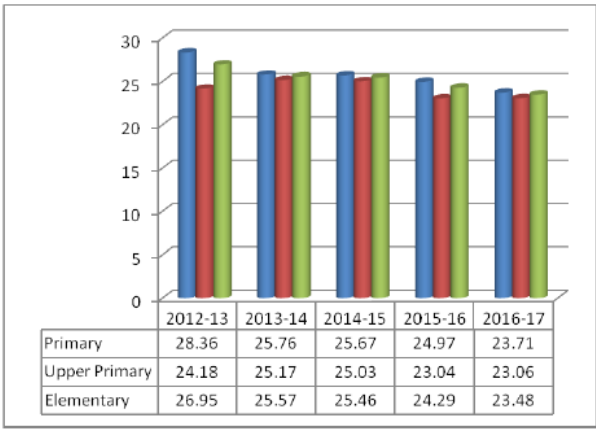

Figure 4: Pupil Teacher Ratio

Source: Status of Elementary Education in Odisha 2016-17 Report

3.4. Gender Parity Index

The Gender Parity Index (GPI), i.e. ratio of boys and girls shows consistent rise both for all the communities and scheduled tribe. Table below would reveal the details.

Table 1: Primary Enrolment and Gender Parity Index

Years	All Communities			Scheduled Tribes		
	Boys	Girls	GPI	Boys	Girls	GPI
2002-03	52.5	47.4	0.90	54.6	65.4	0.83
2008-09	51.3	48.6	0.95	51.1	48.8	0.95
2011-12	51.5	48.4	0.94	51.3	48.6	095

Source: Odisha Primary Education Programme Authority (OPEPA), Report 2011 [9]

This clearly reflects that gender discrimination is on the decrease and the objective of equity between sexes is being broadly achieved.

3.5. Annual Average Dropouts

The annual average dropout rates in primary and upper primary show a very healthy trend. Figure below would reveal the details.

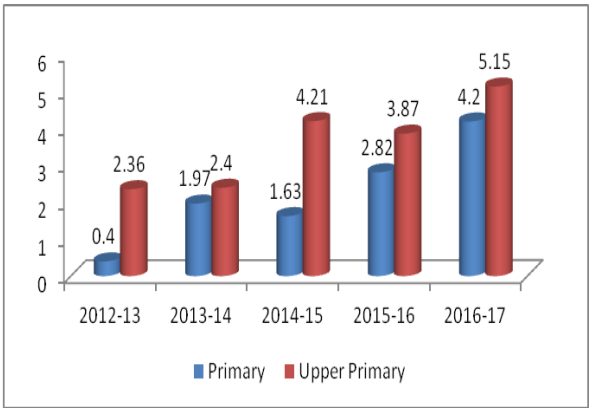

Figure 5: Annual Average Dropout Rate

Source: Status of Elementary Education in Odisha 2016-17 Report

The above data particularly gratifying, as the dropout rates have come down from 36% in (2002-03) to just about 4.2% in (2016-17). In case of upper primary also the reduction has been from 55.4% to 5% in (2016-17).

IV. TRANSITION RATES AND INTER-DISTRICT COMPARISON

4.1. Transition Rates

However, in terms of transition rates of enrolment from primary to upper primary the record of Odisha is not edifying compared to other states. This is particularly unsatisfactory in case of transition to higher secondary, where it has around 48.6%, as against 63% in Kerala and Tamil Nadu and 79% for Maharashtra. Table below would reveal the details.

Table 2: Transition Rates of Enrolment to Upper Primary: Odisha vs. other States

States	Transition to Secondary		Transition to Higher Secondary
	2005-06	2009-10	2009-10
Odisha	81.2	74.7	48.6
Andhra Pradesh	88.1	77.7	35.8
Kerala	-	99.7	62.7
Tamil Nadu	94.08	92.1	63.5
Maharashtra	-	99.4	78.7

Source: National Institute of Educational Planning and Administration (NUEPA) 2012

The above data would show that in terms of enrolment, gender parity and dropout rates, pupil teacher ratio, Odisha has done well. The transition of students from primary to secondary and from secondary to higher secondary would need to be improved. Therefore, the basic objectives of the RTE Act to provide universal education upto the age of 14 has not been fully translated into practice.

4.2. Inter-District Comparison

The districts of Odisha show differential levels of achievement in terms of enrolment. Five tribal districts viz. Kalahandi, Kandhamal, Malkangiri, Rayagada and Gajapati are the most backward districts compared to developed districts. A comparison of these districts in terms of enrolment is given in the following table.

