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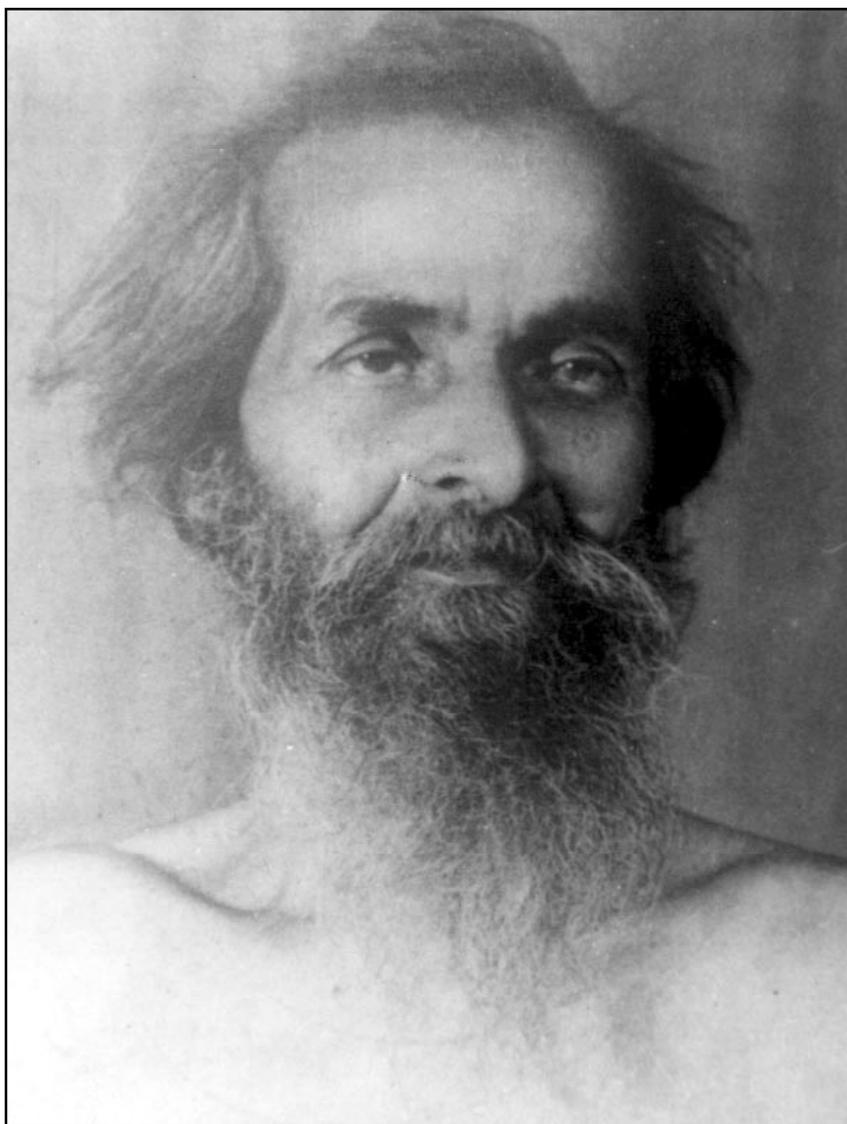
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Our Sincere Obeisance....



Utkal Gourav Madhusudan

We Fondly Remember



Acharya Harihar

Our Sincere Obeisance....



Laxman Naik

We Fondly Remember



Legendary leader and visionary Biju Patnaik

Editor's Note



Odisha has indeed taken a quantum leap under the dynamic leadership of our Chief Minister Shri Naveen Patnaik. Today, our State stands for the spirit of sportsmanship where action speaks louder than words and the leadership is without fear. Where inclusive empowerment is the driving spirit and quest for excellence is the norm and where the nation comes above all. It was a moment of pride for me and multitude of Odia people when Government of Odisha announced support for Indian Hockey. Hockey in Odisha is more than a sport; it is way of life, especially in our tribal regions. The Association initiated by Government of Odisha would ensure that all Indians get behind the national sport. The newly designed logo on the Indian National Hockey Team Jersey is a summation of Odisha. At its heart is the Konark Wheel; a symbol of progress and empowerment, the land of the rising Sun, the famed coastline that has for centuries been a trade route and even today welcomes endangered Olive Ridley turtles, the Odissi dance form and of course Hockey-which unites the entire State. We would like to thank Hon'ble Chief Minister for this noble endeavour. This is a first where a State Government will not just be promoting a sport within its boundaries but will support and nurture the Indian Hockey team. This is Odisha's gift to the nation.

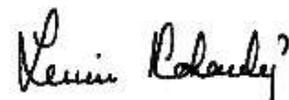
In commemoration of the Birth Centenary of legendary Biju Patnaik, the book "The Tall Man-Biju Patnaik" has been released by a galaxy of national leaders which include former President Dr. Pranab Mukherjee, former Prime Minister Shri H.D. Deve Gowda, former deputy Prime Minister Shri L.K. Advani, Communist leader Shri Sitaram Yechury in the presence of our Chief Minister Shri Naveen Patnaik. The book goes beyond the scope of a biography and presents hitherto unknown information and captures the highlights of Biju Patnaik's life and his times. I must have attended innumerable book release ceremonies but never in my life have I come across such a gala book release function. While reminiscing his association with Biju Babu, Shri H.D. Deve Gowda demanded a "Bharat Ratna" for the towering figure. Shri L.K. Advani was awestruck at the huge gathering present for the release of a book. People from different walks of life, different political spectrum and ideas were attending the inaugural function of the book for the love and respect they have for Biju Babu who was larger than life. The concluding remarks of our Chief Minister Shri Naveen Patnaik made everybody emotive in a wintery evening of January.

The Union Budget 2018-19 is in many ways disappointing for our State. It has shown a vision for 2022 without matching action or financial commitment. Every budget has a macro and micro aspect to it. Since it is the largest single economic event in the country it impacts the economy as a whole. The Budget speaks of emphasis on agriculture and rural economy but there is no focus on creation of irrigation facilities. It has been announced that MSP will be raised to 1.5 times of the cost of production for crops but there is no clarity on how the MSP mechanism will be implemented by the Central Government for all crops. Implementation of MGNREGA programme is suffering due to inadequate release of wage component by Government of India. Similarly, there is no increase in the allocation for PMGSY. The Budget also disappoints in terms of adequate allocation for welfare of S.Cs. S.Ts and other vulnerable sections. There is inadequate focus on providing drinking water facilities. This is a huge disappointment for our State. In general, increase in Central assistance to States for Centrally sponsored and Central Sector Schemes is less than 5 % over the revised estimate. It is apparent that adequate resources have not been allocated commensurate with the announcement made. On the whole Union Budget 2018-19 falls much short of our expectation.

In spite of chronic neglect by the Central Government, Government of Odisha is always committed to the empowerment of women. From Mission Shakti to Mamata to 50 per cent reservation in PRI and Urban Local Bodies-women have been the focal point of all key interventions. In continuation to the Government's pro-women initiatives, a new programme "KHUSHI" has been implemented. It pertains to universal provisioning of free sanitary napkins to all 17 lakh girls in Government and Govt.-aided Schools from Class-VI to Class-XII. This will go a long way in promoting health and hygiene among school-going adolescent girls leading to higher retention in school and greater empowerment of women.

Odisha has emerged as a leader in bringing 8 million people above poverty line with a reduction of 24 percentage point in poverty levels in a decade. Odisha is also a leading State in the country in providing housing to the poor. The conditional cash transfer mechanism under Mamata scheme for pregnant women has benefitted more than 3.1 million women. Five million women have been empowered through 5 lakh S.H.Gs. Odisha's achievements on various social indicators in women development and empowerment is praiseworthy.

Hon'ble Chief Minister has made the country proud on being conferred with the "Adarsha Mukhyamantri Award" for his outstanding courage, commitment and conviction coupled with revolutionary idea of clean governance and making Odisha an ideal State. Receiving the award of ideal Chief Minister from former President of India Smt. Pratiba Devi Singh Patil, our Chief Minister rightly said, "when you keep people first, it is good politics and there is no anti-incumbency."



Editor, Odisha Review

Significant Achievements of Panchayati Raj & Drinking Water Department

The Panchayati Raj & Drinking Water Department has been entrusted with implementation of various Poverty Alleviation Programmes in the State. The Poverty Alleviation Programmes mainly cater to the needs of rural families living below the poverty line.

1. Self Employment Programme

National Rural Livelihood Mission (NRLM) :- During the current financial year 2017-18 up to January 2018, an amount of Rs.21340.56 lakhs has been utilized against the total available funds of Rs.27065.77 lakhs. The Percentage of utilization is 79%. 69026 numbers of SHGs have been Credit linked against the total target of 80,000 numbers of SHGs.

2. Wage Employment Programme

Mahatma Gandhi National Rural Employment Guarantee Act

Physical and Financial Achievement (as on 31.01.2018)

Government of India have approved the Labour budget for the year 2017-18 amounting to Rs.2798.37 crore which will provide employment to 19.00 Lakh HHs and will ultimately generate 900 lakh person days.

- During the financial year 2017-18 (as on 31.01.2018), 679.66 lakh person days have been generated against the labour budget of 900 lakh person days.
- A sum of Rs.1924.10 crore has been utilised out of the total available fund of Rs.1934.32 Crore.
- Job cards have been issued to 61.95 lakh households out of 62.88 registered households.
- 19.42 lakh households have been provided employment out of 22.29 lakh households demanded employment.
- During the financial year 2017-18 (as on 31.01.2018), 25363 households have completed 100 days of work.
- 1,72,580 no. of projects have been completed out of 8,64,177 no. of projects taken up.

- 283.26 lakh person days have been achieved by women out of 679.66 lakh person days generated, which is 42%.
- The persondays generated by SC & ST are 114.53 lakhs (17%) and 248.27 lakhs (36%) respectively.
- The construction of Anganwadi Centre (AWC) is being taken up in convergence with W&CD Department with an estimated cost of Rs.7.00 lakh each, out of which 5 lakh being provided under MGNREGS and 2 lakh is being provided by Women & Child Development (W&CD) Department.
- As on 31st January, 2018, 2365 no. of AWC buildings have been completed against the target of construction of 3500 AWC buildings.
- 3704 no. of Farm Ponds have been completed out of the target of 15,000.
- The percentage of expenditure on Agriculture and Agriculture Allied works is 73.57% against the target of 60%.
- The percentage of expenditure on NRM works to total expenditure is 42.05% against the target of 60%.
- The road side plantation of 4438.35 RKM has been done against the target of 4000 RKM.
- During the financial year 2017-18 (as on 31.01.2018), 3636 no. of tanks have been renovated.

New Initiatives taken by the State Government

- a. The labour budget and livelihood plan for the financial year 2017-18 under MGNREGS has been prepared in all GPs through Intensive Planning Participatory Exercise to improve the participation of workers in the planning process under a comprehensive GPDP (Gram Panchayat Development Plan).
- b. About 4.50 lakh seedlings were planted by the Gram Panchayats in the institutions like School, College, AWC building, GP building throughout the State during the Vanamahotsav week from 2017.
- c. 8,33,576 assets (95.27%) under MGNREGS have been Geo Tagged against 874934 Asset Ids available in Bhuban portal as on 20.01.2018.
- d. 47.78 lakh Aadhaar have been seeded against the active worker of 52.88 lakhs, which is 90.36%.
- e. In order to strengthen the water conservation activities, 275 District Technical Resource Team (DTRT) Members have been imparted training at SIRD covering all the 30 districts. The duration of the training was 5- Days. 1150 Block Technical Resource Team (BTRT) Members have been imparted training as on 20.01.2018 under Mission Water Conservation.

- f. Out of 61,95,944 job cards as many as 61,50,046 lakh job cards (99.3%) have already been verified. Similarly, out of 32,45,553 lakhs active job cards 32,36,626 active job cards (99.72%) have been verified till 18.01.2018. During the door to door verification process, over 5 lakh job cards were deleted following due process and guidelines prescribed by MoRD.
- g. Formed a Special State Level Monitoring Team to make the wage payment within the prescribed 15 days, so that not a single wagelist is left pending beyond 15 days. Number of wagelist beyond 15 days come to zero due to the special drive undertaken since July 2017.
- h. Odisha is the only State in the Country where there is not a single wage list pending beyond 15 days.
- i. The timely wage payment (within 15 days) has gone up to 82.06% as on 30.01.2018.
- j. The number of total Landless casual labourer in Odisha as per the Socio Economic Caste Census (SECC) is 31.69 lakhs out of which 29.14 lakh Households (92%) have been surveyed. Altogether, 43003 Households have been provided with Job Cards out of 73822 (58%) willing Households.
- k. Good Governance in the Administration of MGNREGS practices are being adopted in the State. One day workshop was conducted on 03-04 January 2018 at MGNREGS Building Conference Hall to sensitise atleast 1 MGNREGS Coordinator, 1 Additional Programme Officer (APO), 1 JE/GPTA and 1 Gram Rozgar Sevak of each district on the various parameters of Good Governance like, Maintenance of register, maintenance of Case Record, installation of Citizen Information Board and verification of Job Cards.
- l. Work order has been issued to Govt Press for printing of 32 lakh new Job cards in a new framework and all the active Job Cards will be replaced with new Job Cards.

3. Gopabandhu Gramin Yojana (GGY)

It provides additional developmental assistance in all the districts of the State. The principal objective is to provide rural infrastructure primarily Bijli, Sadak and Pani to every revenue village in the districts.

It is a State plan scheme launched in 2006-07 and the entire fund is provided by the State Government. Expenditure to the tune of Rs.29,177.05 lakhs has been incurred in the current financial year 2017-18 up to January 2018 against the available funds of Rs.69,935.09 lakhs, which constitutes 42%. 13,081 numbers of works have been completed against the target of 24,501.

4. Drinking Water

Budget Provision and utilization of (NRDWP) funds for the month of January 2018 during the year 2017-18.

NRDWP

(Piped Water supply, spot sources & sustainability etc.)

Budget provision 2017-18 - Rs.30000.00 Lakhs

Utilization - Rs.11451.00 Lakhs

PHYSICAL ACHIEVEMENT TILL THE END OF JANUARY 2018

SI No	Programme	Achievement	
		During the month	Total
1.	Rural Piped Water Supply Schemes Commissioned	16	105
2.	Spot sources (Tube Wells / Sanitary Wells) installed to cover habitations.	295	4201
3.	Spot sources (Tube Wells / Sanitary Wells) installed to cover Rural schools.	3	29
4.	Spot sources (Tube Wells / Sanitary Wells) installed to cover Anganwadi Centres.	8	34

5. Rural Housing Programme**(i) P.M.A.Y (Gramin)**

During the current financial year 2017-18 up to January 2018, an amount of Rs.4,369,33.00 lakh has been utilized against the total available fund of Rs.5,06,680.00 lakh. The utilization of fund is 86%. 2,68,906 number of houses have been completed against the target of 8,44,418.

(ii) BIJU PUCCA GHAR

The entire fund is provided by State Government. During the current financial year 2017-18 up to January 2018, an amount of Rs.46,464.00 lakh has been utilized against the total available funds of Rs.87,336.00 lakh. The utilization of fund is 53%. 41115 number of houses have been completed against the target of 96563.

(iii) BIJU PUCCA GHAR (MINING)

During the current financial year 2017-18 up to January 2018, an amount of Rs.12731.00 lakh has been utilized against the total available funds of Rs.25531.00 lakh. The utilization of fund is 50%. 10455 number of houses have been completed against the target of 27184.

(iv) Nirman Shramik Pucca Ghar Yojana (NSPGY)

During the current financial year 2017-18 up to January 2018, an amount of Rs.4048.00 lakh has been utilized against the total available funds of Rs.9279.00 lakh. The utilization of fund is 44%. 2355 number of houses have been completed against the target of 7964.

Sucheta Priyadarshini, Information Officer,
Information & Public Relations Department,
Bhubaneswar.

"You cannot lead people unless you love them"

- Naveen Patnaik

Thank you ... Indian Student Parliament and M.I.T, School of Government for this honour.

I dedicate this honour to the four and half crore people of Odisha who have reposed their faith in us for the past 17 years and continuously blessed us.

Hon'ble Former President of India, Smt. Pratibha Devisingh Patil

Hon'ble M.P and Former Union Minister, Dr.Murli Manohar Joshi

Shri Milind Deora, Professor
Dr. Viswanath Karad,

Dr.Mashelkar, Shri Rahul Karad

Dr. Firodia, Distinguished invitees

My young friends, Ladies and Gentlemen,

I'm delighted to be here at the first institution in the country that works towards strengthening democracy.

And the wonderful premise on which it strengthens i.e connecting with the youth.



With passage of time, everything evolves to its higher form –that is the beauty of the human quest for perfection.

Take any field- Biology, Mathematics, Medicine, Information Technology, we have made giant strides. In fact, the last 200 years have been the most dramatic years in human evolution.

Who would have thought that TWITTER and FACEBOOK will become such integral parts of our lives and social relationships?



That, Big Data, Block Chains and Nano-Technology will revolutionise our daily lives like never before.

However, all of us will agree that the evolution that one would have liked to have in governance and public service is still to be achieved.

Good governance and selfless public service are the pillars of democracy. The biggest challenge before all of us today and especially for my younger friends is –how to strengthen governance and instill public service-in turn strengthening democracy.

I understand that you have been listening to eminent speakers over the last few days. Let me tell you, I am not a great speaker.

Twenty years ago I was a political novice. I would have never imagined that I will be standing here as one of the longest serving Chief Ministers of the country.

Today, I can say with conviction, that politics is not complicated. Politics is the most powerful instrument to bring about change in the lives of people.

And so it follows that if people are kept at the core of your intentions, efforts and initiatives, then there is no complication.

Mahatma Gandhi has summed it beautifully in the Talisman-perhaps one of the greatest political philosophies of all times.

“Whenever you are in doubt, or when the self becomes too much with you, apply the following test. Recall the face of the poorest and the weakest man whom you may have seen, and ask yourself, if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to a control over his own life and destiny? “

In public service, one keeps encountering these situations on a daily basis. Six months ago, we had to take a decision on urban slum dwellers.

There was a choice between, continuing the practice of evictions and treating people as encroachers, resulting in lakhs of families living in fear and insecurity. Or recognising their immense contributions to the life of the city and providing them land rights.

Keeping people firstwe chose the second option. A seemingly complicated situation always has a simple solution.

This has been done for the first time in the country and they say it is path-breaking and historic.

When you keep people first –it is good politics, When you keep people first there is no anti-incumbency

One of the greatest visionary leaders Martin Luther King had said –

“You cannot lead people Unless you love them”

This to me is the other guiding political philosophy.

If you love your people, you do not see the post you hold as a post, but as a means to serve the people.

You do not see power as power, but as a means to transform the lives of people.

All the negative associates of politics - power, wealth and position dissolve into nothingness, if you love the people.

If you work for the love of people, even in the worst of natural disasters you aim for zero casualty.and you end up setting global benchmarks.

If you love your people - you do not want anyone, without a roof over their heads. And you end up leading the country in Rural Housing.

If you love your people.you will walk the extra mile to include the most vulnerable sections in your growth storyand you end up with the path-breaking initiative of setting up Tribal Development Councils.

If you love your people you don't want hungry stomachs staring into the night. And you end up with the highest poverty reduction in the country.

If you love your people, You don't fight for elections,

You fight for change and transformation.

If you love your people

With every intent, every step, every action, every signature.

And with every breath, You will work for them.

Long after you have breathed your last, you will still continue to live in the hearts of people, like Mahatma Gandhi and Biju Babu.

Today, I am still a novice in politics. I just followed these two principles and the people of Odisha have showered their blessings on me continuously.

As you have shown in that movie –I am single, with a loving family of four and half crore people.

More and more good people like you should join politics. And be, part of the change you want to see.

If you keep people at the forefront, It is not a Political journey, It is a spiritual experience.

All the Best. Thank you so much once again.

Bande Utkal Janani.

Jay Hind.



Tall Man's Tall Commitment for Popularising Science

Sanghamitra Deobhanj

“In my dream of the 21st century for the State, I would have young men and women who put the interest of the State before them. They will have pride in themselves, confidence in themselves. They will not be at anybody’s mercy, except their own selves. By their brains, intelligence and capacity, they will recapture the history of Kalinga.”

-Biju Patnaik

On 5 March, 1916 the legendary leader of modern Odisha, Bijoananda Patnaik popularly known as Biju Patnaik was born at Cuttack to Smt. Ashalata and Shri

Lakshminarayan Patnaik. As a Statesman of national and international caliber, he was indeed a tall leader. He had a tall commitment as well, to hold high the name and fame of Odisha and create a distinct global niche in the field of science. Biju Patnaik had a dream for Odisha, his motherland, to excel in every field. Education, science, agriculture and industry had very special places in his heart. He felt that the status of the people of the state would be uplifted if Odisha strides in progress in these areas and achieve great heights.

The ambition for taking modern Odisha to the global heights in the field of science was getting shape from his childhood. On completion

of school education, Biju Patnaik studied science at Ravenshaw College, Cuttack. Thereafter he joined Aeronautical Training Institute of India and Delhi Flying Club. Understanding mathematics, physics and self-control, discipline, confidence as well, along with analytical thinking, decision making in time, etc. are the essentials for flying an aircraft, which Biju Patnaik had mastered. He was trained to be a navigator and pilot. There were many incidents during and after India's struggle for independence, which prove his courage, scientific bent of mind and capability.

As a student of science, a navigator, a pilot, an industrialist and above all as a statesman Biju Patnaik had a noble vision for development of scientific temperament and attitude among general mass. He felt the need for developing scientific temper, spirit of inquiry and reform amongst common people. He always believed that knowledge of science and development of scientific temper help one to think rationally and get rid of dogmas. For that he stressed to popularize science amongst all citizens. Biju Patnaik felt that for the progress of a nation, people must be made aware of the new science research works, their findings and their global implications. Science is all about everybody's existence. Science is not just a collection of conclusions, but a method of trying to understand the reality and the truth all around. The aspects of reality, both natural as well as social are within the domain of science.

UNESCO (United Nations Educational, Scientific and Cultural Organization) is the international body which has the capacity for making international cooperation in education, science, culture and communication. It builds up the ties between nations and societies, and

mobilizes the general public for sustainable development. UNESCO Kalinga Prize for the Popularization of Science is an international distinction award given by UNESCO to individuals for their outstanding contributions in communicating science to the society and for promoting the popularisation of every field of science. Popular science articles make science-related topics simple and easy to understand for non-experts.

This distinguished international prize was initiated in 1951 with donation and support from Biju Patnaik. He was the Founder and President of the Kalinga Foundation Trust in India. The award goes to persons who have a distinguished career in the field of science communication as writer, editor, lecturer, radio, television, web programme director, or film producer. Another essential criterion for selection is that the awardee should have worked for interpreting science, research and technology to the general public. It is also required that UNESCO Kalinga Prize winners need to know the potential power of science, technology, and research in improving public welfare, enriching the cultural heritage of nations and providing solutions to societal problems on the local, regional and global level.

It is matter of pride for every Odia and every Indian that UNESCO Kalinga Prize is the only international prize from India and is considered as the highest award in the category. Today, the prestigious prize is jointly funded by the Kalinga Foundation Trust, the Government of the State of Odisha, and the Government of India (Department of Science and Technology). The statutes of the UNESCO Kalinga Prize for the popularization of Science (NEW) states that the contribution of each donor is as follows: the Kalinga Foundation Trust ₹4000, the Odisha

Government £4000 and the Government of India £6000. The donors are to submit their contribution to UNESCO, under coordination of the Kalinga Foundation Trust. Since 1952 selected eminent persons have been getting this award. The Kalinga Prize is awarded to the recipients during the Celebration of the World Science Day for Peace and Development in odd years and in New Delhi, India, in even years. The new statute mentions that the prize shall normally be awarded biennially in the same year of the UNESCO General Conference. The prize includes US\$20,000, a citation, and the UNESCO Albert Einstein Medal. The statute also states that the prize winner will be offered Kalinga Chair by Government of India (Department of Science and Technology) and will be invited to travel to India for a two or four weeks period to interact with scientists and science communicators. The chair has an additional honorarium of US\$5,000.

Louis de Broglie (15.08.1892 – 19.03.1987), the discoverer of the wave nature of particles, also a Nobel Laureate, was world's first UNESCO Kalinga Laureate in 1952. He was awarded the prize for his efforts to explain modern physics to laymen. By 2017 the prize had been awarded to 68 people from 24 countries. During 2006-2008 no awards could be given due to change in UNESCO rules. Recently, UNESCO's Director-General awarded the UNESCO Kalinga Prize for the popularization of science for the year 2017 to Erik Jacquemyn of Belgium, in a ceremony held on 7 November during the World Science Forum in Jordan. The award has been given in recognition of his commitment to disseminate knowledge about the sciences among the general public. Also the 2017 awardee is an

expert in scientific communication, science centres, science museums and interactive museums.

Science lies at the core of next stage of national development. Science has the solution to many issues in the three vital areas of water, energy, food along with health, hygiene, safety, economy, defense, infrastructure, environment, etc. The vision document prepared by the science advisory council to the Prime Minister, DST (2010) is optimistic and ambitious about the prospects of India becoming knowledge-based society and the global leader in Science by 2030. India has the resources and the potential to do so; still it is a far off dream unless some drastic changes happen in the field of science education and research here. Indian students and scientists are doing excellent abroad but something is keeping them back from achieving big in their own country. Those barriers to progress have to be identified and removed.

India has to focus on science education right from the elementary school foundation level up to the post graduate and research level. Not a single level has to be ignored and unconnected. There is a huge gap between achieving universal access to school and universal access to quality education. Access to quality education and that to for high quality science education at school and college level is a major challenge to achieve in India. Key solution to this challenge is to attract the best teachers towards the profession, which is the success *mantra* in the best school system found in the countries of Finland, South Korea and Japan. Quality education can only foster an atmosphere of scientific temper, innovation and creativity among the young generation.

For realizing the vision of Biju Patnaik and taking the pride of Odisha to new heights, there is need for quality science education, research work and effective communication which can bridge the gap between the scientist community and public, and can popularize science for the greater benefit of the society. Such efforts can facilitate in spreading the awareness in the field of science regarding the plans, policies, various programmes, schemes, the findings of researches, projects, global initiatives, reports, etc. among the student community and the general mass. Progress in the field of science and technology and popularizing science can fulfill the dream of Biju Patnaik and take the legacy ahead.

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Abstract

Twenty first Century is the century of rights discourse. Every person must live with dignity and rights. Having minimum quantity of food with adequate nutritional value is the basic condition for this. In other words, every individual should be entitled to *roti along with kapada and makkhan*. The Indian government has enacted several right based acts such as Mahatma Gandhi National Employment Guarantee Act (MGNREGA), Right to Education Act (RTE), and now, the National Food Security Act -2013(NFSA) to ensure livelihood, right to education and food security respectively. National Rural Health Mission (NRHM) on the other hand, is a programme which ensures the basic health services for the population. In case of the NFSA there are several innovative features at the level of implementation of the scheme such as wider coverage, plugging the leakage in the delivery of subsidized food to the poor by the use of modern technology. Similarly some attention has been given to the issue of agrarian reforms to boost the productivity of the land of the marginal and small farmers and making the adult woman as the ration card holder etc. Still one may describe the Act as putting old wine in a new bottle. Because the recent act has two serious flaws namely, treating the gram sabha, panchayats and women in panchayats as the beneficiaries and not as decision makers in terms of deciding the requirements of the food grains for their locality, storage of food grains by the use of low cost traditional methods as well as monitoring of the scheme. A related issue namely, neither the large chunk of share croppers nor invisible women cultivators, who are also a part of Gram Sabha, have been touched even though the act has the provision of the agrarian reforms. Treating them as the beneficiaries and not as producers is a serious mistake since the issue of the land entitlement to the share croppers and also to women cultivators in the context of 'feminization of agriculture' have been ignored. It has accordingly been suggested that in order to achieve the goal of sustained food security, the new act should have given more teeth to the role of panchayats and ensured land right to the tillers and women cultivators for boosting the productivity of land. Given these weaknesses, the new Act may not ensure sustained food security to the millions of deprived people.

Role of Women in Panchayats and Right to Food

Dr. Bidyut Mohanty

Background: Need for Food Security

The Indian State has the responsibility of raising 'the level of nutrition and standard of living and to improve the public health'² in terms of Article 47 of the Directive Principles of State Policy. But, in spite of having relatively high growth rate of economy in the recent years, India's performance in eradicating hunger and malnutrition is quite dismal compared to even the Sub-Saharan region of Africa. In the Sub-Sahara region, the percentage of undernourished children below five is only 25 in contrast to 46 percent in India. It is worse if we examine the regional data

(Mehrotra, 2011)³. About 21.5 percent of the babies in India are born with low weight, since mothers are undernourished. Coupled with that, the per capita availability of cereals, the staple food, has declined and contrary to some claims, this has not been compensated by items such as eggs, fruits and milk. Though the share of these items in the food basket has improved somewhat on an average, the bulk of the population does not seem to have such advantage. There are other negative indicators as well. It is noticed that a third of adult population suffer from low body mass. Similarly the proportion of malnourished children remains high. As per the National Family Health

Survey -3 at least 50 per cent of the total child population is malnourished⁴. In terms of all these indicators, the SC and ST community, residing in rural areas suffer more (*ibid*). Thus deprivation of food is a reality for a large number of Indians and this has severe implications for the condition of their health.

It should be stressed that inadequate access to food gets reflected in the indicators of mortality as well, including infant mortality rate, maternal mortality rate as well as in stunting and other disabilities of children. Though infant mortality rate per thousand live births has declined between from being 49 to 44 between 2009 and 2012, it still remains high.⁵ The ratio of maternal mortality too has declined between 2001 and 2009 but it is still very high with 327 per hundred thousand live births⁶. As per the NFH-3, about 48 per cent of the children are stunted. Thus the goal of inclusive growth set by the Eleventh Five Year Plan still remains a distant dream.

Keeping this serious situation in mind the government of India passed a new legislation on food security in 2013, even though the Act in its final form did have critics who wanted universal coverage and better provisions⁷.

Salient Features of The National Food Security Act

Food security Act was passed on 10th of September 2013. Taking lessons from earlier initiatives, this law makes detailed provisions on such matters as identification of the beneficiaries, especially the most vulnerable groups among them, determination of allocation of food grains among the recipients after keeping in consideration the basic nutritional requirements of children and women, application of modern

technology to provide efficient and transparent delivery system and grievance redressal. The Act even takes a wider perspective linking food security with agricultural production and agrarian relations. In addition, the Act also has provisions for women's empowerment. Eventhough it is innovative in some respects, it has failed to appreciate the role of panchayati raj institutions in general and that of women panchayat members and the women's groups in particular in implementing the ambitious programme of food security for multitudes of Indians.⁸

Identification of Beneficiaries and quantum of food grains

The Act ensures right to subsidized food up to 67 per cent of the total of India's 1.2 billion people. The Act covers 75 per cent of the rural population and 50 per cent of the urban population. It is much more than that of the population who are below the poverty line⁹. Within that, pregnant women, children in the age group of 0-6, school- going pupils till the class VIII, and old people having no other support will be covered. The Act has the provision of providing five kilogram of food grains per person consisting of rice, wheat or coarse grains per month at the rate of Rs.3, 2 and 1 respectively. A person covered under the *Antodaya Yojana*¹⁰ will get 35 kg. food-grains per household per month. In addition, pregnant women and lactating mothers are entitled to get nutritious food at the local *anganwadi*, and maternity benefits of Rs.6000/- for six months. Every *anganwadi* and school which serves Mid Day Meals (MDM) should have the facilities of drinking water, sanitation and proper arrangement for cooking meals. The identification of beneficiaries has been left to the state governments. Once the list is prepared, it should be displayed in the public place.

Incidentally, the identification of eligible persons will be based on caste data which is yet to be released.

Nutritional Standard

The law spells out in detail the nutritional standard for pregnant and lactating mothers, children in the age groups of six months to three years, three to six years, or lower primary and upper primary children in the form of 'take home ration' or 'hot cooked meal'. The value of the calories and that of protein to which children are entitled, will be in the manner as given in Table 1.

the Central Government and the State governments. The current food grain allocations to the States will be protected by the central government. The Food Corporation of India (FCI) as well as its branches in the States will play an important role in terms of procurement and distribution of food grains. The state governments will provide the food security allowances to the entitled beneficiaries in case of its inability to supply food grains to them. Necessary funds for this will be provided by the Central Government. The State government will take delivery of grains from the FCI warehouses and keep those in the designated storage facilities

Table 1: Nutritional Standards

Sl. No.	Category	Type of meal	Calories/Keal	Protein (g)
1.	Children(0-6 months)	Take home ration	500	12-15
2.	Children (3-6 years)	Morning snacks and Hot cooked meals	500	12-15
3.	Children (6months - 6 years)malnourished	Take home ration	800	20-25
4.	Lower Primary classes	Hot cooked meal	450	12
5.	UP classes	Cooked meal(hot) meal	700	20
6.	Pregnant and lactating women	Take home ration	600	18-20

Source: National Food Security Act-2013. p.16

The services will be provided by the existing schemes such as the Mid Day Meal and ICDS for which institutional arrangements already exist. These institutions are government schools and Anganwadi centers respectively.

Responsibility of supplying the food grains to the beneficiaries

Under the existing policy the main responsibility for procuring the food grains is with

at the District and Block levels, which should be scientifically built and maintained. Taking note of the woman's role in the household, the law provides that the eldest woman of the household, 18 years or above will be treated as the head of the household for the issue of the ration card.

Role of Panchayats

In the Act, enabling provision has been made to assign responsibility for the proper

implementation of the food security Act to the 'local authorities'. The term - 'local authorities' - has been defined as panchayats, municipalities, cantonments, autonomous district councils and women's groups. The Act provides that such duties as deemed necessary by the state will be performed by the local authorities. In other words, just like any other development work, in the case of food security also the State government has the power to decide whether Panchayats would be given any responsibility to implement Food Security Act.

Linking with Major Schemes

Broadly speaking, the existing schemes directly related to food security are: Targeted Public Distribution Services (TPDS), Integrated Children Development Services (ICDS) and Mid Day Meals (MDM). As everybody knows, all these schemes are in operation for a long time. But in its new form it is envisaged that Public Distribution System (PDS) has to be reformed at the implementation level in order to prevent the leakage of food grains. For this purpose, the law envisages measures such as door step delivery of the subsidized food grains, transfer of cash to the bank accounts and distribution of food coupons to the beneficiaries wherever applicable. Dissemination of information to the beneficiaries through application of Information, Communication and Training (ICT) and full scale computerization of the list of beneficiaries along with full transparency of consumers' records are some of the other provisions to provide efficient service. Use of Aadhaar card stipulated in the Act is no longer mandatory after the Supreme Court's ruling¹¹. It should be noted that the law clearly directs the authorities to give preference to public institutions in implementing the scheme.

Grievance Redressal Mechanism

There will be a grievance redressal mechanism both at the State and district level. State Food Commissions consisting of a Chairperson, five other members and a member-secretary (including at least two women and one member from SC community and another from ST community) will be created. Each State government will constitute a District Grievance Redressal officer to look into the complaints of non-receipt of ration. The State Commission will monitor and evaluate the implementation of the Act, hear complaints and appeals against the orders of the District Redressal Officer.

Revitalization of Agriculture and Agrarian Reforms

Locating the food security initiative in a wider framework to develop rural economy the law mentions the need to boost the supply side of the food grains. It envisages measures for increasing productivity of land and infrastructural development with greater investment in agriculture. The Act also mentions the need for keeping the interests of marginal and small farmers in mind. It also has a provision for incentivizing decentralized procurement including procurement of coarse grains.

Critiquing the National Food Security Act

Bluntly put, the new Act has some provisions such as adopting a wider coverage of consumers, introduction of a number of steps mentioned above to minimize the leakage of food grains while transporting the food grains from FCI to the different places of distribution. Besides, a minor concession has been given to the women with the oldest woman of the household having the right to get the ration card and women's cooperatives to manage the ration shops. Along

with these, emphasis has also been given to have safe drinking water, sanitation and health care as well as adequate pension to buy food. Further it also envisages revitalization of agriculture and pursuing agrarian reforms mainly to benefit small and marginal farmers while at the same time paying remunerative prices to farmers for their produce. It also envisages programmes for research and development. Indeed, the Act has many laudable features. But if one closely examines the features of the new Act, one notices that basically most of the provisions relating to distribution of food were already in operation in the existing food related schemes. The fact is that the existing schemes have not worked properly which is why a new Act in the right-based framework was needed. The question is whether the new scheme as envisaged in the Act is equipped to work effectively even though it has the benefit of legal sanction and availability of new technology.

The Existing Food Related Schemes:

It is well known that Public Distribution Scheme (PDS) existed in some form or other even before the Second World War and it became a social policy since the First Five Year Plan in 1951¹² No doubt it has been revamped time and again to suit the needs of the people below poverty line. But what is evident is that it has always been subjected to a top down policy. The grains are procured and stored at the central and State levels. After that it is transported to different parts of the country. Even now it retains basically a top-down implementation strategy except that provisions have been made to create storage facilities at the Block level. However what is missing is the role of Panchayats in managing Block level storage facilities of food grains.

Similarly ICDS was started in 1991 and the objective has been to reach out to the pregnant

women and malnourished children between 0-6. In fact, the Ministry of Women and Child Development claims that it is one of most important schemes to reach out to 700 million children of India¹³. As pointed out before, the pregnant women are also entitled to get free meal and a monthly allowance of Rs.6000/- for six months under the existing scheme.

Further, Mid Day Meal (MDM) was introduced to stop the dropout rates in school. It first started in Madras Presidency in 1925. But later the scheme became a national policy of India in the year in 1984-85. The amount of calorie was determined as 300 cal, and 12 to 15 g. protein.¹⁴ But all these existing schemes were marred with various leakages.¹⁵

The new Act kept the structures of all the old schemes in tact but tried to plug the leakages by such means as use of cash transfer to the card holders, tracking the truck load of grains through the technology of GPS etc. In so far as the implementation of the PDS goes, it has been pointed out that various leakage-proof methods of payment for delivering food to the final and needy consumers will be introduced. As per the requirements under the scheme, the family data, including the entitlements to various schemes has been collected, computerized and stored. After that ultra small banks have been introduced to directly pay to the personal account of the consumers. As per the UNDP survey it is working successfully with minimum leakage¹⁶. But the most important point to enquire is whether, in preparing the list of beneficiaries, all the eligible persons are covered¹⁷. For example, the expert group on the food bill, had pointed out in 2010 that in many instances a significant number of the eligible beneficiaries had been excluded from the BPL list¹⁸. It has often been reported that in order to

obtain food at a subsidized rate the influential persons of the village get themselves enrolled as eligible beneficiaries and the deserving poor fail to access the benefit to which they are entitled. In order to remove such distortions, the new Act has raised the coverage to 75 per cent of the total population. Still it may not work given the nature of the situation on the ground. There is yet another problem. With a growing trend of conspicuous consumption by the middle class, the well-to-do section of the population were found to be consuming more meat and milk products and to meet their demands there was the tendency to feed grains to the goats, chickens, pigs and cows, thus diverting a part of the available food grains away from human consumption to animal consumption¹⁹. This fact creates the apprehension that a part of the food grains meant for public distribution may be cornered by the traders and diverted both by legal and illegal means to the market of grains for animal consumption.

Another issue is that the capacity of a family to buy food grains even at a cheap rate depends on its purchasing power²⁰. Further it is, no doubt, good that the oldest woman of the household will have the family's ration card in her name. But it may also become a cause of possible conflict and domestic violence against women. Sometimes, a drunkard or abusive husband or son may beat her up and snatch away the ration card for pawning. Even then the new provision is welcome. But it is important to be alert to such eventualities.