Table 3: Enrolment of Different Levels (2011): All & ST

District	Upper Primary		Secondary	
	All	ST	All	ST
Angul	68	10	51	5
Balasore	124	14	110	7
Cuttack	117	5	104	2
Kalahandi	81	21	47	7
Kandhamal	42	22	26	12
Malkangiri	20	9	9	3
Rayagada	38	8	15	4
Gajapati	25	14	8	4

Source: OPEPA, Report 2011

It would be seen that enrolment percentage of ST community in both developed districts and tribal districts is very low.

V. EDUCATIONAL PERFORMANCE AND OUTCOMES: INTER-STATE COMPARISON

5.1. The RTE Act 2009

The Supreme Court in Unni Krishnan, J.P. and Ors. Etc. vs State of Andhra Pradesh and Ors Case (1993) [10] judgement had observed that Right to Primary Education is tantamount to Right to Life (Article 21) which is Fundamental Right under the Indian Constitution. As education provides Right to Livelihood, the state has a responsibility, both under the Directive Principles and Right to Life, to provide universal access without discrimination to all children between the ages of 6 to 14. The 42nd Amendment had included education in the concurrent list, whereby making education the remit of both the Centre and the States. This has been a significant change from the earlier position, when education is the state list. However, the Unni Krishnan judgement led to inclusion Article 21A to the Fundamental Right. The Sarva Shiksha Abhiyan (SSA) [11] was introduced in 2001-02 and Mid-Day-Meal scheme was introduced in Odisha from the year 1995.Text books, uniforms, bicycle to girls students are being provided free by the state government. The significant dropout rates in primary schools are largely due to provision of Mid-Day-Meal. There is also significant improvement in infrastructures particularly usable toilets for girls has improved from around 15% to around 66% now.

5.2. ASER, 2016

The ASER 2016 [12] findings strike a sobering note on the learning outcomes. The findings are summarised below.

- Enrolment has been 96% or above since 2009 to 96.9% in 2016
- Proportion of children enrolled in private schools is 30.5%
- Children of standard III are able to read standard-1 text is 42.5%
- Children of standard III are able to do two digit subtraction is 27.7%
- Children of standard V are able to do 3 digit/ 1 digit division is 43.3% which is 64.8% in 2010
- Children of standard Std V are able to read simple English sentence is 24.5%
- Those who could read; 60% explain the meaning of the sentence.

5.3. ASER, 2017

ASER (2017) focuses on youth between the age group from 14-18 years. It brings out how poor infrastructure, shortage of quality teachers and loss of credibility afflict secondary schooling. The following figure brings out the details.

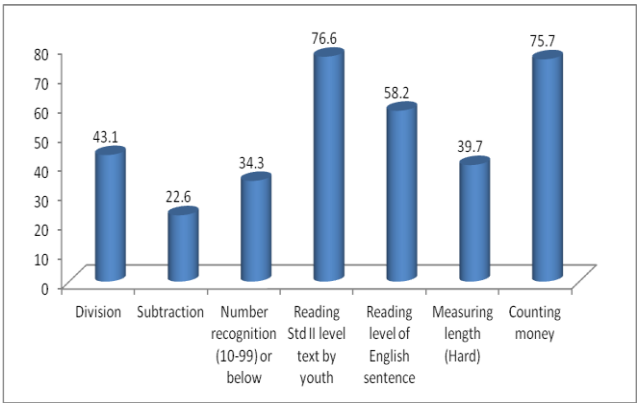

Figure 6: Trends of Learning Status in Secondary Schools
Source: ASER Report, 2017

It would be seen from the above figure that in regard to basic proficiency in arithmetic, the learning outcomes are very poor. In case of English 58.2 percent are able to read simple sentence, while 39.7 percent are majoring the length. The other findings are summarized below.

- 38% can do computation of dissent properly
- 42% could point their state in India's map
- 73% used mobile phones
- 64% never used the internet
- 75% had bank account, 16% ATM.

5.4. Learning Outcomes: Inter-State Comparison

An attempt has been made to compare Odisha with best performing and lowest performing states in India, in terms of overall literacy, male and female literacy, dropout rates, GER and retention. The position is captured at figure below.