Many studies show that the present Act does not meet the requirement of what is needed to tackle malnourishment. According to one study of the ICDS and MDM, there are 61 million chronically undernourished children, and 8 million malnourished children. But under the new law the nutrition provided with is not adequate to give

them full nourishment²¹. Others²² have pointed out that as per the rules of ICDS, the *anganwadi* is supposed to isolate the malnourished children and facilitate their treatment in the hospital on a priority basis. In reality however invariably those children who belong to the marginalized sections are never considered for treatment until they fall to the zone of acute malnourishment. Besides if they are sent to the hospital, the malnourished children are not allowed to stay in the hospital for a reasonable period to recover fully.

A major question is whether the girl child would still get the required nourishment given the social attitude that does not give equal treatment to girls and boys. Normally, the intra-family distribution of food is biased against the girl child. The problem may be compounded, because the amount of food required per person is 7kg, but under the Act entitlement is only 5kg²³. The possibility that the shortage between the requirement and entitlement would be covered by making discrimination against women and girl children cannot be ruled out. Under the new Act pregnant women are entitled to nutritious food and a monthly allowance. Leakages have occurred while implementing similar kind of facilities under ICDS also²⁴. Thus the past experiences show that the poor lose out in practice despite provisions in law or administrative policies that ensure their entitlement.

Agrarian Reforms and Food Security

Both the Food Security Act 2013 and MGNREG scheme emphasize, among other things, on increasing the productivity of land through the strengthening of the infrastructure. These two schemes seek to raise productivity by digging well and undertaking other activity of long term importance to improve the productivity of land. For such purpose money is provided under MGNREGS to improve the productivity of the

land-holdings of the small and marginal farmers²⁵. Both the schemes also highlight steps to provide better access to the markets.

It is necessary to take note of the fact that the Indian agrarian economy may be characterized as the economy of small and marginal farmers. As per the Agriculture Census 2001, the average size of the land holding has declined from being 2.3 hectare to 1.37 hectare between 1971 and 2001. Around 80 per cent of the total farmers belong to the small and marginal categories²⁶. Of course the share of agriculture has declined in terms of its contribution to the Gross National Product from being 30 per cent in the Ninth Five Year Plan to 14.5 in the Eleventh Five Year Plan. But in terms of employment agriculture employs more than 50 per cent of the labour force²⁷. With a large size of population of 1.2 billion and the looming food crisis in the world, India can ignore the development of agriculture at its peril. It is satisfying to note that in recent time, the investment in agriculture has gone up from 17 percent in 1999 to 28 per cent in 2008, bulk of it going for improving infrastructure.²⁸ It is indeed a welcome development. But nothing is being done to regularize the rights of the share croppers who are the actual cultivators. This is particularly relevant to women because, now-a-days, women are increasingly being found to be supervising agricultural production or working as share croppers²⁹ in the absence of men. Yet their rights are not recognized. It has several serious implications.

First of all, the women are in charge of food security of the household and agriculture is becoming more and more feminized³⁰; but they are yet to be recognized as the cultivators. In 2007 the ILO reported that 59 per cent of the total female labour force in South Asia remains as the

unpaid labour in their family business. Secondly, the government of India has made it mandatory to distribute the ceiling surplus land and waste land to women. But in effect, the outcome of the national policy on the distribution of government land did not work effectively. It is doubtful if the right to inheritance of the ancestral property would be honoured either due to the strong patriarchal tradition that persists³¹. Thus a large segment of the producers or persons in charge of supervising agricultural production and contributing to the family income have been ignored in the food security Act. Of course, one may argue that the Act recognizes the role of women's collective or Self Help Groups (SHGS) in managing the ration shops wherever possible. But they will only supervise the implementation part. It is noteworthy that women's role as producers is not recognized. They are recognized only as implementers.

Secondly too much importance has been given to rice, wheat and some coarse grains which are supposedly the superior grains at the cost of various types of locally produced millets and other local crops. For example, *mahuha* flower and *ragi* are used as staple food extensively by the tribal groups for three to four months in a year. Even though it is included in the minor forest produce, the Act is silent on this. The nearly six percent tribal population of India who are concentrated in some regions, depend on various minor forest produce and other locally produced coarse grains as their staple. In Chhattisgarh the percentage of tribal population is as high as 31 where the staple food of tribals varies.³² One may argue that tribal groups eat those flowers out of necessity not out of choice. But still it is important to know if the mahua flower has any nutritional value before we give it up as inferior food. For ensuring cost-effective and sustainable food security, it would probably have been a better

option, at least in certain areas, to depend on the local variety cereals, leafy vegetables and other edibles and supplementing them with some wheat or rice procured from outside. The new Act has provided for procurement from wider geographical area. But it has not paid attention to the need to increase the productivity of local variety of food items available in the tribal area. Some of the minor produce like teak leaves for making cups and plates, gathering honey are mentioned as tradable products; but even in these cases nothing has been thought of in this Act or the Forest Act to increase their productivity.³³

Thus on the whole the Food Security Act contains some new elements only at the implementation level and they are at best of marginal significance. But the fundamental problems such as leakage proof methods are not addressed except for providing wider coverage. Structural problems such as land reforms or recognizing women as cultivators have not been addressed. The procurement and storage policy still remains hierarchical without recognizing the role of local initiatives. Panchayats which have been created to bring government to the doorstep of the people have also been ignored.

Role of Gram Sabha and Panchayats

This takes us to another fundamental weakness of the food security Act. The rural people in general or Gram Sabha are treated as the beneficiaries and not as decision makers. Currently members of the Gram Sabha don't take part in planning for ensuring food security of the village or for increasing productivity of land. A large number of villagers are without land rights and they are not part of any process of carrying out agrarian reforms. This situation persists even after the new law came into force. Traditionally, the peasant community is known for its rationality

by which it decides what to grow and when to grow depending on the weather conditions. As a result the community could minimize its loss of grain on the occasion of uncertain weather (McAlpin, 1979)³⁴. Now that the weather condition has become very uncertain because of climate change and other factors, it is even more important to involve the villagers in the planning process. In the present context it should be mentioned that the Gram Sabha may not represent the interests of all sections of the people. In a stratified village, there is always the danger that the powerful people may grab power in the local bodies directly or indirectly and corner the benefits by co-opting the SC and ST ward members. More so if the latter don't have right to land but work as share croppers. Thus by recognizing their rights over land, one structural problem could have been solved effectively to ensure representation of all sections in the gram sabha. This is especially significant because several measures have been taken in the recent years to reform the structures of the Panchayats in order to widen and deepen democracy at the grass-roots level.³⁵

However, the Panchayats continue to play minor role in implementation of social sector development programmes including public distribution system, ICDS and MDM. For managing these programmes at the local level, there are several government functionaries. These functionaries are not accountable to the panchayats. Moreover, there is hardly any demarcation of responsibilities among the three tiers of panchayats in implementing these programmes. In some programmes women's groups have been assigned a role, but in the absence of any institutional linkage between them and the panchayats that arrangement has not

worked well. The experience shows that wherever panchayats have played a central role, backed by the State, in providing basic services and have taken part in managing public distribution system or in such land reform programme as identification of share croppers, the result has been quite encouraging.

That panchayats can play a catalytic role in land reforms and thus may contribute towards increasing agricultural productivity was evident in case of West Bengal. When West Bengal launched a vigorous land reform programme in late 1970s, panchayats were given important roles in implementing the same. They were involved in the process of identification of sharecroppers who were given security of tenure. As a part of the land reform programme, ceiling-surplus lands vested in the government were distributed to the landless people for cultivation. Panchayats identified the beneficiaries of this programme. Small and marginal farmers were given mini agricultural kits consisting of improved seeds, fertilizer and also pesticide. Again, Panchayats discharged the responsibility of identification of beneficiaries of this programme. As a result of all these, agricultural production increased considerably.³⁶ This goes to show that Panchayats discharged their responsibilities of implementing a progressive land reform policy in an effective manner. Studies have also shown that the Dalit male Pradhans of Bengal could target effectively in distributing agricultural kits to the fellow villagers and could deliver basic services to female headed households of their villages³⁷. Evidence from several states suggest that the panchayats can take charge of local development plans effectively including implementation of such difficult programmes as land reform and development of agricultural productivity.

Women in Panchayats

The women members work in panchayats under double burdens of domestic responsibilities that includes care-needs of the family and simultaneously work on family farm. But their work is still neither recognized nor valued. As elected representatives to the panchayats, they are expected to face the challenges of these institutions. They got opportunities to become representatives in panchayats under reservation provisions. It is true that many of them find it difficult to learn the ropes of politics, but one has to remember that they work under sub-optimal conditions. Of course, recent researches show that in many places women Sarpanches are able to deliver basic services by being a part of the women's collective or being guided by the civil society organisations or even being helped by the family members.³⁸ For example, the study conducted by UNDP and the Ministry of Panchayati Raj between 2003 and 2008 in ten states showed that wherever elected women representatives became a part of the women's collective and are backed by the civil society members, they could perform well in delivering basic services such as water, and electricity etc. These women could lobby in the Gram Sabha to get things done.³⁹ The Koodumbashree a micro credit programme in Kerala, has been applauded for enabling women to gainfully operate micro credit groups and through that channel get elected to panchayats and become successful leaders.⁴⁰

Similarly an all-India study conducted in 2007 showed that elected women representatives delivered the basic services including nutrition-related services for children once they were made aware of their role⁴¹. It was also noted that the women efficiently looked after the programmes

of immunization, including polio drops⁴². Yet, according to the study, the villagers don't think of them as being capable leaders due to their gender bias.⁴³

It is also known that women in panchayats along with other women of the village can look after the storage of food grains in a cost effective manner. Rural Women have been doing this kind of work for ages. Women are the reservoir of the traditional knowledge of food production. Besides they transmit the message of minimizing wastage of food grains from generation to generation through socialization of children. Women also play a central role in storing the food grains in a cost effective way. While nobody is against the scientific storage facilities organized or to be organized at the level of state or the Districts or Blocks, it needs to be borne in mind that there are many remote areas where it is difficult to reach out adequate ration during the rainy season, if there are no easy road to carry ration⁴⁴. For such areas it would be beneficial for local people if the storage facilities of food grains could be set up at the gram panchayat level and managed by the women representatives of panchayats. At the same time it has to be stressed that sustainable food security means that we not only produce more but also minimize the wastage of food as well.⁴⁵

Thus it would be apparent that the panchayats can play an important role in the management of Food Security Act. Unfortunately its members are completely sidelined under the Act. Neither the panchayats nor the gram sabha have been given any significant role in planning for food security in the micro region of a village or even in implementing the food-supply related schemes. It is also seen that the issues concerning share croppers and women cultivators have not been addressed properly.

Postscript. How is the Food Security Act-2013 working in the field?

On 24 April, 2014 in order to commemorate the women's political empowerment day- coinciding with the passage of 73rd Constitution Amendment Act - the Institute of Social Sciences, New Delhi had organized a two day convention of 150 elected women representatives who had assembled to discuss the working of the Food Security Act in New Delhi. They came from thirteen states starting from Sikkim to Rajasthan, Chhatisgarh, Madhya Pradesh, and Haryana etc. Most of them are in the age group of 30 to 40. Most of them belonged to the panchayats. We document some of the voices from the field to show as to how the food security act is getting implemented. First of all it was noticed that most of the provisions of the new act is not known to the panchayat members. Secondly panchayats are playing a very minor role in so far as the implementation of the Food Security provisions are concerned. Of course the act was passed last year (2013) but the government has not taken care to spread the information to the grassroots leaders who have the main responsibility of implementing the scheme. At the same time different provisions of food security such as a subsidized rice, services of Anganwadi centers, provisions Mid Day Meal, cash transfer which is the trump card of the new Act were discussed. It was noticed that the implementation of the scheme is riddled with many problems ranging from leakages to complete non-availability. Hence the elected women representatives present there suggested that extensive training is necessary to impart information to the elected women representatives for the effective implementation of the food security act.

Experience from Odisha's Hinterland.

The Institute of Social Sciences, New Delhi has been working in the tribal Districts of Odisha since the first Panchayati Raj election took place in 1997. We worked in Rayagada, Nuapada and Jagtsinghpur from 1997 to 2001. Again we worked in Rayagada and Mayurbhanj in 2013-14. In the first term we monitored and evaluated all the women ward members and Sarpanches, of 8 panchayats of two blocks, all the women Samiti members and that of Zilla Parishad. We repeated the same model in Nuapada as well. In Jagatsinghpur on the other hand we worked 8 Blocks and all the women ward members, Sarpanches, Samiti members and that of Zilla Parishad. Altogether we monitored 144 elected women representatives during the first time and second time we evaluated their performance. Based on those I summarize some of the views of the women.

Compared to the first term this time it was noticed that women knew about all the welfare schemes. They were more enthusiastic about NREGS and Food Security Act. In addition, some of them were monitoring the mid day meals, ICDS and ration shop. They also took part in registering the list of BPL for the eligibility of ration.

On asking the efficacy of the women Sarpanches, the village women pointed out that they don't feel intimidated approaching the women. In so far as the knowledge of the food security is concerned even village women are aware of the fact that it is the woman of the family who would own the ration card. They also reeled out the amount of rice due to each of them including the extra eligibility of the pregnant women and children. But many asked about the duplicating nature of the entitlement of pregnant women in

both NRHM and NFSA-2013. In many places women Sarpanches are working along with ASHA workers and self help group members. Hence it is a win win case .

However, usual weaknesses namely, depending only on rice and wheat continued. Because sustainable food security would be achieved if and only if locally produced so called inferior cereals should be encouraged to be produced and used also. Similarly many of them felt that the locally produced vegetables along with vitamin tablets should be given to the pregnant women as well as should be served in the Mid Day Meals and ICDS.

Conclusions

In order to eradicate hunger and to improve the dismal scenario in respect of various health indicators such as malnourishment, undernourishment and infant mortality, the Indian government has passed a right based legislation in the form of Food Security Act. The Act has some innovative features in terms of implementation, such as extended coverage of the population in respect of access to food at a subsidized rate, minimizing the leakage of food grains from the storage to the distribution point and making the oldest woman of the household as the holder of Ration card for the family, etc. But the provisions such as centralized storage and distribution through the existing schemes of PDS, ICDS and MDM etc, still remain in tact along with the army of existing functionaries who had been managing those schemes.

The most glaring weakness of the Act is to give marginal role to the Gram Sabha as well as to the Panchayats. It is a well known fact that the peasant community guided by 'peasant rationality' knows how to minimize the hazards of the uncertain weather conditions by adopting

various strategies for crop production. But in the present case the gram sabha has been reduced to being mere beneficiaries and not as planner of food production. Similarly the panchayats have been reduced to monitoring agencies only. The Act did revive the issues of land reforms by taking up infrastructural development and improving the market facilities but did not go far enough to back them up with other necessary structural reforms. In the context of the growing phenomenon of feminization of agriculture, it is important that women's contribution to unpaid work in the family farm should be acknowledged and their right to land be ensured. No attention has been given in the Act to address these unfinished agenda. The ultimate objective of the Act is to guarantee right to food to all, particularly those who are marginalized and vulnerable. If this objective of the Act is to be realized, it would be necessary to rectify the gaps to which attention has been drawn in the foregoing discussion.

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14. Nirakar Behuria writes that in Odisha the official gram sabhas were held in 2012 to finalized the list of beneficiaries for different programmes.
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ABSTRACT :

Despite the enactment of several legislations, implementation of policy measures and schemes, women are facing several problems like domestic violence, gender discrimination and exploitation in the society. So, it is the need of the hour for women's development and empowerment. The aforesaid topic is selected for study with an objective to evaluate the contribution of Biju Babu towards women empowerment. The study is qualitative in nature, predominantly based on secondary sources of data available from Government reports, journals and websites. The analysis reveals that Shri Bijayananda Patnaik, popularly known as Biju Babu had made an outstanding contribution towards women development and his significant role played for development and empowerment of women will always stand as a good example for other political leaders in the country. (Key words: Odisha, Education Empowerment, Women)

Women Empowerment in the Regime of Biju Babu

Dr. Dhanalaxmi Pattnaik

(I) Introduction:

Although women constitute almost half of the world population, yet their role in the economic development and decision making process were least due to various socio-economic constraints. In past, many political leaders and social reformers like Raja Ram Mohan Roy, Swami Vivekananda, Swami Dayananda Saraswati and the father of nation Mahatma Gandhi were against social atrocities towards women and emphasized on women's education. Yet, women in India suffered from several problems like female infanticide, *sati*, purdha, child marriage, illiteracy. They were

treated no better than domestic animals and confined within four walls of the house. Their socio-economic status was much lower than their male counterparts. With a view to empower women economically, politically and socially, the Central as well as the State Governments have enacted several legislations and implemented comprehensive measures and schemes from time to time (Halba, 2013). The Central Government has made a separate Ministry for Women and Child Development, National Commission for women, Rajiv Gandhi National crèche scheme. Rajiv Gandhi Scheme for the Empowerment of Adolescent Girl etc. for empowerment of women.

Despite such legislations and programmes, women in our country not yet secured a rightful place in the society and suffered with dowry deaths, domestic violence, cruelty of men, gender discrimination and exploitation etc. Majority of women are engaged in the informal sector with low-paid wages, lower-skill occupations with little or no social protection. Hence, it is the need of the hour to empower them in all aspects. In this context, the aforesaid topic is selected for study. This article briefly discusses the importance of women empowerment and evaluates the contribution of Biju Babu towards women development and empowerment.

(II) Literature Review:

Several state level studies have been referred in this present article. The result shows that education as well as employment helps in improving the standard of living of women. Some of the past studies are as follows.

- Dinabandhu Moharana (2016), in a study has discussed elaborately about the contribution of Biju Babu towards women development and also analyzed different women's welfare programmes implemented by the Government of Odisha during the reign of Biju Babu. The author concludes that women's development is highly essential for the growth and development of a country.
- Pabitra Mohan Barik (2014) has analyzed the importance of women empowerment for the sustainable development of a country. The author also highlighted the major political achievement and women development programmes undertaken by Biju Babu.

(III) Methodology:

The study is qualitative in nature based on secondary sources of data collected from different journals, websites and reports. The rest of the paper is divided into various segments. It includes profile of Biju Babu, women empowerment, Biju Babu and concluding remarks etc.

(IV) Profile of Biju Babu:

Former Chief Minister of Odisha Bijayananda Patnaik popularly known as Biju Babu always remembered by the nation for his outstanding contributions made for the development of the State. Apart from being a renowned politician, he was a successful industrialist, a brave pilot, a popular freedom fighter and a torch bearer for women empowerment and also an architect of Modern Odisha. This great leader was born on 5th March, 1916 in Cuttack, Odisha. He was the son of Shri Laxminarayan Patnaik and Smt. Ashalata Devi. He completed his primary education at the Mission Primary School and then Mission Christ Collegiate School of Cuttack and joined in the degree course at Ravenshaw College and later Biju Babu discontinued his studies and joined for pilot training at the Aeronautic Training Institute of India and the Delhi Flying Club. Biju Babu had learned the quality of heroism and bravery from his parents and followed the footprints of Napoleon. During the year 1940-42, when the struggle for independence was going on, he was the chief of the Air Transport Command and earned reputation for his struggle for freedom. He was a man of courage with outstanding personality and proficiency in communicating the ideas effectively. As a result a large number of people got confidence in him. Biju Babu became the

Chief Minister of Odisha during the period 1961 to 1963. Again in the year 1990; he became Chief Minister and continued for the full term of five years. He was also the member of the Lok Sabha as well as a member of the Rajya Sabha. In 1977, Biju Babu served as the Union Minister for Steel and Mines under the Government of Morarji Desai and Charan Singh. During his tenure as Chief Minister of Odisha, Biju Babu has given first priority for massive industrial development. He had also established many Corporations and Boards under different departments for the development of Odisha. In the year 1952, Biju Babu established the Kalinga Foundation Trust to encourage scientists from all over the world. He also initiated the UNESCO Kalinga Prize for excellence in the field of science. To remember his contribution to the welfare of the State, the Government of Odisha, named several institutions after him, which includes Biju Patnaik University of Technology in Rourkela and Biju Patnaik International Airport in Bhubaneswar. Recognizing the bravery steps of Biju Babu, the government of Indonesia has honoured him with highest Civilian award 'Bhumi Putra' and highest National award, 'Bintang Jasu Utama'.

(V) Women Empowerment and Biju Babu:

Women empowerment is an on-going dynamic process which creates an environment for the women to make self-decision for their benefits as well as for the society. It enhances their social, economic, political and legal strength and makes them aware of their rights and responsibilities. The empowered women also act as an agent of change by empowering other women, which is highly necessary for the overall development of the society. For a woman empowerment is to develop a greater degree of

self-confidence, independence, sense of pride and courage to fight against social injustice. Recognizing the importance of women empowerment and to make a revolutionary change in the society, Biju Babu during his second tenure as Chief Minister, seriously thought for the active participation of women in all sectors. He was of opinion that women should get equal right, equal power and enjoy the same privilege as men in the society. Biju Babu was the first Chief Minister in the country, who by undertaking some drastic measures politically, economically and socially had brought the women into the mainstream of the society and empowered them. Hence, he is said to be the brain child of women empowerment in Odisha (Dash, 2015). During the international women's week i.e from 1st March to 8th March, 1994 mass awareness camps were organized by the State Social Welfare Board of Government of Odisha to spread the message of equality, empowerment and entrepreneurship among women. In the context of women empowerment, Biju Babu had initiated the following measures.

(a) Women education and employment:

Education is one of the most important tools for achieving prosperity, knowledge, skill and self-confidence necessary to take part in the decision making process. It enables a person to bring a change in the lifestyle and respond to the challenges in the society. It is needless to mention that deriving women from basic education obstructs the path of their empowerment. During the first term of the Chief Ministership, Biju Babu gave importance for women's education, as it is necessary for population control, social development and women empowerment. With a view to expand girl child education in the State, sanitation facilities were provided to them in the

school. Incidentally, the enrolments of girls' students in the primary school have been increased and at the same time the dropouts were reduced. It is worth to be mentioned that after so many years the same policy has been retreating in Prime Minister Mr. Modi's pet scheme "Beti Bachao Beti Padhao" which aims to ensure the availability of essential requirements related to health care, education, protection and elimination of discrimination of girl child. During his period, Biju Babu introduced "condensed courses" for adult women at different places in Odisha. During the course period trainees were provided free coaching, study materials and hostel facilities. After qualifying the examination, the candidates were appointed as a primary school teacher. As a result, many women candidates got job opportunities through the condense course system. Similarly, during his second tenure as Chief Minister, Biju Babu had undertaken several measures for the development of women's education in Odisha, such as establishment of a large number of High Schools for girls, women's colleges, women's polytechnics and B.Ed. colleges. Moreover, for the sustainable development in education sector, his Government had decided to take over the management of all the government aided schools. He took an important decision to reserve qualified women candidates for the posts of primary school teacher in Odisha. In fact, it is an important revolutionary decision taken by him to empower women financially. He had also set up a large number of educational institutions in tribal areas in order to improve their education and provided scholarship to the tribal girl students. He also gave special emphasis on science education and skill development for girls with a view to enable them financially independent. In order to encourage education among the girl students the attendance scholarship and merit scholarship and hostel

facilities were given to them. During the year 1994, Biju Babu also took the decision to raise the upper age limit for years for women candidates appearing in various written examinations, interviews and appointment in State Government jobs. He had taken a revolutionary step by making it mandatory to reserve 30 per cent of posts in government services for women. As a result of which a large number of women candidates could get the opportunity to join in different jobs recruited by the Government. Biju Babu made it compulsory to mention mother's name along with father at the time of school admission and also in the Board Certificate with a view to give importance to the female gender in the State. As a result many parents were willingly interested to send their daughters to school and also to continue their studies.

(b) Other Developmental measures:

He has taken several initiatives for the establishment of Mahila Thana at each district to look after grievances of women. Similarly Mahila banks have been set up in different parts of the State for easy disbursement of loan to needy women. He had encouraged Odia girls to participate in sports at national and international level and also Kalinga Bali Yatra, Boita Yatra of Odia 'Sadhavas'.

(c) State Commission for women:

With a view to protect the rights and safeguard and dignity of women, the State Commission for Women was established in the year 1993. It makes co-ordination with human rights protection cell for the elimination of torture to women and also provides better health facilities to them. The Commission also creates mass awareness against all types of atrocities, dowry

torture and dowry death. It also tries to improve the status of women with more emphasis on tribal areas. Today the aforesaid Commission is able change the distress life of many women.

(d) Sabai Grass Development Corporation:

During the year 1994, Biju Babu took a policy decision to set up a Sabaai Grass Development Corporation' for women. The State Government and "Youth-Ending-Hunger", an international voluntary agency jointly work for the corporation. Sabai grass was used by women belonging to scheduled caste and scheduled tribes to produce household items like ropes and rope-products. These poor women had to depend on middlemen for raw materials and traders for marketing the products who exploit them a lot. It was decided by the Government that the corporation would provide improved varieties of Sabai seeds and necessary implements to women for cultivation of grass. The Corporation would also organize technical training to women for skill development. It also took charge of marketing of household product, including ropes and rope product which are made by rural women as a result of which these poor women were financially empowered.

(e) Tribal women development:

Biju Babu put more emphasis on tribal women development. He used to visit the tribal areas and discussed with them about their problems and development programmes meant for them. He was the only Chief Minister of India who appointed five tribal women as his "Unofficial Advisors". They were free to communicate any problem with Biju Babu at any time. He was receiving their advice while implementing various anti-poverty measures, literacy programmes in

tribal areas and were given police power for protection. During the year of Women Empowerment, 2001, two brave unofficial advisors named Sumani and Jhadiani were given "Stree Shakti" National Award by the Government of Odisha.

(f) Dowry eradication measures:

Biju Babu came to know that after independence the problem of dowry still persists and there was no limit for bride death and bride torture in the society. He had issued instructions to the government officials that if ever any dowry case registered against any government servant, the said person will be immediately dismissed from the service. During the financial year 1992-93, an amount of Rs.0.57 lakh was spent in the budget for organizing theatres on anti-dowry programmes in different places of Odisha. The fund allocation increased to Rs.50 lakh during 1994-95 (Pattnaik, 2006). To eradicate this social evil, anti-dowry awareness campaigns were organized by voluntary organizations in different places of Odisha. Besides, workshops and seminars were also conducted to create awareness among the public. All these measures had created fear in the minds of dowry seekers and bride killers as a result of which dowry harassment cases and dowry death cases were reduced to some extent.

(g) Odisha Mahila Vikas Samavaya Nigam:

Odisha Women Development Co-operative Corporation, popularly known as Odisha Mahila Vikas Samavaya Nigam was established by Biju Babu during the year 1991 with a view to integrate the women development plans at various levels. This Corporation is working as a nodal agency to co-ordinate and monitor various development plans for women.

It is currently working as the apex State level women's co-operative body. Some of its major activities are providing income generating schemes, training social programmes and marketing assistance to women self-help groups, organizing meeting of women entrepreneur. This corporation also helps in empowering women in various aspects. It provides financial assistance to educational institutions and NGOs to open "Women Study Circles" with a view to provide coaching in different competitive examinations to women.

(h) Mahila Samruddhi Yojana:

Mahila Samruddhi Yojana was another welfare programme implemented by Biju Babu on 2nd October, 1993. Its main objective was to empower rural women by developing saving habit, self-reliance and self-confidence. Under the scheme, each beneficiary deposits up to Rs 300/- in a year to which the government provides 25 percent as an incentive.

(i) Women's participation in Panchayati Raj system:

During the second tenure of the Chief Ministership from 5th March, 1990 to 15th March, 1995 Panchayati Raj system gained more importance due to the dynamic leadership of Biju Babu. He thought that, the democratic society, the political participation of women is necessary to achieve a greater degree of socio-economic development. He was very confident that the women can definitely run the Panchayat Samiti and Zilla Parishad well. On the Panchayati Raj Day, Biju Babu announced that for the first time in the history of independent India, women will be given 33 percent reservation in the Panchayati Raj Institutions at all levels — starting from Gram

Panchayats to Zilla Parishads and accordingly the Odisha Zilla Parishad Act of 1991 and the Grampanchayat Samiti Act of 1992 have been amended. Such provision encourages women to participate more in politics in village level, which strengthen the political status of women in the State. After the enactment of the aforesaid Acts, Odisha was the first State in the country to elect 28,000 women at various Gram Panchayats, Panchayat Samities and Zilla Parishads. One third of the Zilla Parishad Chairman and Vice Chairman posts are reserved for women candidates. For efficiency and transparency in the administration, the elected women representatives of Panchayati Raj institutions started receiving training through the State Institute of Rural Development, the Odisha Women Development Co-operative Corporation and NGOs. In this way women in Odisha became empowered politically, economically and socially. This reservation policy for women in Panchayati Raj system was followed by many other State Governments of India and enacted in their respective States. As a mark of Biju Babu's contributions and profound love for the Panchayati Raj Institution, the State Government celebrates his birth anniversary i.e. 5th March as 'Panchayati Raj Divas'.

(j) Concluding Remarks:

The findings of the study reveal that, in lieu of the provision of scholarship to a girl child, recruitment of trained female teacher in the primary schools, the enrolment of girl child in primary schools steadily increased during the tenure of Chief Ministership of Biju Babu. His contribution towards women development cannot be described in words. The major role played by him for the upliftment of women was always standing as a good example for other political

leaders in the country. Biju Babu may not be with us, But his significant contribution towards the empowerment of women will always remain in the heart of the people of Odisha.

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A Tribute to Biju Babu

Prabhudutt Dash

A patriot who risked his life
for our prosperity,
An entrepreneur who is the architect of modern Odisha,
A tall man who is the guiding light for future politicians,
A statesman who connected Odisha with the rest of the World,
A maveric who never compromised with his principles,
A Global leader who received
coveted Bhoomiputra Award from Indonesia,
A visionary who left footprints on the sands of time,
The jewel of Kalinga whose integrity and honesty were
unquestionable and unimpeachable,
A magnanimous who championed the cause of women
empowerment and development of the poor and destitute,
A household name who always fought for the pride and
prestige of Odisha,
A real hero Biju Babu,
Odisha salutes your patriotism and generosity.

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Abstract

Woman is a mother of race and is the liaison between generations. Women possess exemplary qualities like patience, endurance, love, affection, sympathy and generosity. Jawaharlal Nehru once said: "To awaken the people, it is the woman who must be awakened. Once she is on move the family moves, the village moves, the nations move". The status of women in any society is the index of the standard of its social organization. The standard of a society rises and falls in correlation with the rise and fall in status of women. Women constitute almost half of the population of the country. Though women constitute half of the world's population their participation in work and income generation is less than half that of men. In this paper an attempt has been made to review the women empowerment by Micro Finance with special reference to Self Help Groups (SHGs) approach. Self Help Group (SHG) approach is a wonderful tool not only for poverty alleviation but for empowerment of women. Non Governmental Organisations (NGOs) have recognized micro-finance as one of the tools to attack poverty through the women empowerment. They have facilitated organization of SHGs for a common cause through a process of social mobilization with varying entry points like removal of illiteracy, basic health care, access to local resources, removal of social ills, resolution of social conflict, protection of environment thrift and credit. The analysis is mainly with the support of secondary data from Economic Review, Planning Board, Government of Odisha, Bhubaneswar Municipal Corporation (BMC) and other documents. Method of data collection employed in this part includes questionnaire, focus group discussions. Since, Micro finance with special focus on SHGs, are still in the evolving stage, the paper does not attempt to go beyond identifying some pattern and trends and it may need more deep and longitudinal studies in future.

Women Empowerment by Micro-finance Special Reference to Self Help Group Approach

(A Case Study of Urban Poor in Bhubaneswar Municipal Corporation)

*Gayatri Sahoo
Dr. Pritirekha Daspatanayak*

Woman is a mother of race and is the liaison between generations. Women possess exemplary qualities like patience, endurance, love, affection, sympathy and generosity. Jawaharlal Nehru once said: "To awaken the people, it is the woman who must be awakened. Once she is on move the family moves, the village moves, and the nations move". The status of women in any society is the index of the standard of its social organization. The standard of a society rises and falls in correlation with the rise and fall in status of women.

Women constitute almost half of the population of the country. Though women

constitute half of the world's population their participation in work and income generation is less than half that of men. Here in this paper an attempt has been made to review the women empowerment by micro-finance special reference to Self Help Groups (SHGs) approach. Self Help Group (SHG) approach is a wonderful tool not only for poverty alleviation but for empowerment of women.

The plan and programmes pertaining to women are not charity but investment in the country's future with high rates of return. There are many studies which show 'Self Help Group' (SHG) approach is a wonderful tool not only for

poverty alleviation but for empowerment of women.

Raheem and Raman (2005) opine that in India, where poverty still remain a major problem with around 320 million people forming 36% of the population living below the poverty line, Non-Governmental Organizations (NGOs) have recognized micro-finance as one of the tools to attack poverty through empowering women. They have facilitated Organization of SHGs for a common cause through a process of social mobilization with varying entry points like removal of illiteracy, basic health care, access to local resources, removal of social ills, resolution of social conflict, protection of environment thrift and credit.

Empowerment

For Sen (1993), empowerment is reflected in a person's capability set. The 'capability' of a person depends on a variety of factors, including personal characteristics and social arrangements. Empowerment is the capacity to fulfil this capability and not just the choice to do so. Sen's view on women's empowerment is indicated in his discussion on measurement of empowerment (Sen 1990). According to him, the focus should be on certain universally valued functionings, which relate to the basic fundamentals of survival and well-being regardless of context. These include proper nourishment, good health and shelter. If there are systematic gender differences in these very basic functioning achievements, they can be taken as evidence of inequalities in the underlying capabilities, rather than as differences in preferences.

There are arguments on why MFIs should adopt empowerment approaches: Firstly, micro-finance

practices do not always produce automatic empowerment benefits for women; therefore, empowerment must be strategically planned for in MFIs. Secondly, empowerment approaches allow micro-finance institutions to realize their full potential in contributing to a number of critical dimensions of women's empowerment. Finally, empowerment approaches are often compatible with other approaches to micro-finance (e.g. financial sustainability), and can actually enhance the aims of these other approaches in many cases. – Mayoux (2006).

Micro-finance and women's empowerment

The focus on women's empowerment in the context of micro-finance brings to light the significance of gender relations in policy development circles more prominently than ever before. Women are vaunted as a 'weapon against poverty' (DFID 2006, 1).

The rationale for providing women access to micro-finance services is that gender inequalities inhibit economic growth and development (World Bank, CIDA, UNDP, UNIFEM). Hence, the Canadian International Development Agency (CIDA) provides "increased access to productive assets (especially land, capital, and credit), processing, and marketing for women" (CIDA 1999).

Critics of the development perspective argue that the policy development approach to empowerment is extremely instrumental. As Cornwall and Edward (2010) put it, "women's empowerment is heralded as a means that can produce extraordinary ends ... their empowerment extolled as the solution. To a host of entrenched social and economic problem. The predominant image of empowerment in

development is that of women gaining (material) means to empower themselves as individuals, and putting this to the service of their families and communities.” This is primarily because empowerment is understood in relation to deliberate and planned interventions such as electoral quotas, education, economic empowerment initiatives, legislative change and non-governmental public action.

A number of studies provide evidence that micro-finance is an effective strategy to reduce poverty, especially among the very poor (Daley-Harris, 2007). However, there seems to be an unexamined belief that through micro-finance, individuals and small cooperatives can gradually scale up to having stable income without loans or can save or invest enough expendable income to utilize traditional finance services.

Grameen Bank, both in its early and more contemporary models, provides nonfinancial supports to individuals. Early on, Grameen Bank and other organizers provided a variety of social change services such as informal education, birth control, and business training (Mizan, 1994). Today, Grameen Bank has substantially expanded services to include property and health insurance as well as retirement savings programs in order to augment its financial services (Yunus, 2003). No other organization can boast this long history and expertise in microloan programs. Grameen Bank’s diversification of services provides a strong argument that a mere scaling up is not a sufficient poverty-reduction strategy, but that along with microloans to the poor, other services and supports designed for low-income individuals and within the context of developing economies are necessary.

Micro-finance Programs: Work for the Poor

One route by which poor women gain access to capital is localized micro-finance programs. Often provided or facilitated by NGOs, these loans support women’s ability to save, budget and plan, develop a regular income level, participate in cooperative experiences with other women or men, make decisions about how to invest, earn a profit, pay back loans, and access social capital within the financing organizations. NGOs and financing organizations often offer multiple resources such as a space to meet, marketing or advertising for products, a permanent address for receiving mail, space to keep and display crafts or products, record keeping for finances or inventory, equipment such as sewing machines or kitchens, and access to a wider network of NGOs for advocacy, information, training, and marketing.

Our focus in this study was the poorest of the world’s residents—women and their children, among whom poverty is defined as income of less than one dollar a day (Annan, 2006).

Micro-finance is believed to increase the status of the poorest of the world’s residents—women and their children, among whom poverty is defined as income of less than one dollar a day (Annan, 2006) and promote empowerment among women and improve their general welfare through several mechanisms.

Anderson, Locker, and Nugent (2002) have found that women feel empowered to have a say in family decisions when they are earning more and contributing to the family income. Other benefits are specific to women and their families as well. Mayoux’s (2002) study confirms findings

that women spend more of their income on household well-being, including their own and their daughters' education and health, than their husbands do. In addition, as women's income earning potential increases, fertility rates decrease (Schuler & Hashemi, 1997). Data from Amin's (1993) study indicated that women's relative economic contribution is greater in poor households: women spend a larger proportion of their earnings on household expenses such as medicine, food, and education than men. These gender based differentials are of strategic importance to poverty reduction among women and family welfare (Kebeer, 2001).

To overcome poverty and empower themselves, women need to be able to borrow, save, and invest, and to protect their families against adversity. And this is only possible through the Microfinance and the Microfinance linkage model like the Self-Help-Groups (SHGs).

In the above context, it can be concluded that the poor needs small amount of financial services which can be available for their basic needs and improve their standard of living. The living condition can include education, empowerment of women, preparedness for future or vulnerability, food habits, health and other deprivations.

The Concept of Self Help Groups

The decade of nineties witnessed a growth of various people's organizations. The SHG programme is a supportive, a formal solidarity institution, usually change-oriented mutual aid group that addresses a life problem or condition commonly shared by all members. Its purpose may be personal or social change or both. Significance of social movement is power to the

people, which has born out of the realisation that society's traditional arrangements for solving their problems are inadequate. The Self-help refers to provision of aid to self and it emphasizes self-determination, self-reliance, self-production and self-empowerment by mobilizing internal resources of persons, the group or the community. In traditional rural and urban societies, self help takes various forms.

A Self-help group is a small informal group consisting of not more than 20 members, voluntarily coming together in rural, semi-urban and urban areas. They hold meetings and save small amounts regularly typically on a weekly basis. The amount is contributed to a common fund and deposited in a bank. The fund is used to grant collateral free loans to the members of the SHG. The groups decide themselves the interest rate and terms for lending from the corpus. Normally these groups lend for very short terms at two to three per cent per month working out to 24% to 36% interest per annum. The interest rate depends upon the kind of activity to be pursued by the borrowing member.

This helps their members to imbibe essential financial intermediation including prioritization of needs, setting terms and conditions and accounts keeping. This gradually builds financial discipline in the members. They also learn to handle resources of a size much higher beyond individual capacities of any of them. The SHG members begin to appreciate that resources are limited and have a cost.

Once the group has been shown this mature financial behavior, banks are encouraged to make loans to the SHG in a certain multiples of the accumulated savings of the SHG. The bank loans are given without any collateral and at market interest rates. The groups continue to

decide the terms of loans to their own members. Since the group's own accumulated savings are part and parcel of the aggregate loans made by the groups to their members, peer pressure ensures timely repayments. SHGs enable women to grow their savings and to access the credit which banks are increasingly willing to lend. SHGs can also be community platforms from which women become active in village affairs, stand for local election or take action to address social or community issues (the abuse of women, alcohol, the dowry system, schools, and water supply).

Present Study

Keeping the above facts in mind the present study focuses on the role of Micro Finance with special reference to Self Help Groups (SHGs) approach to study not only to reduce the poverty but also how it empowers the women in the slums of Bhubaneswar Municipal Corporation (BMC).