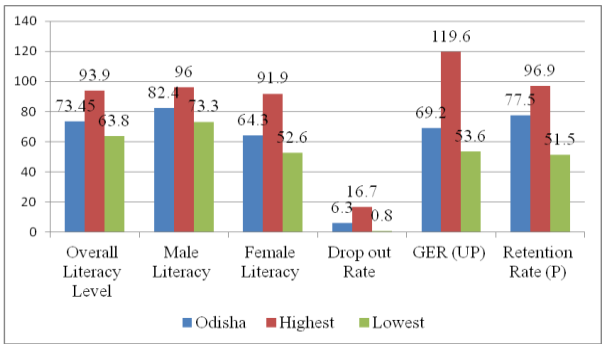

Fig. 7: Educational Outcomes of Odisha Vis-a-Vis Others

Source: NUEPA (2012) & OPEPA (2011)

It would be seen that Odisha needs to catch up on all parameters, with developed states like Kerala.

It is important to compare Odisha in terms of learning outcomes. Pratham, an NGO conducts such studies in rural India and their findings in terms of learning outcomes at STD III, V and VII is tabulated below.

Table 4: Learning Levels: Inter-State Comparison

State	Std III		STD V	STD VII
	Read	Subtraction	Division	Division
Andhra Pradesh	22.7	48.1	37.2	50.4
Gujarat	23	19.6	16.1	34.8
Kerala	45.5	45.6	38.6	53.0
Maharashtra	40.7	23.9	20.3	31.3
Odisha	35.4	33.9	26.6	39.6
Tamil Nadu	17.7	24.8	21.4	44.8
All India	25.1	27.6	25.9	43.2

Source: ASER, 2016

It would be seen that in terms of numeracy ability (subtraction and division) the overall achievement in Odisha and in other states is quite poor. The only exceptions are Andhra Pradesh and Kerala, which show reasonable progress.

5.5. Infrastructure: Inter-State Comparison

In terms of basic infrastructure Pupil Teacher Ratio (PTR), Classroom Teacher Ratio (CTR), availability of the playground, usable toilets and computers, the interstate position is tabulated below.

Table 5: Inter-State Performance: Percentage Complying with RTE Targets

State	PTR	CTR	Playground	Usable Toilet (Girls)	Computer Available & Used*
Andhra Pradesh	58.6	70.6	54.2	72.8	9.5
Gujarat	81.6	90.5	79.4	81.1	31.3
Kerala	91.7	93.2	81.7	78.8	69.9
Maharashtra	77.1	80.7	89.9	62.5	17.9
Odisha	50.3	72.8	29.2	65.8	6.4
Tamil Nadu	52.0	82.0	71.0	76.3	32.9
All India	53.0	73.5	64.5	61.9	8.1

** Computer availability is roughly double*
Source: ASER: 2016

It would be seen that the compliance levels are just about 50% in terms of PTR. However the percentage of students who are using computers is very low in Odisha. The only exception is Kerala (70%).

VI. EDUCATIONAL EMPOWERMENT OF TRIBAL STUDENTS AT KISS

A novel experiment for educating tribal children was launched in 1993 with around 125 children at Bhubaneswar, Odisha. Christened Kalinga Institute of Social Sciences (KISS) [13], the institution helps extremely deprived and alienated children not to be disentangled of their cultural roots, while availing of the benefits of education in the cities. It may be recalled that Mr. Verrier Elwin, who was a prominent policy maker for the tribals in the 1960, did not want assimilation of tribal children in the mainstream as it would affect their unique and pristine culture. Dr. Achyuta Samanta, who is the founder of this talismanic experiment, believes in the dictum "educate, enable and empower".

This enables the children to have quality basic education, wholesome nutrition and all-round excellence, in order to culminate into durable livelihood opportunities.

Academic Performance

The students from KISS have been performing better than those in schools run by state board schools. The performance of students in Commerce & Science streams shows very high level of academic achievement.

Table 6: Comparative Educational Performance

Examination	State Run Schools		KISS Odisha	
	2017	2018	2017	2018
CHSE Science	81.11%	76.98%	81%	82%
CHSE Commerce	71.43%	74.91%	98%	100%

Source: Annual Report, Government of Odisha & Annual Report, KISS Odisha

The above table clearly manifests the better learning outcomes of students in KISS compared to state run schools for general & SC/ST students.

Vocational Training:

KISS makes an effort to improve productivity of each child through intense vocational training in 50 trades. The skills imparted help them to become successful entrepreneurs to get employment. A novel feature of the scheme is that students "earn while they learn". A case in point is painting where nearly one thousand students are actively associated. The sale proceeds from this activity is around Rs.1/-crore per year; of which around 20 lakh is earned as profit. Each student is given one thousand per month out of such profit. This is indeed a unique approach to financially empower the disadvantaged, while they are studying.