The growth rate of urban population in Odisha is 26.80 percentage in 2011. The total slum population in Odisha is 1560303 in 2011. Except Nayagarh all the other districts are identified of having slum population by the Census of India. Odisha has 107 statutory towns, out of which 76 statutory towns have slum population.

Bhubaneswar, the capital city is having the maximum no. of slums. As per 2008 survey by Bhubaneswar Municipality Corporation (BMC), there are 377 slums with 308614 populations in Bhubaneswar. The total approximate number of households is 60126. The average number of households per slum is 159 where as the average population per slum is 819.

Objectives

The objective of the present study is to analyse the poverty alleviation and economic empowerment of woman through Self Help Groups. More specific the paper aims;

1. To Study the income, expenditure and savings of the members after joining the SHGs.
2. To study the impact of SHGs and the status of women such as socially, educationally, economically, leading to empowerment.
3. To compare the status of women before and after joining Self Help Groups.
4. To study the role of micro finance in women empowerment.
5. To study the performance of SHGs in BMC.
6. To offer suggestions for the betterment of women's empowerment in SHG.

Hypotheses

Following hypotheses will be empirically tested:

1. Microcredit oriented SHGs are the appropriate alternative institutional arrangement for the poor and poverty alleviation.
2. Self-help group are an effective way of promoting socio-economic empowerment of poor women.
3. The usefulness of SHG's is not up to the desired satisfaction level due to various socio-cultural factors.

Methodology of the Study

The present study is related to women empowerment by Microfinance with special reference to Self Help Groups (SHGs).

Primary data were collected through personal interviews and observations and through indirect means as well as informal talks with the Government employee (BMC Officials, CDPO), the NGOs functionaries, the Bank officials, the News reporters, the social workers and friends of the respondents. These latter sources were also useful in cross-checking the accuracy of the information given by the respondents about the

nature and degree of their involvement, operations and performance of the SHGs.

For the convenience and empirically justifying the objectives and hypotheses, data has collected from both secondary and primary sources. In the secondary sources, there are literatures (Books, Journals, Research papers, working Papers, demographic data, slum lists, etc.). The literatures produced by sociologists, economists, Self-help Group Promoting Institutions (SHGPIs), social activists, anthropologists, political scientists, and policy planners, are used for the present study.

The tools used for primary data is interview schedule. Apart from interview schedule, "Focus Group Discussion" (FGD) was taken place. Before the collection of the data at the household level, the slums will be identified for the survey on the basis of existence of SHG. A sample of 180 households which are participated under SHGs are interviewed from the slums with SHGs from the study area. The household survey pertaining to socio-economic conditions of the members of SHGs will be done.

Before collecting primary data, by the help of secondary sources, a set of interview schedule has been developed. With the sets of interview schedule field survey has done. The schedule was carry out the general information about the poor urban slums, the existence of SHGs, about the SHGs members income, expenditure and savings, what influenced her to join the SHG and her participation in decisions making, planning and its implementations and outcome after joining the SHG (socio-economic status and poverty level). In all 180 household respondents were selected by simple random sampling method. The study being purely descriptive no complicated models and tools were used. Only percentage and average were used for analysis.

Limitations of the Study

1. The study confined with the urban poor (Bhubaneswar Municipal Corporation only i.e. 377 slums). Hence the results may not applicable to rural areas SHG members.
2. The data was collected from those households who have participated in SHGs and engaged in income generating activities.

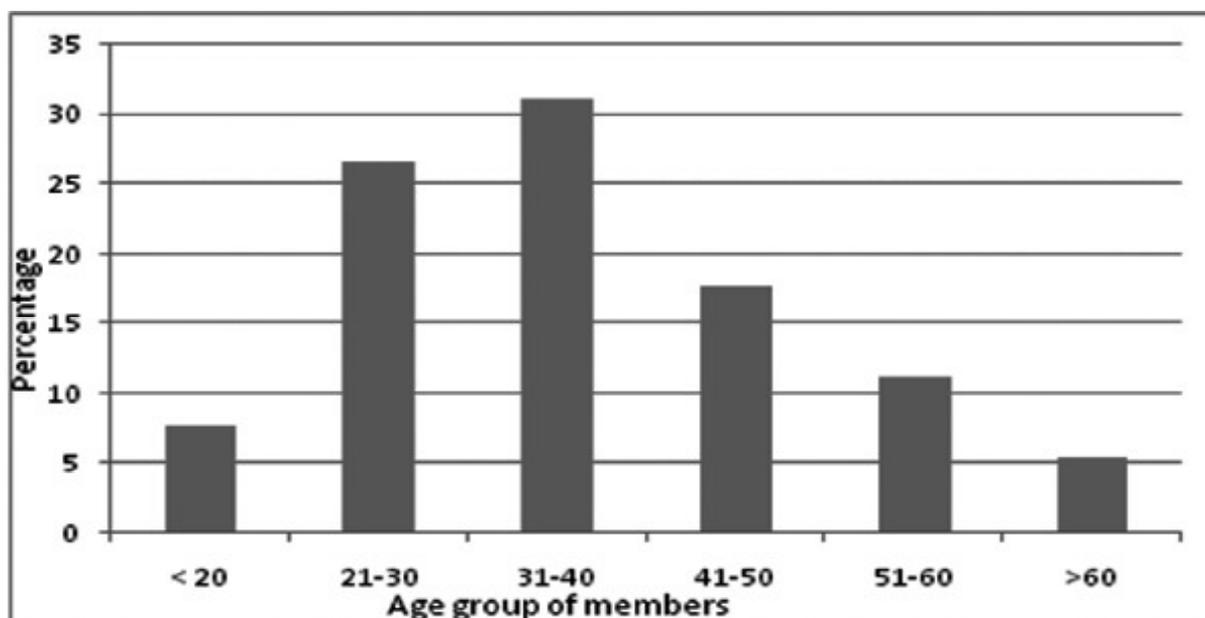
DATA ANALYSIS AND INTERPRETATION

TABLE-1
Age Group of Members

SL.NO	Age Group	No of Respondents	Percentage
1	Less than 20	14	7.78
2	21-30	48	26.67
3	31-40	56	31.11
4	41-50	32	17.78
5	51-60	20	11.11
6	60 and above	10	5.55
	Total	180	100%

Source- Primary Data

Graphical Representation of Table-1



The above table shows that SHG members who are below 20 years of age and above 60 years of age are very few. It is only 7.78% and 5.55% respectively. Members between the age group of 21-50 constitute 75.56% and they are playing a greater active role in SHGs.

TABLE-2

Monthly Income of the Members before and after Joining Self Help Groups

Monthly Income in Rs.	Before joining SHGs		After joining SHGs	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Less than 2000	30	16.67	18	10
2001-3000	42	23.33	38	21.11
3001-4000	56	31.11	64	35.56
4001-5000	32	17.78	36	20
5001-6000	14	7.78	16	8.89
Above 6000	6	3.33	8	4.44
Total	180	100%	180	100%

Source- Primary Data

Graphical Representation of Table-2

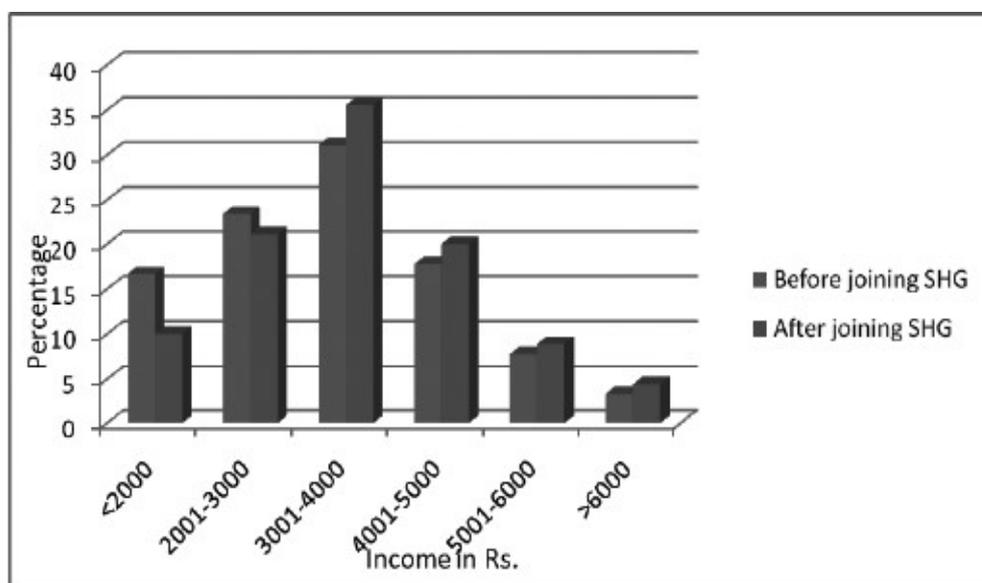


Table -2 shows the change in income of respondents before and after joining the SHG. Before joining SHG the percentage of the responding members earning is higher in the lower income groups i.e less than Rs.2000-4000 which constitute 70.11%. But after joining SHG the percentage is shifted to higher income groups, i.e Rs.2000-5000 which constitute 76.67% of the total respondents.

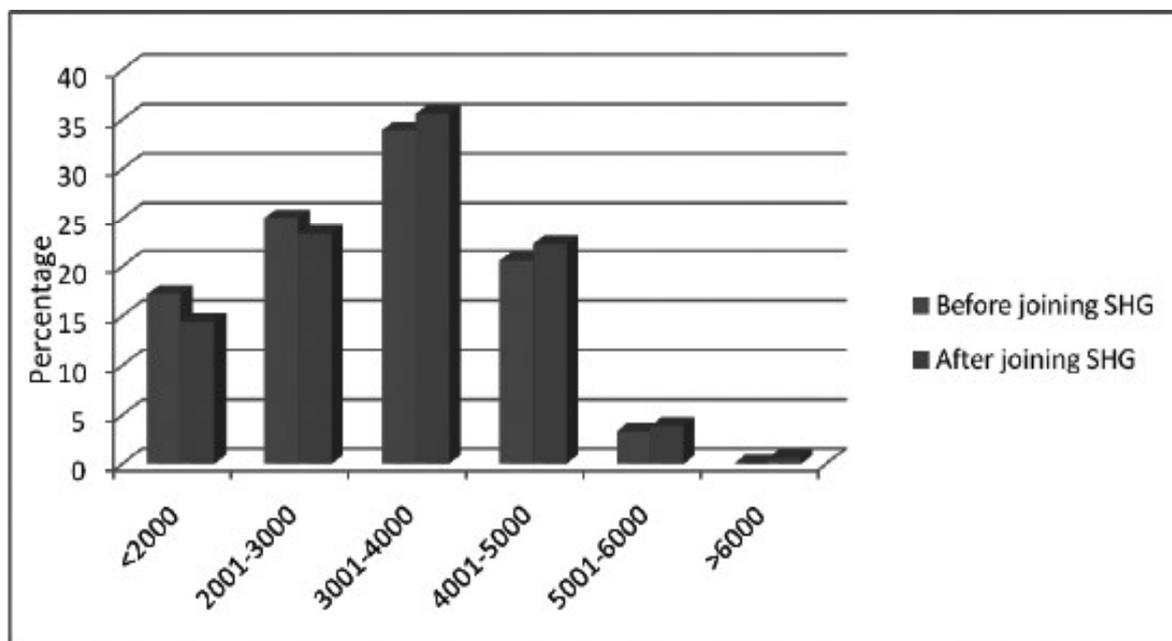
TABLE-3

Family Expenditure of the Members before and after Joining Self Help Groups

Monthly Expenditure in Rs.	Before joining SHGs		After joining SHGs	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Less than 2000	31	17.22	26	14.44
2001-3000	45	25.00	42	23.33
3001-4000	61	33.89	64	35.56
4001-5000	37	20.56	40	22.22
5001-6000	06	3.33	07	3.89
Above 6000	00	0.00	01	0.56
Total	180	100%	180	100%

Source- Primary Data

Graphical Representation of Table-3



The above table shows that expenditure of the family members has increased due to positive change in their income after joining the SHGs. Not only the income has increased but also the expenditure has increased.

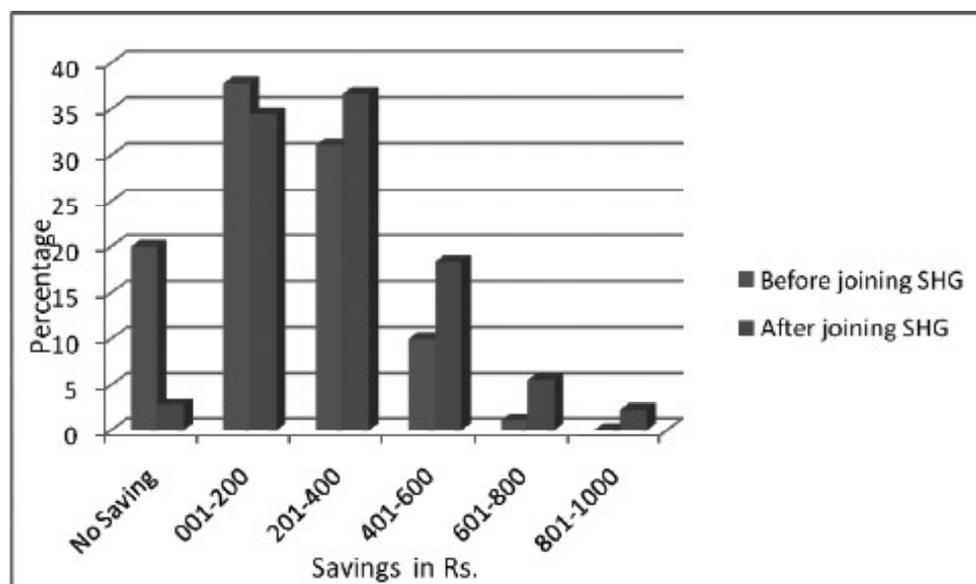
TABLE-4

Family Savings of the Members Before and After Joining Self Help Groups

Savings in Rs.	Before joining SHGs		After joining SHGs	
	No. of Respondents	Percentage	No. of Respondents	Percentage
No Saving	36	20.00	05	2.78
001-201	68	37.78	62	34.44
201-400	56	31.11	66	36.67
401-600	18	10.00	33	18.33
601-800	02	1.11	01	5.56
801-1000	00	0.00	04	2.22
Total	180	100%	180	100%

Source- Primary Data

Graphical Representation of Table-4



The above table reveals the saving of the respondents before and after joining SHGs. In the above table 20% of respondents were not in the habit of saving before joining SHG, but after joining SHG it reduced to 2.78% of the respondents starts saving. The percentage of members who saves 1-400 rupees is more which is around 68.89% in the case of before joining SHG but it is shifted to the numbers -600 which is 89.44% after joining SHG. None of the members had saving capacity above 1000 before joining SHG. But after joining the group 4% of the members are able to save above 1000. Thus by joining the SHG the poor have included the habit of saving and banking culture.

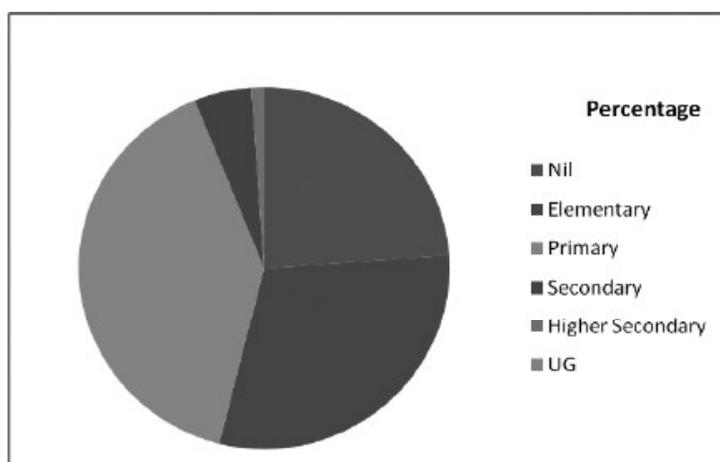
Table-5

Educational Qualification of Respondents

Sl.No	Types of Education	No of Respondents	Percentage
1	Nil	43	23.89
2	Elementary	54	30.00
3	Primary	72	40.00
4	Secondary	09	5.00
5	Higher Secondary	02	1.11
6	UG	00	0.00
	Total	180	100%

Source- Primary Data

Graphical Representation of Table-5



From the above table it clearly depicts that the no of respondents is more for the primary groups. Their study is limited upto elementary and primary. Very few go to higher secondary and none of are UG.

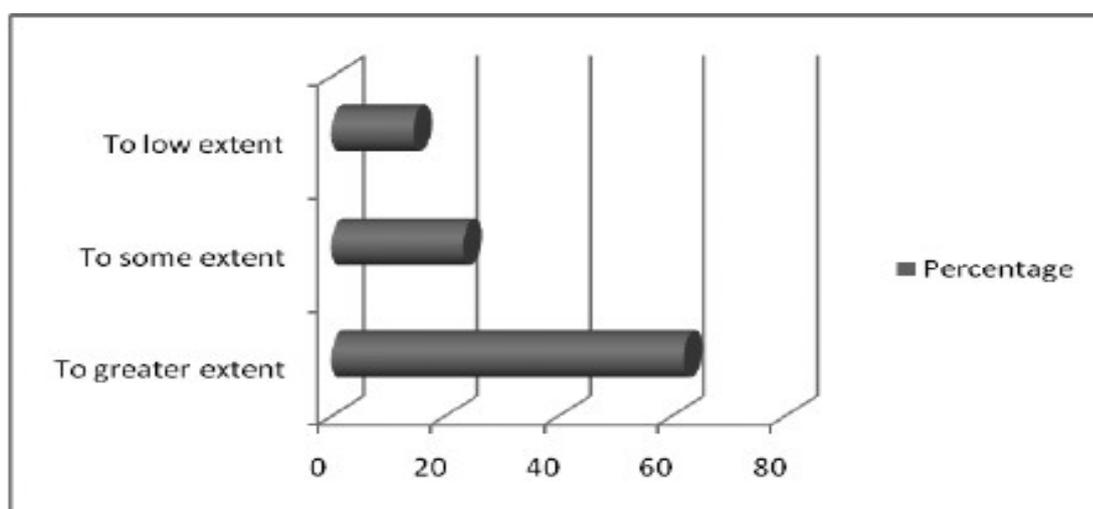
Table-6

Reduce in Poverty Level after Joining Self Help Groups

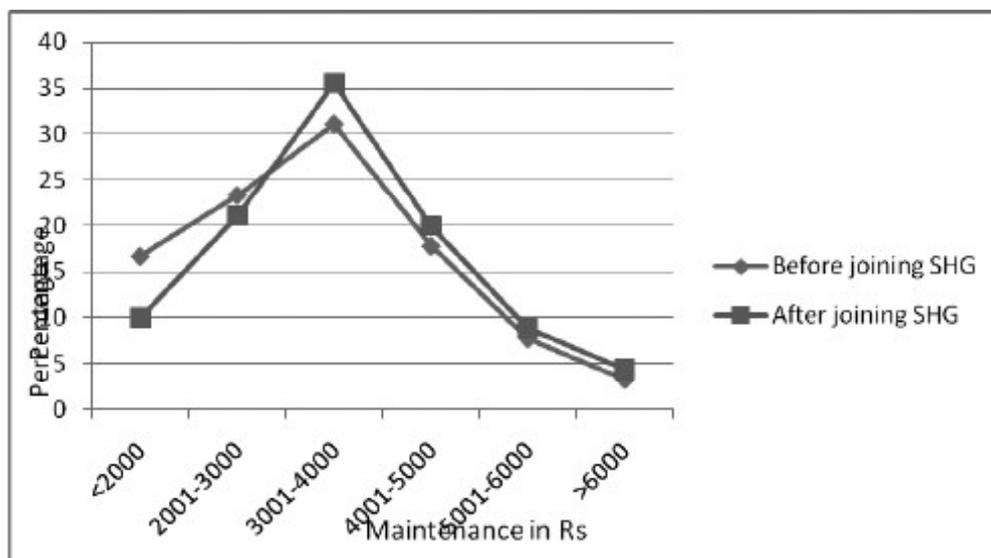
Sl.No	Reduce in Poverty Level	No of Respondents	Percentage
1	To greater extent	112	62.22
2	To some extent	42	23.33
3	To low extent	26	14.45
	Total	180	100%

Source- Primary Data

Graphical Representation of Table-6



No-7- Graphical Representation of Maintenance level of the Family by women before and after joining Self Help Groups



In the above graph it is clearly seen that the women's contribution to the household is lower before joining SHG but after joining SHG the contribution increases in higher income groups.

Table-8

**Percentage of respondents empowered socially
Expressing opinions freely**

Sl. No	Options	No of Respondents	Percent
1	Yes	178	98.88
2	No	02	1.11
	Total	180	100%

Source- Primary Data

178 out of 180 respondents agreed they can express their opinions freely both in group and family.

Table-9

Moving Independently

Sl. No	Options	No of Respondants	Per cent
1	Yes	164	91.11
2	No	16	8.88
	Total	180	100%

Source- Primary Data

Table-10

Role of decision making in family
Role of decision making in a family

Sl. No	Options	No of Respondents	Per cent
1	Yes	120	66.66
2	No	60	33.33
	Total	180	100%

Source- Primary Data

66.66% of respondents agreed they play a vital role in decision making in their house.

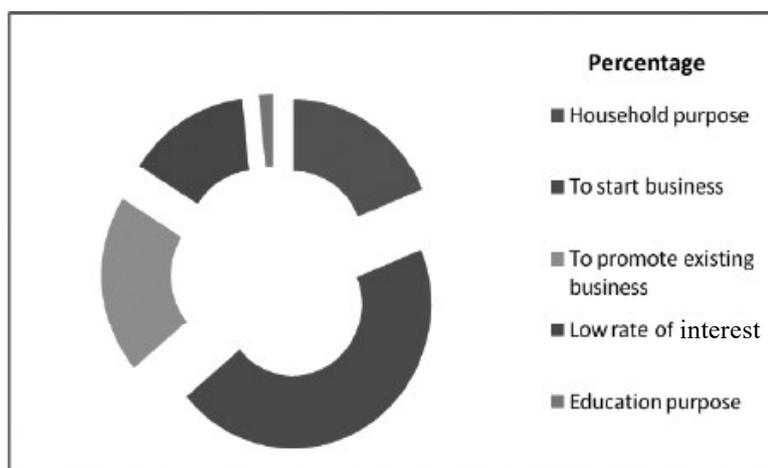
Table-11

Purpose of getting Microfinance by respondents

Sl. No	Options	No of Respondents	Percentage
1	Household purpose	34	18.89
2	To start business	81	45.00
3	To promote existing business	36	20.00
4	Low rate of interest	26	14.44
5	Education purpose	03	1.67
	Total	180	100%

Source- Primary Data

Graphical representation of Table -11



Findings of the Study

From the above analysis we found that;

1. SHG members are able to improve their income, expenditure and savings.
2. Easy access to credit enables the members to meet their consumption, needs like food, health, education etc.
3. SHG members are able to engage in productive activities or income generating activities.
4. Before joining SHGs most of the women were house wives, working as agricultural labourer, but after joining SHGs women activities have been changed to self employment activities such as fruits, flowers, vegetable vending, dairy activities, small grocery shops and other business activities and thereby they have become self-reliant.
5. SHGs have changed the perception of women toward education; they are sending their children to school.
6. Study reveals that income of members of SHGs is increasing and thereby they are able to meet their basic needs, leading to poverty alleviation.
7. Regular meetings and discussions with peer members, social mobility, gradually enables them to acquire leadership qualities, decision making capacity and empowerment.
8. Regular savings make them credit worthy and enables improved interface between banks and peoples institutions. They are now being asked by their men folk to obtain loan from government banks for income generation activities.
9. With increased income they have become health conscious and they go to the hospital for regular medical checkup, taking good quality food and adopting family planning measures.
10. Women tend to spend the benefits on family welfare, food, health and social fees.
11. Increased income enabling them to have more assets. They are now able to afford valuable assets.
12. Study reveals that members of SHGs are taking more of productive and business loans compared to that of before joining (i.e. consumption loans, marriage loans etc).
13. More than 98% of the members loan repayment is regular and in time, which will have positive effect on further credit operations of the groups. It will also help the sustainability of SHGs.
14. Women are economically and socially empowered after joining SHGs and getting microfinance as 62.22 per cent reported that poverty level reduced to greater extent by participating microfinance programme.

Problems :

1. Some of the SHGs are finding it difficult to maintain books because majority of the members are illiterate and have to depend on others for book keeping.
2. SHG members' expectations are very high. They expect promoters of the group should provide free medical facilities (like take them to hospital and provide treatment) in times of need.

Suggestions :

1. Along with credit, priority and importance should be given for literacy.

2. Promoters of SHGs should educate women folk regarding various incentives, schemes offered by the government and about the free medical schemes available.
3. To encourage more and more women participants; government should arrange private training institutions, guidance and assistance with regular and adequate credit.
4. There is need of special numerical skill, development programmes to avoid financial mistakes in record keepings, interest computation, depositing etc.
5. National institutes such as NABARD and Government should support for the growth and development of SHGs.
6. There is need of training programmes for SHG's women for marketing of products, maintaining day to day transaction in systematic manner.

Conclusion :

This study reveals that membership to SHGs helped women to become economically independent, self confident with improved prestige in the community. From our study and observations it may be concluded that the economic activity of SHGs was successful. Thus the SHGs are able to reduce poverty and successfully achieved women empowerment in backward or poor living areas. The microfinance brought psychological and social empowerment than economic empowerment. Impact of microfinance is appreciable in bringing confidence, courage, skill development and empowerment. The SHG members feel free to move with their groups and leaders. It leads them to participate on various social welfare activities with good to cooperation. While interacting with the respondents, it is noticed that some members are expecting the NGO to come up with more training sessions in income generating activities. All they need is a way to develop their skills and

talents by participating in various training programs.

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Post – Independence era in Odisha witnessed various measures undertaken by Government of Odisha for the educational developments for all in general and Scheduled tribes and Scheduled castes in particular. Accordingly, it prepared a report of existing educational institutions starting from lower primary level to Higher Secondary education collecting educational data of boys and girls year wise. On the basis of this Report, it chalked out plans and programmes to be implemented for the development of education. From the Annual Report of the Government of Odisha, it was found that in the early decades of independence era, women education did not

have also been formulated and implemented for the spread of girl's education. A special department, namely the Tribal and Rural Welfare Department has been set up to look after the Welfare of Tribal people. Since they are both economically and educationally backward, the students belonging to Scheduled Castes(SC) and Scheduled Tribes(ST) are exempted from payment of tuition fees in all types of educational institutions. Over and above this concession, the poor and deserving students receive stipends and lump sum grants from the Government from the Tribal and Rural Welfare Department and the

Educating Tribal Girls in Odisha : A Search on Their Apathy

Mrs. Biswarupa Dash

receive proper weightage inspite of government's measures which was expediated later on.

The present paper aims at examining the educational status of tribal girls of Odisha. Despite the sincere and concerted efforts by the government for the overall development of scheduled tribes, they are still far behind in almost all the standard parameters of development. They are not participating in the process of development as they are not aware of most of the programmes and policies made for their upliftment.¹ Several commissions and committees have been appointed and several policies and programmes

pupils of Primary Schools are supplied with reading and writing materials².

The schemes and programmes that have either been completed in the recent past or are still continuing, could be divided into two groups. Such as (A) General Schemes and Programmes and (B) Gender Specific Schemes and programmes² the description of which is given below:

- (A) General Schemes and programmes.
 - i) Non-Formal Education (NFE)

Non-formal Education is an alternative to the formal system which has the potentiality of becoming the major programme of education for girls who cannot attend school during normal school hours due to various reasons³.

ii) Operation Black Board (1987)

Operation Blackboard centrally sponsored programme which was started in 1987 immediately after the declaration of Rajiv Gandhi National Policy on Education of 1986.

iii) National Literacy Mission (NLM)

The National Literacy Mission is a nationwide programme started by Government of India in 1988.

iv) District Primary Education Programme (DPEP)

This programme was initiated in 1994 and the prime objective of this was to provide all children with access to primary education within the formal system or through the informal education programme like NFE that was initiated during 1979-80.

v) National Programme of Nutritional support for primary Education.

National Programme of Nutritional Support for Primary Education, which is otherwise popularly known as Mid-Day- Meals Scheme was initiated in the year of 1995.

vi) Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE)

The Non-Formal Education (NFE) system which was introduced in 1977-78 was revised and renamed as the Educational

Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) in 2000.

vii) Sarva Shiksha Abhiyan (SSA)

Sarva Shiksha Abhiyan (SSA), which was launched towards the end of Ninth Five Year Plan period, is considered as a flagship programme for achieving the goal of Universalisation of Elementary Education (UEE) for all children in the age group of 6-14⁴.

(B) Gender specific schemes / programmes

i) Mahila Samakhyas

Kasturba Gandhi Balika Vidyalaya (KGBV) is residential upper primary schools for girls from SC, ST, OBC and Muslim communities.

ii) National Programme of Education for Girls at Elementary Level (NPEGEL)

Some of the important schemes and programmes of the Union Government and that of the state of Odisha are mentioned below.

(i) Construction of Educational Institutions:

The Ministry of Tribal Affairs provide financial assistance to construct different categories of educational institutions in tribal areas. Odisha has a total number of 1031 Sevashrams and 143 Residential Sevashrams, 112 Ashram Schools, 91 Girls High Schools, 115 High Schools, 8 Higher Secondary Schools and 10 model residential schools named as Ekalabya Model Residential Schools (EMRS).

(ii) Establishment of Girls and other Hostels. In order to facilitate education among the ST girls, the scheme of establishment of girls hostel is in operation in the country since the Third Five year plan period.

(iii) Distribution of Bi-cycles to ST Girl students of Scheduled Areas

During the financial year of 2006-07, a total number of 3678 ST girls have been provided with bicycles who have passed HSC examination and continuing their studies at college level and in the current financial year (2007-08), there has been a provision to provide bicycles to these students amounting to Rs.81.00 lakh

(iv) Cash Award Scheme for Best ST students and Educational Institutions.

This scheme is in operation in the state of Odisha since 1987 with a view to create competition spirit among the ST students and educational institutions running under the ST and SC Development Department.

(v) Introduction of Teaching in Tribal languages –

The Union Government has sanctioned the proposal of teaching in tribal language and the state government has recently introduced teaching in 10 major tribal languages, that is in Santali, Saora, Munda, Bonda, Kui, Kuvi, Juang, Koya, Kissan and Oraon in some Sevashrams and Residential Sevashrams functioning under the ST and SC Development Department.

(vi) Exemption of Tuition fee and the provision of N.T. Books.

In order to reduce the financial burden of ST parents, the government has resolved long back to provide elementary education free of cost by 100 percent. They are also provided with free N.T books and other study materials.

(vii) Pre-Matric Scholarship: –

Pre-matric Scholarship scheme for the ST students is an old and very popular scheme of the Union Government. This scholarship provides

to all the ST hostelier students from class I to class – IX whose parents are not income tax payers, at the rate of Rs.400/- per boy student and Rs. 425/- per girl student per month.

(viii) Admission in College / Universities and Post Matric Scholarship –

There is a provision of reservation of seats in college, universities and other state and national level educational institutions for the ST students and other than admission they get post-Matric scholarship. The post-Matric scholarship schemes for the ST students was, for the first time, introduced in 1948-49 for pursuing their higher education.

(ix) Book Bank facility –

The scheme of Book bank facility was introduced in the year of 1978-79 for the ST students pursuing costly courses relating to medical and engineering streams⁵.

In India the female literacy rate has increased from 15.34 percent in 1961 to 53.90 percent in 2001. In Odisha the female literacy has increased from a lower level, that is only from 8.65 percent in the former Census Year to 50.51 percent in the later one. Odisha has a low literacy rate. According to 2001 Census, overall literacy rate in the country is 65.08 percent. The literacy rate among Scheduled Tribes in Odisha is a cause for concern, as of it has constantly been lower than that of total population. The literacy rate among Scheduled Tribes, which was 22.31 percent in 1991, increased to 37.37 percent in 2001. Male literacy has increased from 34.4 percent to 51.5 percent during 1991-2001. Female literacy continues to be an area of concern despite notable achievement. During last decade, ST female literacy is lower by approximately 27%

compared to overall female literacy of the general population.

Literacy Rate among Total Population and ST Population in India (1961-2001)

Census years	Total Population			Total ST Population						
	Male	Female	Total	Gender Gap/ Difference between male/female literacy	Gender Disparity Index	Male	Female	Total	Gender Gap/ Difference between male/female literacy	Difference between literacy rate female & ST Female
1	2	3	4	5	6	7	8	9	10	11
1961	40.40	15.34	28.31	25.06	-	13.04	2.89	7.99	10.15	12.45
1971	45.95	21.97	34.45	23.98	-	17.09	4.58	10.89	12.51	17.38
1981	56.37	29.75	43.56	26.62	0.352	24.52	8.04	16.35	16.48	21.71
1991	63.86	39.42	52.21	24.44	0.288	40.65	18.19	29.60	22.46	18.19
2001	75.26	53.90	64.84	21.36	0.216	59.17	34.76	47.10	24.41	19.14

Source – Census of India publications 1971, 1981, 1991, 2001

In case of low female literacy seven districts of Odisha have below 30% women literacy as revealed from the Census of India 2001. These districts are Kalahandi (29.56), Nuapada (26.01), Gajapati (28.91), Koraput (24.81), Rayagada (24.31), Nawarangpur (21.02) and Malkangiri.⁶ (21.28)

Literacy rate of General and ST population in different Decades –

Year	Odisha					
	I			General		
	Male	Female	Total	Male	Female	Total
1971	16.38	2.58	9.46	38.30	13.92	26.18
1981	28.32	5.81	17.01	47.09	21.12	35.37
1991	34.44	10.21	22.31	63.01	37.07	49.09
2001	51.50	23.36	37.37	75.95	50.05	63.08

Source – Census of India

School dropout is one of the major social problems for tribal girl students in Odisha. Several factors have been found that are responsible for the dropout of ample pupils. They are –

- (i) Uninterested in studies
- (ii) Required for household works.
- (iii) Cost of schooling is too much

- (iv) Getting married in early age
- (v) School too far away
- (vi) Non-availability of proper school facilities for girls.
- (vii) Required for the Care of sibling.
- (viii) Non-availability of transport.

The Government of India has taken up a number of laudable efforts to bring the Scheduled Tribes educationally at par with the rest of the populace of the country. Various gender specific schemes and programmes have also been introduced at different phases of time for encouraging girls literacy⁷. In spite of these measures, there is little interest found among the tribal parents to pay proper attention for educating their girl children. Most of them are infested with blind beliefs, superstitions and orthodoxy. It requires to train and educate the parents and to create consciousness in them to send their girl children to schools and colleges. Besides, interest-creative moves and measures should be developed so that girls would be interested to go to schools.

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Two major trends that affect our planet: population growth and urbanization. The predicted population growth for the first half of this century is daunting. Depending on the estimate, there will be 9 to 10 billion people by mid-century. The current population is just under 7 billion, meaning that there will be about a 50 per cent increase from the beginning to the middle of this century. One may debate the relative accuracy of particular models, but they all agree that there will be many, many more mouths to feed in the coming decades. IT has transformed many other aspects of human endeavor and has helped create systems for responding to a wide range of societal needs.

survival. Crops are used to produce several food sources by themselves or through by-products such as bread, powders, organic additives to other goods and the like.

The produce from agriculture drives trade from one country to another, brings income for farmers, makes productive use of otherwise idle land, and brings food on the table. It is such an important part of everyone's daily life, although it may not be seen as a direct factor since the produce goes a long way before reaching the hands of everyone who benefits from it. Indian Agriculture contributes to 18.6 per cent of India's

E-Agriculture

Dr. Manas Ranjan Senapati

Indeed, transportation, communication, national security, and health systems are completely reliant on IT to perform even basic functions. However, information, and its automated technological embodiment, has not impacted agriculture to the same level.

The Importance of Agriculture

Agriculture is a major sector which is vital for the survival of modern man. Plants are the producers in the food chain, and without them, the life cycle would just not be possible. Agricultural produce, though highly perishable compared to other food sources, is essential for

GDP, and approximately 59 per cent Indians derive their livelihood from the agricultural sector.

Because of its importance to society, it's must to evolve with the times and adjust to meet the needs of modern people. By adapting and making use of IT to help improve agricultural progress, everyone benefits from the union of these sectors.

Role of IT in Agriculture

In the context of agriculture, the potential of Information Technology (IT) can be assessed broadly under two heads: (a) as a tool for direct contribution to agricultural productivity and

(b) as an indirect tool for empowering farmers to take informed and quality decisions which will have positive impact on the way agriculture and allied activities are conducted. Geographic Information Systems, or GIS, are extensively used in agriculture, especially in precision farming. Land is mapped digitally, and pertinent geodetic data such as topography and contours are combined with other statistical data for easier analysis of the soil. GIS is used in decision making such as what to plant and where to plant using historical data and sampling.

Precision farming, popular in developed countries, extensively uses IT to make direct contribution to agricultural productivity. The techniques of remote sensing using satellite technologies, geographical information systems, and agronomy and soil sciences are used to increase the agricultural output. This approach is capital intensive and useful where large tracts of land are involved. Consequently it is more suitable for farming taken up on corporate lines. The indirect benefits of IT in empowering farmer are significant and remain to be exploited. The farmer urgently requires timely and reliable sources of information inputs for taking decisions. At present, the farmer depends on trickling down of decision inputs from conventional sources which are slow and unreliable. The changing environment faced by farmers makes information not merely useful, but necessary to remain competitive. Use of Mobile technologies as a tool of intervention in agriculture is increasingly popular. Smartphone mobile applications designed and developed by Jayalaxmi Agrotech Pvt. Ltd. from India are the

most commonly used agriculture apps in India. Their mobile apps are in regional language and are designed to break the literacy barrier and deliver the information in most simple manner. Several thousands of farmers across Asia are empowered with these apps. In agriculture, the use of the Global Positioning System provides benefits in geo-fencing, map-making and surveying. In Kenya, for example, the solution to prevent an elephant bull from wandering into farms and destroying precious crops was to tag the elephant with a device that sends a text message when it crosses a geo-fence.

Conclusion

e-Agriculture is an emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes. More specifically, e-Agriculture involves the conceptualization, design, development, evaluation and application of innovative ways to use information and communication technologies (IT) in the rural domain, with a primary focus on agriculture.

The Food and Agriculture Organization of the United Nations (FAO) has been assigned the responsibility of organizing activities related to the action line under C.7 ICT Applications on e-Agriculture.