Health Care:

Social ills like early marriage, high infant mortality, and maternal mortality are rampant amongst the tribal community. The girls are married off early. They are unfamiliar with reproductive practices. This often leads to high maternal mortality rate and infant mortality rate. Since the girls study at KISS, the pressure from society to get married early is not there. The girls also get advised with aspects like reproductive health, which leads to lesser MMR.

Nutritious Food & Health Care:

Nutritious food and health care are some of the best features of KISS. Each child is provided three nutritious meals every day. Many of them had acute pangs of hunger before they came to KISS. Many of them were also affected by diseases like Kwashiorkor, Tuberculosis and hookworm. Lack of adequate vitamin and pronounced protein deficiency is also rampant. The school ensures that they are provided with a diet which is balanced and rich in vitamins, proteins and minerals.

Athletic Excellence:

The KISS provides itself as an excellent nursery for national level players in Rugby like Ms. Sumitra Nayak (boys & girls) [14] and for fostering an Olympian runner Ms. Dutee Chand [15].

VII. THE WAY FORWARD

The Sustainable Development Goals (2015) (Goal 4) [16] has recommended that inclusive and equitable quality education should be ensured and learning opportunities should be promoted throughout life of a student. Prof. Lekha S. Chakraborty (2005) [17] in "Public Policy Stance and Human Development: A Panel Analysis", has shown that the impact of per capita investment on education and health has far greater impact on HDI [18] than public policies geared towards growth in GDP only. The trickledown effect of higher social sector allocation is far higher on human development capability than mere improvement in GDP growth. In a single regression analysis based on the following data the following cross country outcomes are noticed.

Odisha has come a long way in achieving significant enrolment numbers, teacher to student ratio, gender equality and a reduction in the dropout rates in primary and upper primary segments of education. It is still bedevilled by low transition rates of enrolment and apathetic outcomes in its five tribal districts which have become cauldrons of unrest in the state of Odisha. But what is most distressing, is the scant concern that we are showing to the quality dimension. There has been significant improvement in the availability of useable toilet for girls, but they are yet to feel the warm hands of a digital world as the usages and availability of computers is still a measly 6.4%. The ASER findings fall on the deaf fears of the policy makers, who think that their responsibility can be outsourced to the private sector entities. While the private entities are hyper active in the higher education segment, their enthusiasm in the private schools seem to be muted, as the commercial expectations of school fees cannot be met even by most of the middle class. Demographic dividend that we constantly focus on, has indeed become a demographic disaster with inclusive quality education an illusion for the vast majority. India's obsession with high growth rate unfortunately does not factor in the foundational requirement of quality primary education. This would require substantially higher allocation to primary education from the present level of 1.7% to atleast 3.5% which will improve the infrastructure, bring in better quality teacher and ensure proper training and improvement of pedagogy of the teachers. The teachers and not the planners have to at the vertex of ensuring quality basic education to the children. It is time that Indian government does not abdicate its responsibility of primary education to the private sector who can only provide quality education to a miniscule number who can afford it. A policy that is exclusionary of the majority is extremely regressive in character. Sporadic intervention by sensitive entrepreneurs like Dr. Achyuta Samanta in KISS Odisha has only been drawing acclaim. There has been no attempt by the government to handhold these experiments or to replicate them on an all India basis. It is time that India moves away from growth only to inclusive growth through quality basic education. Odisha as a developing state has a lot to catch up with if it wants to be truly inclusive and empathetic through quality education at the grassroots.

REFERENCES

1. National policy on education. Retrieved from http://mhrd.gov.in/sites/upload_files/mhrd/ files / document-reports/NPE-1968.pdf