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The term 'feminism' is derived from the Latin word 'femininus' means 'femina' (woman). Originally meaning "the state of being feminine" and "sense of advocacy of women's rights." It is a "social theory or a political movement which argues that legal and social restrictions on women must be removed in order to bring about equality of both sexes in all respects of public and private life. The term is used in France circa 1837 and in England 1851.¹

Balaram Das was born in the year 1477 or 1472 (Artaballava Mohanty, in the preface of

the reverse he advocates social equality, cleanliness, self-help group, emancipation of women, empowerment of women and upliftment of women as the corner stone of social change. He admixtures religion and spiritualism with his literature to make his reformation movement strong and effective. So he created a divine family story related to Lord Jagannath and made Devi Lakshmi Thakurani, the main character to play the family drama for the benefit of the society.⁴

Cleanliness Campaign (Swaschhata Mission)

Balaram Das, The Pioneer of Feminism

Dr. Chittaranjan Mishra

'Bata Avakash') and was a contemporary of Prataprudra Dev. He was a social analyst and tried to reform the society through the literature. He was the pioneer of Panchasakha cult² as well as the feminism. "Lakshmi Puran" of Balaram Das is the strongest and the Best example of his feminist nature. This book is famous in the nook and corner of Odisha as 'Manabasa Brata' observed in the Odia month of 'Margasira'. Through this book he argues and protests against unequal social structure, crusade against untouchability, and expose the evils of divorce.³In

Balaram Das heralded the 'Cleanliness campaign' through 'Lakshmi Puran'. He speaks in the words of Mahalakshmi :

*"Gurubaradinasakalaru Gomayare
Duara je nalipaialasapanare*

X X X

*Epari nariku Lakshmi namaripranare
Nana duradesebulanti je nirantare"*⁵

These stanzas speak that each household should clean his house on or before every Thursday, at

least once in a week. Otherwise Goddess of wealth Devi Lakshmi dissatisfies and gives punishment. Balaram Das tried to propagate the idea that where there is cleanliness, there is health, happiness and prosperity.⁶ At that time there was lack of cleanliness even among the higher caste people. Most of the people were less conscious on it. The poet says:

*“Keunthare Mahalakshmisuchinadekhile
Chandalasahire jai prabesahoile
Benighadiratrithaiuthichandaluni
Ekabarnagaira je gobarakuani
Gharabaharalipilaatijatanare
chhadapanimundae se pakaeduar
uaa je tandulabatidwarejhotidela
santoshhoina mane Padma nirmanila*

X X X

*Santose Kamala tarapurakuchalile
Chandaluni bhakti mayesantusta hoile.”⁷*

While visiting different settlements of the town nowhere Mahalakshmi saw cleanliness except house of a Chandaluni (Dalit woman) named Sriya of the Dalita Street and Mahalakshmi enters in to the house of Sriya and bless her with a lot of health, wealth and prosperity. It shows that cleanliness has no caste, creed and colour. Cleanliness places a person under the banner of high society and brings health, wealth, happiness and prosperity. He also gives emphasis on the purity of both body and mind.

Women empowerment

Balaram Das encourages the women to raise their voice against any sort of injustice done

to them and inspires them to fight for justice instead of remaining silent. He provides them courage, strength and mental power through the book “Lakshmi Puran”. When Devi Lakshmi was divorced and driven out of Srimandira by Lord Jagannath with the order of his elder brother Lord Balabhadra with an allegation of loss of purity due to entry into a Dalit house, Devi Lakshmi did not remain silent but she tried her best to punish both the brothers with the help of Astabetal (eight invisible spirits), Nidra Devi (Goddess in charge of sleep), Goddess Saraswati (Goddess of knowledge), God of Wind, Sun God and Fire God. As a result Lord Jagannath and Balabhadra did not get any food and drink for a period of twelve years. Near about twelve years she cast a vigilant eye on all types of activities of these brothers and at last compelled them to take food in her house.⁸ As in the words of the poet:-

*“Balaram kahuchhanti suna Jagannath
Jati pachhe jau tanka Ghareneba Bhata”.⁹*

Balaram Das tries to advocate the theory that women are not the objects of pity and husband is not the lord of wife but a friend and a companion in the journey of the life.

Self-help Group

Lakshmi Devi did not go to her parent’s house after she was divorced. She never felt weak, disappointed and helpless. She decided to fight singly against the injustice. She did not accept any help in the form of property from Lord Jagannath. But she constructed a palace with the help of God

Biswakarma (the God of architecture) and stayed there by making a self-help group with her maid workers on the sea beach.¹⁰

Abolition of untouchability

After a miserable defeat, Lord Jagannath and Balabhadra admitted their fault and appealed Devi Mahalakshmi for her return to Srimandira. But Mahalakshmi agreed to return with a condition that:

*“Chandalubrahmnajaepasadakhaibe
Khuakhoihoie hasta jale nadhoibe”¹¹*

Cast description must be abolished from Srimandira and all must be treated equal in the court of Lord. Then only she would return to Srimandira. Lord Jagannath and Balaram agreed with the condition and Devi Lakshmi returned. After her return all sufferings of both the brothers came to an end. It shows that where there is peace, there is the rule of prosperity and house becomes Srimandira.¹²

Like ‘Srimad Bhagabat’ of Jagannath Das, Lakshmi Puran of Balaram Das is also very much popular among the people of Odisha. It is a short divine family story in ornate form but has a great impact in the minds of Odia people. If it will be translated in to other languages, it will enhance the glory of the Odia Panchasakha literature.

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Homage to Biju Patnaik

(The Eagle of Tempest and Sculptor of Earth)

Er. Raghunath Patra

Biju alias Bijayananda Patnaik
was born on 5th March 1916 at Tulsipur,
Father Laxmi Narayan Patnaik
Mother Smt. Ashalata of ideal humour.

Father was brave, independent minded
Mother was pious, generous to distressed
Father belongs to Bhanjanagar, Ganjam
For study and profession at Tulsipur settled.

When National revolution rocked
nook and corner

Biju was born in Odisha in crucial hour
In Cuttack Collegiate School,
1st in Entrance Exam
And Champion athlete in games,
sports adventure.

In Ravenshaw did B.Sc. later Engg. Aeronautical
1937, joined as trainee pilot
in Royal Air Force, British
Later became chief pilot of the same
Moved round India and abroad,
along with VIPs.

1938, Married Gyana Devi at Raolpindi
at the age of 23,
Over looking caste and religion
To him all were alike, no discrimination
All are children of Mother India, Origin one.

After 2nd World War,
Indonesia struggled for Freedom

Dr. Sukarno and associates
were under surveillance
Dutch Govt. may snatch away lives
Nehru desired to rescue Sukarno and
associates.

At this juncture Biju came forward
Flied with his Dakota and saved all without
looking to his life and future
How courageous was He, could others aspire !

Indonesia announced him 'Son of Soil'
Offered mine, jungle and building to stay
Biju accepted warmly but donated back
What a sacrifice, greedless ye !

Secretly, in 1942, Quit India Movement
from place to place carried freedom fighters
like Jaya Prakash Narayan, Aruna Asaf Ali
Biju's Patriotism was detected by Britishers.

Biju was arrested on 13th January 1973
After two years of imprisonment released
1946, joined politics
guided by Dr. H.K. Mahtab
In 1947, from Cuttack he was elected.

On 23rd June 1961, became
Chief Minister, Odisha
During 1967 to 1990, life went up and down
On 5th March 1990 became C.M., 2nd Time
During his tenure of C.M.
numerous projects taken.

Paradeep Port, Express Highway,
Kalinga Tubes
K.Air Line, K. Enterprises, K. Refactories
K.Iron Works, Mig. Factory,
Sainik School, OTM
Agril. University, Regional
Colleges of Education,
Regional Engineering College.

During Emergency Biju was imprisoned again
on 26th June 1975, in a free nation
In 1976 he was released on Parole
Many odds, he came across in life
now and then.

During 2nd time as C.M., started programmes
for upliftment of women of the state
Opened many schools, colleges for Women
Accorded Scholarships to S.C. and S.T.

Reserved 33% seats for women
in Panchayati Raj
& 30% seats in Govt. N.G.Os, Corporation
Ordered for dowry offence a
govt. servant may be dismissed
Established State Commission for Women.

Made Mother's name compulsory with father's
in school, colleges and certificate
Opened women police stations, Women banks
In 1996 elected as M.P. from two seats.

Enhanced wage of daily labourers
Divided 13 districts to 30 districts
Started Paradeep Bali Jatra with Sukarno Putri
"Kalinga Foundation" awards to world-genius.

He breathed his last on 17th April 1997
Left wife, Prem, Naveen, Gita, the daughter
Naveen Babu is our beloved Chief Minister now
A worthy son of worthy father.

I hail you Oh ! beloved leader
Eagle of Tempest, Sculptor of Earth
I feel proud to be little known to you
for my literary and philosophical worth.

Er. Raghunath Patra, Brundaban Dham, Lokanath Road,
Patnahat Sahi Chhak, Puri-752001.

Biju Patnaik was formerly known as Bijaya Nanda Patnaik. A fortune letter pointed out that the latter name was inauspicious for him and it was an obstacle for his improvement in life. Instantly he changed his name to Biju Patnaik. Thereafter his fortune was in his favour. He was born on 5th March 1916. His father was Laxminarayan Patnaik. He was the native of Nuagaon near Bhanjanagar of Ganjam District. As his father was a Government employee, the family shifted to Cuttack. Biju Patnaik was born in Cuttack. He was a Matriculate in 1932 in first division from Ravenshaw Collegiate High School and joined in Intermediate Science in Ravenshaw



Biju Patnaik - His Competency and Skill

Sasidhara Padhy

College. It shows that he was brainy. He was an athletic champion in college. During his student career he joined in Odia Movement and was in close contact with Utkalamani Gopabandhu and Utkala Gouraba Madhusudan Das. He was really interested to be a pilot and to fly in the sky. His ambition was fulfilled. He joined in the Aeronautic Institute of India, Delhi Flying Club.

After completion of his pilot training, he got appointment as a pilot in Indian Air Force. Within a few years of service as a pilot, he earned a good reputation as a skillful and competent pilot.

In 1942 he joined the Quit India Movement under the guidance of Mahatma Gandhi. The then famous leader Jayaprakash Narayan and Ram Manohar Lohia were taking leading part in the movement. In 1943 Mr. Patnaik was in Jail for two years as an active member of the Quit India movement. As he was acquainted with many of the pilots, he mobilised the fellow pilots to join the movement. Pandit Nehru was also taking a very leading part in the Quit India movement. Mr. Patnaik had a good occasion to come in close contact with Pandit Nehru as competent pilot and he became Nehru's trustworthy.

In the days of yore Odisha was named as Kalinga and it has a very prolonged cultural link with Indonesia.

Indonesia is an Archipelago Nation consisting of more than 13000 Islands surrounded by Indian Ocean with Tropical climate. It was bound by culture with South Asia especially with Kalinga. It was under Dutch rule from 1861. During the 2nd world war it was occupied by Japan. Indonesia took it as a chance and declared to be independent in 1945. Dr. Sukarno became the President. The President and Prime Minister sought the help of other eminent leaders. Thus Pandit Nehru came forward to help Sukarno in need, because he was friend indeed. As the president of a Nation he was in need of a competent pilot. Mr. Nehru introduced Mr. Patnaik to Dr. Sukarno. Mr. Patnaik was really a very outspoken and upright person. The heroic zeal of Mr. Patnaik gave much strength of mind to Dr. Sukarno and he felt quite safe and sound getting an expert pilot as his most trustworthy friend. The upright and flawless actions of Mr. Biju Patnaik was recognized by Indonesian government. Consequently Mr. Patnaik was honoured as BHOOMI PUTRA, the highest Indonesian award rarely ever granted to any foreigner.

Once Mr. Patnaik, piloted the first Kalinga Airway plane into Jakarta, the Capital of Indonesia to find Dr. Sukarno, the president in the first flush of Fatherhood. His wife delivered a baby girl and the family was in search of a good name for the new born girl. When Biju Patnaik was given the chance of suggesting the name, he cast his mind back to the clouds, that had greeted the baby, and suggested the Sanskrit name Meghawati. The Sukarno family gladly accepted

the name. A Hindu name given by Biju Patnaik to the daughter of Sukarno, the President of the largest Muslim Nation of the world is really a matter of pride on the part of him in particular and Odisha and India in general. From this we learnt that for great men, religion is a way of making friendship. Days rolled on. Meghawati became the 1st Vice President of Indonesia and there after she became the president.

In 1946 Mr. Biju Patnaik joined in politics as a congress leader. He gained very sweet and challenging experience as a world class pilot coming in contact with Pandit Nehru and Dr. Sukarno. That experience was transferred to politics and helped him very much to become a very famous international politician and to serve the mother state entirely upto the satisfaction.

During the tenure of office as Chief Minister of Odisha twice, Mr. Patnaik did a lot of exemplary eye-catching development work for the state.

As Mr. Patnaik was a world class political leader with optimistic and dynamic character, he did a lot of things for the welfare of the people.

Mr. Patnaik passed away on 17th April 1997. Odisha lost a very dynamic personality in his death. Mr. Patnaik's achievements are really admirable.

Sasidhara Padhy, Resource Person in English, Tamando, Bhubaneswar-54.

Introduction

India is the largest democratic country of the world. In democracy, people are the ultimately source of the power. Socialism is one of the key democratic principles that imply social and economic equality for all Indian citizens. Corruption, poverty, and women issues are the key factors that affect democracy. The majority of the population has been left with poor capabilities. Capabilities are what enable individual to pursue the lives that they value. The onus on citizens of India is to build a prosperous, democratic and progressive nation.

governance and development. Assertions in favour of democratic decentralization are often founded upon the notion that the democratization and empowerment of local political bodies will create practices and process that are more accountable to local citizens and more appropriate to the local needs and preferences. Our country provides an important context for paving the ways in which decentralization and local government can improve the performance and accountability. Government of India passed a series of constitutional amendments designed to empowering local political bodies and participation of women in PRIs and ULBs.

Gender and Good Governance in Local Government : Challenges and Prospects

Saudamini Behera

The social, economic and political institutions should be fairly functional towards ensuring justice and quality of life to every men and women. As such, democracy is instrumental to bring about meaningful change in conditions of the poor and disadvantaged communities. True democracy focuses on equality – equality in social streams and equality in terms of opportunities and equality before law. Democracy, decentralization and local governance are inextricably related with each other, in which role of women is a critical factor. Participation of women in local government and empowerment of women would give a fresh impetus to the process of democracy, good

Good local governance cannot work if due attention is not given to gender equality and women's empowerment. Phrases such as gender equality, gender equity, and equality between men and women, along with issues like empowerment of women, quotas and election of women to political office are now widespread.

Gender Concept

Most often, gender is used interchangeably with women. However, gender seems to be central organizing principles of society. We cannot fully understand human society and cultures if we do not understand gender. Gender refers to the social interpretations and values

assigned to being a woman, a man, a boy and a girl. Gender is about social relationships. Gender is an analytical concept. It is socially determined and not based on the sex on the individuals. Gender is socially constructed. We can change the gender relations.

Promoting gender and equality means ensuring that similar opportunities are available to both man and woman. Gender equality means that men and women have equal conditions for realizing their full human rights and potentials to engage in and contribute to political, economic, social and cultural development and to benefit to outcomes.

Gender equality means more gender balance that is equal number of women and men on local Government. It also refers to individual capability to participate as equal citizen.

Governance and Local Governance

Governance encompasses every institution and organization and embraces all methods – good and bad that society uses to distribute power and manages public resources and problems. Good governance is therefore a subject of governance wherein public resources and problems are managed efficiently, effectively and responses to the needs of the people. As such, effective democratic good governance forms rely on public participation, gender equality, transparency and accountability. Local governance comprises a set of the institutions, mechanism and process through which citizens can articulate their interests and needs. The building blocks of good governance are many – citizens' participation, partnership among key actors at the local level, capacity of elected representatives, Institution accountability and pro-poor orientation.

Mainstreaming gender in local government includes meaningful representations, access and control, roles in decision- making and exercise of the power and authority. Poor participation of woman in local decision -making process and structures is one of the major challenges that need to be addressed. This paper focuses on a realistic insight in the domain of challenges and prospect for woman in India's local governance, which is a home to the world's largest representation of woman in the sphere of local government and local development.

There is need for a new, critical look at governance, especially through the eyes of women. As has already been noted, women are less likely to be corrupt and more likely to be responsive to community needs than men, and women in leadership positions are better at fostering confidence and trust.

Democratic Governance

An influential viewpoint among political thinkers and observers is that all democracies are a combination of pure democracy and its antithesis, oligarchy. In its analysis of democratic governance in different social and cultural contexts, the HDR 2002 examined these ideas, among others, and put together a set of core elements that address the question.

Box-1

Democratic governance means that:

- People's Human Rights and fundamental freedom are respected, allowing them to live with dignity.
- People have a say in decisions that affect their lives.
- People can hold decision makers accountable. Inclusive and fair rules,

institutions and practices govern social interactions.

- Women are equal partners with men in private and public spheres of life and decision-making.
- People are free from discrimination based on race, ethnicity, class, gender or any other attribute.
- The needs of future generations are reflected in current policies.
- Economic and social policies are responsive to people's needs and aspirations.
- Economic and social policies are aimed at eradicating poverty and expanding the choices that all people have in their lives.

(Source: Human Development Report, 2002)

Good Governance

Good governance is also responsive to the present and future needs of society. Good governance is a concept that has come into regular use in political science, public administration and, more particularly, development management. It appears alongside such terms such as democracy, civil society, participation, human rights and sustainable development. In the last decade, it has been closely associated with the public sector reform. Good governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making.

Participation by both men and women is a key cornerstone of good governance. Participation could be either direct or through legitimate intermediate institutions or representatives. It is important to point out that representative democracy does not necessarily mean that the concerns of the most vulnerable in society would be taken into consideration in decision making. Participation needs to be informed and organized. This means freedom of association and expression on the one hand and an organized civil society on the other hand.

Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely available and directly accessible to those who will be affected by such decisions and their enforcement. It also means that enough information is provided and that it is provided in easily understandable forms and media.

- **Effectiveness and efficiency:** Good governance means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. The concept of efficiency in the context of good governance also covers the sustainable use of natural resources and the protection of the environment.
- **Responsiveness:** Good governance requires that institutions and processes, try to serve all stakeholders within a reasonable timeframe. Accountability is a key requirement of good governance. Not only governmental institutions but also the private sector and civil society organizations must be accountable to the public and to their institutional stakeholders. Who is

accountable to whom varies depending on whether decisions or actions taken are internal or external to an organization or institution. In general an organization or an institution is accountable to those who will be affected by its decisions or actions. Accountability cannot be enforced without transparency and the rule of law.

- **Consensus oriented:** There are several actors and as many view points in a given society. Good governance requires mediation of the different interests in society to reach a broad consensus in society on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve the goals of such development. This can only result from an understanding of the historical, cultural and social contexts of a given society or community.
- **Equity and inclusiveness:** A society's well being depends on ensuring that all its members feel that they have a stake in it and do not feel excluded from the mainstream of society. This requires all groups, but particularly the most vulnerable, have opportunities to improve or maintain their well being.
- **Rule of Law:** Good governance requires fair legal frameworks that are enforced impartially. It also requires full protection of human rights, particularly those of minorities. Impartial enforcement of laws requires an independent judiciary and an impartial and incorruptible police force.

Decentralization

Decentralization presents the opportunity for greater involvement of women in planning and consultation processes, and also has the potential for a more gender conscious allocation of local resources. Local authorities are closest to their citizens and hence in the best position to involve women in the decision-making process and in consultation. The decentralization of authority and resources is also an important means of improving stakeholder participation. Communication needs to be accessible to people who cannot handle complex documents, to those not used to engaging in public debate, and to working parents with limited time — all factors affecting women more than men.

A democratic polity involves the decentralization or de-concentration of power in a way that the affairs of the local people are managed by means of their positive participation. It implies the extension of democracy at the grass-root level in view of the fact that the people's participation signifies the constitution of a democratic government not merely at the top but also at the foundation level of the political system. Thus, democratic decentralization or Panchayati Raj aims at making democracy real by bringing the million into the functioning of their representative government at the lowest level. The philosophy of Panchayati Raj is deeply steeped in the tradition and culture of rural India and is by no means a new concept. 'The rationale behind the concept is to involve the public in local planning, identification of beneficiaries, decision making and proper implementation of policies and programmes of the people as described by them. Panchayati Raj Institutions (PRIs) have today the basic commitment towards rural development. Panchayati Raj, as a system of local governance,

has had its ebbs and flows in the Indian polity ever since Indians attained independence. Various committees headed by Balwant Rai Mehta, Ashok Mehta, V.P. Naik, P.B. Patil, G.V.R. Rao, L.N. Singhvi overhauled these institutions which gave necessary impetus to the 73rd Constitutional Amendment Act.

The Panchayati Raj, an enigmatic and elusive concept, has undergone topsy-turvy changes in its role, shape and function after the 73rd Constitutional Amendment Act, 1992 which came into effect from April 24, 1993. With the passage of the 73rd Amendment, India is at a crucial juncture in the evolution of PRIs—the Indian rural local self-government. It has envisioned people's participation in the process of planning, decision-making, implementation and delivery system.