2. Ambani, M. & Birla, K. (2000). A Policy Frame Work For Reforms In Education. Special Subject Group on Policy Framework for Private Investment in Education, Health and Rural Development. Retrieved from http://ispepune.org.in/PDF%20ISSUE/2003/JISPE403/2038DOCU-3.PDF
3. National Knowledge Commission (NKC). Report to the Nation 2006-2009, Government of India, New Delhi. Retrieved from https://www.aicte-india.org/downloads/nkc.pdf
4. Committee on Corporate Participation in Higher Education Report of NR Narayana Murthy Committee. Planning Commission Government of India New Delhi. Retrieved from http://fi.ge.pgstatic.net/attachments/d470eba1383043ffbb7d42dfe513d27a.pdf
5. University Grants Commission, quality higher education for all. Retrieved from http:// www.ugc.ac.in/
6. Right to Education (RTE), Act, 2009. Retrieved from http://righttoeducation.in/knowyour-rte/about
7. Twelfth Five Year Plan, (2012–2017), Social Sectors, Volume III, Planning Commission Government of India, SAGE Publications India Pvt. Ltd, New Delhi
8. Status of elementary and secondary education in Odisha – 2016-17. Odisha Primary Education Programme Authority. Published by the Management Information System (MIS), OPEPA on behalf of Department of School & Mass Education, Government of Odisha. Retrieved from http://opepa.odisha.gov.in/website/Download/2016-17.pdf
9. Odisha Primary Education Programme Authority Report. Retrieved from http://opepa.odisha.gov.in/CTSReports/Default.aspx
10. Unni Krishnan, J.P. &Ors vs State of Andhra Pradesh &Ors (1993). Retrieved from https://indiankanoon.org/doc/1775396/
11. Sarva Shiksha Abhiyan, Department of School Education & Literacy, Ministry of Human Resource Development, Government of India. Retrieved from http://seshagun.nic.in/
12. Annual status of education report (ASER) 2010-2017. Retrieved from http://www. asercentre.org/p/51.html?p=61
13. Kalinga Institute of Social Sciences (KISS), annual reports. Retrieved from https://kiss.ac.in/
14. Meet Sumitra Nayak, rugby player from Odisha. Retrieved from https://www.ndtv.Com /education/success-story-sumitra-nayak-rugby-player-from-odisha-nominated-for-internation al-childrens-peace-pri-1767404
15. DUTEE CHAND QUALIFIES FOR 100M IN RIO OLYMPICS. RETRIEVED FROM HTTPS://WWW. THEHINDU.COM/SPORT/OTHER-SPORTS/ DUTEE-CHAND-QUALIFIES-FOR-100M-IN-RIO-OLYM PICS/ ARTICLE14401353.ECE
16. Sustainable Development Goals: Goal 4: Quality Education. Retrieved from http://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-4-quality-education.html
17. Chakraborty, L.S. (2005). Public policy stance and human development: A panel analysis.Bhattacharya, B. B. and Mitra, A. (ed) (2005): 'Macroeconomics And Welfare', Academic Foundation, New Delhi.
18. Human development report (2016). Human development for everyone. UNDP. Retrieved from http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf

AUTHORS PROFILE

Ms. Nikita Ahya, post graduated in International Relation from the International Studies, JNU with distinction and has been teaches in KIIT International School, Bhubaneswar. She is a Research Scholar in School of Management, Kalinga Institute of Industrial Technology, Deemed to be University, Bhubaneswar. She is presently handles the social media site of Dr. Achyuta Samanta.

Dr. Achyuta Samanta has founded Kalinga Institute of Social Sciences (KISS), a residential school providing free education, room and board, medical care, vocational, athletic and artistic training to 60,000 indigenous children from 62 tribal groups. Located in Bhubaneswar, the capital of the state of Odisha, it is funded primarily by profits from its sister institution, the Kalinga Institute of Industrial Technology (KIIT), a well-respected for-profit university; both institutions were founded by him. He has singlehandedly ushered in a revolution to give a new lease of life to millions at the margins. He is now transforming the lives of more than 0.5 million indigenous children indirectly and meeting the hopes and aspiration of the indigenous population since 27 years with intervention in the areas of education, employment, vocational, health, climate change and peace. He has been elected as the Member of Parliament, Lok Sabha from Kandhamal constituency of Odisha in the Elections 2019.

Dr. Satya Narayan Misra did his MA in Applied Economics with International Trade and Statistics as his special papers with first class. He did his Ph.D. (Economics) on "Challenges, Before Self-Reliance in Critical Defense Technology", a pioneering area on the subject. Initially he was the Indian Economics Service (1976-79) when he did Cost Benefit Analysis of World Bank Projects and handled International Development Agency (IDA) desk. Thereafter, he was an Officer in the Indian Defense Accounts Service (1979-2012), when he served as Director (Finance) with DRDO, Financial Advisor and Joint Secretary to Indian Air Force & JS (Aero Space). He authored the Defense Procurement Manual (2005), drawing encomiums for the Prime Minister's Office. Before voluntary retirement in 2012, he was Principal Controller of Defense Accounts (Navy) & PCDA (Southern Command) in the rank of Addl. Secretary to Govt. of India. He was trained in IRBM, California, Defense Acquisition University, Washington, Marshall Institute of Strategic Studies, Munich, IIMs, Calcutta and Bangalore.