Gender equality and gender equity are emerging as major challenges in the global development debate. Social scientists and development activists are giving increasing emphasis to these fields in their agenda for research and development. As Noble Prize-winning economist Amartya Sen has pointed out, "Democracy is not only the goal of development, it is the primary means of development." Women's participation in political processes is important for strengthening democracy and for their struggle against marginalization, trivialization and oppression. Emergence of women as a strong group would change the prevailing political practices, the nature and content of debates in the legislature and women's issues can be taken care of from the feminist perspective both in policy formulation and implementation.

Although the new Constitution through various Articles guarantees equal rights for women, Indian women continue to remain

oppressed and struggle over everything from survival to resources. While women have made considerable progress in some areas such as education and employment, they continue to be subjected to the influence of the existing patriarchic attitudes in Indian society. The dilemma for Indian women today is that despite the liberal provisions of the Constitution and various laws, serious inequalities remain. In fact, right from the days of the freedom struggle the Indian women have been consistently encouraged to take part in active politics. But due to the vitiated political milieu, resulting from increasing politicization and criminalization of politics, the level of political participation of women has been adversely affected despite the fact that there has been a marked increase in the level of literacy and political awareness among women.

Women's Participation in Local Governance in India

The 73rd and 74th Amendment of the Constitution, 1992 has served as a major breakthrough towards ensuring women's equal access and increased participation in local government. The Constitution (73rd and 74th Amendment) Act, 1992 aim at Constitutional guarantees to safeguard the interests of urban and rural local self government to enable them to function as effective democratic and self governing institutions at the grass root level. This Amendment provides for reservation of 33 percent of elected seats for women at local government level in urban and rural areas. There is also a one-third reservation for women of posts of chairpersons of these local bodies. A very active role for women in local governance is envisaged as compared to governance at the state and national levels in India. These provisions have provided great opportunities and challenges to women in India, particularly in the local

government field. This is of great significance, since this grass-root level participation has considerably broadened the base of women's participation in politics at city and village level.

Box-2

Constitutional provision (73rd Amendment) has created a scope for accomplishing development with social justice, which is the mandate of the new Panchayati Raj system. There can be no real progress if women of a country are not made partners in this process of development. 'Mahatma Gandhi also believed that full and balanced development of the nation and establishment of a just society is possible only when women participate actively and fully in the political deliberations of the nation. The Balwant Rai Mehta Committee on Panchayati Raj System emphasized that rural women should not become mere beneficiaries of development but should be made equal partners in its affairs as contributors.

Now, some general observations can be made regarding the role of women in grass-root level governance. It has come to the notice that the percentage of women at various levels of political activities has increased formally. It is also revealed that women take up political career as an extension of their domestic role. While women have been active in mass movements, their presence is not felt in decision-making. The influence of the husbands and close relatives is quite palpable. This tendency is due to lack of confidence. This dependency is a stumping block in their empowerment. 'Another positive impact of the grass-root level experiment is the increase in the female literacy rate. Studies reveal that after two years of their election to PRIs, many women

demanding literacy skills and also felt the need to educate their daughters.

Women are considered an extremely pivotal point in the process of change in the rural areas. Women's participation in panchayats provided opportunities to women to participate in the decision-making process. Women's participation proved to be the most effective instrument in bringing about a change in their way of life in terms of economic well-being and adoption of new technology. Women's entry into PRIs, both as members as well as heads of Panchayats, has pushed them into the policy-making and policy-implementation process in a very big way. Whether their husbands, fathers, brothers or other relatives compelled them to take up these roles, or whether they assumed these roles as dummy incumbents, one thing is certain: they crossed the rigid boundaries drawn through their households by the same male relatives.

Box-3

For the first time in the history of independence India, women were given 30 per cent reservation in the three-tier PRIs in Odisha prior to implementation of 73rd Amendment Act. Odisha became the first State in India to implement the provisions of 73rd Constitutional Amendment Act, 1992. The Government of Odisha has enhanced the reservation quota to 50 per cent for women in the PRIs and ULBs. Over the years, 16 States have increased women reservation quota to 50 per cent in PRIs and seven states have increased women reservation quota to 50 per cent in ULBs.

Decentralizing government from the national level to regions, districts, towns, municipalities, rural areas, settlements and communities enables people to participate more

directly in governance processes and can help empower people previously excluded from decision-making.

Box-4

The 73rd and 74th Amendments envisaged the village panchayat/ward council as a forum and action point where local solutions to local problems can remedy lacunae in bureaucratic, top-down schemes. For realising the progressive intent of national policy, elected local government institutions must be helped to become vehicles for social transformation, articulating the felt needs of the community, especially those of women and marginalized groups. Thus participation of women and members of SC/ST communities in Gram Sabhas (village councils) and Panchayat meetings is favoured to ensure representation of interests of the poor. Rapid HD and strong local democracy go hand in hand. Strengthening local democracy in turn, requires support to people's participation in the management of local resources and local institutions. Local bodies need to be seen as institutions of self-governance not as 'delivery mechanisms'. It is put in place and strengthens systems of negotiation, regulation and decentralized governance.

(Source: Decentralization in India; Challenges & Opportunities, Discussion Paper Series 1, UNDP, N Delhi, India)

Challenges in Political Participation

The measurement of women participation in politics based on voting percentage and election to legislature is relatively easy. The challenge is to estimate the actual participation of women in the decision making process.

- **Participation as a Proxy Candidate**

There have been evidences that due to reservation policy, certain women got elected into the set up, but they acted merely as the mouth-piece of the male family members. This indicates that there is a possibility of on-roll women participation to be higher than what it actually exists on ground. Awareness programmes and increase in female education is now taking care of such happenings and women active participation is on an increase.

- **Issues Related to Decision-Making Initiative**

The quantitative data of political participation of women at local level is available but the qualitative data on the aspects of their active participation including the utilization of the decision-making functionality provided to them is not being quantified properly. Although, the legislature has enabled their huge presence into the state of affairs, but their valuable essence into the system is yet to be established at most of the places. The data on their sensitization about their rights and its usage is still missing. Efforts can be made to capture the performance of women in debates, initiative in bringing legislation and participation in other aspects of the democratic process.

The family, community and the state (represented by the officials) have together created a situation wherein elected women representatives are facing many operational constraints while playing their roles and discharging their functions in the PRIs and ULBs. 'Women representatives have some individual weaknesses:

- Illiteracy and low education levels of the majority of the women elected to the PRIs.

- Overburdened with family responsibilities.
- Introversion due to the lack of communication skills.
- Poor socio-economic background with which the women have come into the system and poor capacity building.
- Patriarchical system indirectly controls and directs their participation.'
- Male family members and also leaders from the caste group/community come in the way of the affairs of the Panchayats.
- Indifferent attitude and behaviour of officials working in the system.
- Misguidance by the local bureaucracy.
- Apprehension of no-confidence motion by the other elected members of the system.
- Mounting pressure from the political party which has vested interests in the gender reservation for positions in the PR system.
- Government orders on devolution of powers to PRIs were a mockery.
- Women were branded as 'incompetent' in the eyes of villagers and were forced to quit through the passing of no-confidence motions.
- Undue interference by the husband of women representatives, treating them as mere dummies.
- Widespread use of corrupt practices among the male members and local bureaucrats.

It is clear that mere reservation is not enough because a woman representative lacks qualitative participation due to both internal and external factors. Women's empowerment is not something which can be handed over to women

only. This is a process which involves sincerity, earnestness and capacity and capability on the part of both men and women. It is a challenging task in village India as even today she cannot take any independent decision. She feels subordinate to her husband and even to her son.

Limits and constraints

Lack of orientation / training in urban development issues and municipal administration.

- No proper knowledge / orientation about acts and rules and regulations.
- No prior experience about dealing with multidimensional urban development issues / civic issues and its complexities.
- Lack of knowledge about technical inputs related to urban service delivery system.
- Lack of support from senior male / female colleagues in the party / municipal body.
- Lack of money and resources to sustain the electoral campaigns.
- Discrimination in decision making at party level.
- Specific notions towards politics and political atmosphere.
- Fear and insecurity.
- Lack of confidence in public speaking.
- Criminalization of politics and use of money power.
- Family responsibilities.

Prospects

Issues in which women representatives generally take interest are drinking water supply, primary health, child care, public distribution system and environmental protection. One quality

observed among women representatives is their patience to hear the problems of the public. They also work in adverse circumstances. It has been observed that women representatives are honest and accurate in presenting issues to the decision-making bodies and authorities. Women would bring new ideas in local governance. They believe in a sustainable development and their emphasis is on natural resources management. Women representatives working at the grass-root level also believe that communal harmony is an important element of development and they strive to achieve this objective. Another promising fact is that they do not indulge in corrupt practices. In

many parts of the country, the elected women have exhibited their leadership in solving some of the local problems and creating facilities for betterment of the rural society. The Union Government is all set to bring a Constitutional Amendment to increase reservation for women in Gram Panchyat and Urban Local Bodies (ULBs) from 33% to 50%.

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Body massage has been a part of body care in India. New born infants and mothers recovering from delivery were traditionally given a good Maalish for rejuvenation. With the passage of time it has assumed importance as an alternative effective remedy for several common sufferings. Based on the wisdom of the ancients and expertise of trained hands, massaging offers relief from disorders such as asthma, bronchitis, constipation, gastritis, spondylitis, arthritis, sexual weakness, diabetes, hypertension, obesity and insomnia.

There are numerous scientific evidences suggesting both manual and mechanical massaging make a huge difference to our mental physical

According to yet another research conducted at the University of Maryland if stiff neck muscles are properly massaged it relieved stress and headache. The researchers discovered that the connective tissue which runs from neck muscles to the head can cause a pull on the membrane covering the brain giving us headache. Elsewhere in the body the pressure applied during a deep massage seems to reduce the perception of pain signals sent the muscles to the brain? Traditional Indian barbers were known to perform his massage in a masterly fashion which they inherited from their ancestors although they had little such knowledge. In India Kerala is

Massage : An Effective Alternative Therapy

R.B.L. Garg

health. Proper massaging improves blood circulation and relieves from unwanted stress with varied pressure applied at different pressure points ending up with general feeling of relaxation. According to a study conducted by the university of Miami Touch Research Institute, premature babies who got a 15 minute massage three times a day for 10 days showed a weight gain 47 per cent higher than babies who got only loving touches. The massaged babies also packed soon from hospital to home. According to the study this could be as a result of massage stimulating the nervous system function in infants and released hormones that helped absorb food better.

considered home of massaging which practices what the Ayurvedic system of medicine preaches. Broadly there are two techniques (uzhichil and pizhichil) used in Kerala, although there are various problem – related treatment offered to the sufferer. The whole massaging system works on the Vaat, Pitta and Kapha principle of Ayurved.

Massaging combines acupressure, breathing technique and gentle stretches in Thai massage. Traditional Thai massage is a unique form of body work. It works on a system of energy lines known as 'sen'. The vital force absorbed through the air we breathe and the food we eat

flows through these invisible channels. Any imbalances or blockages in the lines reflect on health and well-being. A traditional Thai massage will take everyone through its full range of movements and stretch every muscle in the most ingenious and imaginative ways using the therapist's hands, elbows, forearms, feet and knees. It is believed that Thai had its roots right here in India. An Indian doctor named Jivaka Kumar Bhaccha is traditionally regarded as the father of Thai medicine. Jivaka was physician to the king of his time and contemporary of Buddha. He is still venerated as its founder in Thailand today and acknowledged by Thai massages practicers everywhere. There is also Swedish massage. It uses combination of long strokes and kneading.

Benefits are numerous but....

A massage is one of the most non-invasive techniques to soothe frayed nerves and relax muscles. It is no longer a luxury but an imperative part of healthy living. A good massage improves circulation, relaxes taut muscles, improves the flow of energy within the body and relaxes blockages, thereby keeping energy channels open.

There are different types of massage and their varied techniques. In Ayurvedic massage Abhyanga tandem is the most holistic one as it takes care of the entire body from head to toe. Medicated oils are used for this procedure and it is a synchronized massage by two therapists. There is Hot Stone Massage, Deep Tissue Massage, Shiatsu (pressure is applied with thumbs fingers and palms) and Reflexology.

There are different types of massages but if one is not getting right kind it leaves him/her with more aches than before or is so deep that your muscles stiffen against the strokes. Massage is not recommended in cases such as open wounds, fractures or Cancer sites. Despite all the tempting benefits, it is advisable to guard against untrained masseurs who will only create problem rather helping you any way.

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Boudh, situated on the right bank of the middle Mahanadi valley is one of the most ancient places of Odisha. It occupies a prominent place in the history of art, architecture, culture, administration and religion of Odisha. Boudh district is a paradise for devotees and nature lovers. It was highly developed educationally and culturally during the Bhanja rulers. The entire Boudh district is an important place not only for its glorious history but also rich cultural heritage. It is known that Boudh is the only place of Odisha as well as India, which is named after Lord Buddha, the Light of Asia. In ancient and medieval times Boudh was one of the greatest centre of Buddhism. The presence of colossal image of seated Buddha in



Memorial Temple of Dambarugada

Dambarugada - A Place of Tantric Buddhism

Amaresh Sahoo

Bhumisparsa *mudra* near the royal palace of the ex-ruler of Baud state, the image of Buddha in Pargalpur, Shyamsundarpur, royal charters etc. reveals the binding relation of Boudh with Buddhism. Except Boudh town in particular the other regions of Boudh district is full of heritage sites. Different places of Boudh district remains with some great historical heritage sites in Odisha. Among them Dambarugada is a famous heritage site of Boudh district.

A hilltop with beautiful coverage which is situated at a distance of 20 kms from Boudh on Bolangir road (N.H. 57) and 5 kms from Sahajpal Chowk towards north. The river Mahanadi flows

down the mountain which makes for a visually stunning sight. The mountain gives a curve look from all of its side. It looks like just a '*Dambaru*'. So people call this mountain as '*Dambarugada Mountain*'. The height of the mountain is 70 feet. On the top there is a temple of Chaitanya Deva. The presiding deity of this temple is Radha-Krishna.¹

Dambarugada is a place closely associated with the development of Vajrajana, the *tantric* wing of Buddhism. Many historians give different view regarding the origin and development of Vajrajana. Many view that it was originated at the time of Lord Buddha. According

to another sect it was developed in 8th century A.D. or during the period of Acharya Indrabhuti (the king of Sambal). Boudh the name itself indicates the closely association with Lord Buddha and Buddhist culture. Dambarugada once upon a time was remained the nuclear of *tantric* Bhddhism where number of Buddhist philosophers stayed for a long period to complete their spiritual Sadhanas and composed hundreds of valuable *tantric* philosophical books. Popularly in their words they called it the holy land of Tantra, the place of enlightenment Oddiyan.

In his famous composition “Gyanasiddhi” Acharya Indrabhuti the king of Sambal modern Sambalpur has clearly mentioned that he has composed the book in Oddiyan.

*Iti Shrimadoddiyanana Binirgata Gyanasiddhinam Sadhanopayika Samapta Krutiriyam Indrabhuti Padanam.*²

Oddiyan the name is derived from the word Odra. Odra was the ancient name of



A Statue at Dambarugada



Memorial temple in a dilapidated condition

Boudh. The Brahmeswar temple inscription of Kolavati Devi mentioned the Boudh region as Odra-desa. This place was popular due to the Buddhist philosophers and their Sadhanas on the bank of river Mahanadi. The place Dambarugada as present is covered with dense forests. Dambarugada the place particularly identified to a small mountain which can easily be visible from Boudh town. At now the place which is a beautiful picnic spot attracts hundred of nature lovers to view the gift of nature closely. Now a holy shrine is situated there. The shrine accommodates hundred of monks and near the shrine two ancient monuments are found belonging to the memorials of Vajrajanic philosophers of 8th century A.D. The icon carved in one monument may be the image of Vajrajana famous philosophers of that time and the monks of the shrine told about the memorial that in the past there were the existence of three monuments. Out of three one is destroyed in course of time. Two are still in existence and one of them contains an image probably of Acharya Padma Sambhava the founder of Tantric Buddhism. The statue is wearing a *mukuta* on



A Temple of Radha Krishna at Dambarugada

the head sitting in Abhayamudra. But another memorial is empty. The structures indicate that once upon a time there was a temple where Buddhist philosophers were performing their worship. The memorial temple is of short height measuring around 8 feet and the design indicates it was built on rectangular style. There are some Vajrajanic Goddess idols found in the nearest villages. Many idols are being worshiped by the local people in different names like Mauli, Pitabali etc.³

Dambarugada is not only a place of Buddhist culture but also a place of cosmic culture where we can see the combined existence of

different sects like Saivism, Vaisnavism and Shaktism. Near Dambarugada an ancient Siva temple is situated namely Maneswar. The temple is an ancient temple. The existing structure stands there in place of the remaining of the destructed structure of ancient Siva temple. Near Dambarugada we can find Baunsuni village. The village is the centre of Shakti cult, the famous place of Stambeswari. King Ranabhanja of Boudh declared himself as the Stambeswari Lavdhabara Prasada. Near Dambarugada a famous Vishnu temple was situated in the past which is now destroyed in course of time. Some copper plate inscriptions are there in Tatarkela, a village nearby Dambarugada. Now in a temple Radha-Krishna is being worshiped as the presiding deity.

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Introduction

Lightning is a highly localized phenomenon in nature known for devastating consequences in terms of loss of life and property. In Odisha lightning deaths have been reported from almost all districts. Newspapers had reported deaths of people due to strike of lightning while in the play ground, while ploughing or returning from their fields, sitting at the front varandahs of their houses or sheltering below a tree during a thunderstorm. Even there have been reports of casualty of herds of cows and goats while grazing or resting in a field. In this stage

through public awareness. Lightning is very dangerous and will strike anything that stands high above the ground. Trees are often struck by lightning causing them to fall, or catch fire. Every year hundreds of people are killed by lightning although the chances of being struck by lightning are very low. Thunder and lightning happen at the same time, but the light travels faster than sound, so the lightning flash reaches our eyes before the sound reaches our ears. Until about 300 years ago, people thought that lightning was a mysterious force that was a punishment from God. But inventor Benjamin Franklin (1706-1790) set out to prove that lightning was a form of electricity.

Mitigation of Lightning Hazards Through Public Awareness

Dr. Ashis Chandra Pathy

creating awareness among the people is one of the important means in mitigating the lightning hazards. The Bureau of Indian Standards has prescribed lightning protection guidance for structures and the builders are advised to adhere to the prescribed codal procedures. Understanding the nature and characteristics of lightning is important to spread the culture of safety, methods of lightning protection and awareness about lightning among the people. Since lightning cannot be avoided, the logical way to mitigate the risks of lightning strike is to find a protection for personal and structural safety

Where it occurs

It occurs mostly in moist warm climatic areas of the tropical regions of the world associated with the thunderstorms. These are most common in the late afternoon time of the spring and summer seasons although there are instances of their occurrence at any time of the year. Previously it was difficult to detect the incidents all over the world but now there are satellites which provide scope for weather prediction and associated lightning phenomena including in places where there is nobody to observe it. It is estimated that lightning occurs on

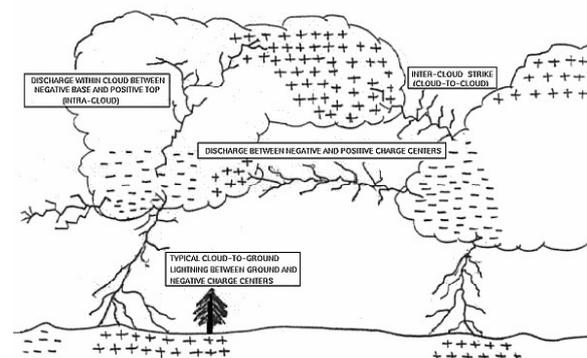
an average nearly 50 times a second and for a total of nearly 1.4 billion flashes per year in the world. 75% of these flashes are either cloud-to-cloud or intra-cloud and 25% are cloud-to-ground.

Causes of lightning

Scientists have studied their causes ranging from atmospheric perturbations (wind, humidity, friction, and atmospheric pressure) to the impact of solar wind and accumulation of charged solar particles. Ice inside the cloud is thought to be a key element in lightning development, and may cause a forcible separation of positive and negative charges within the cloud, thus assisting in the formation of lightning. The study of the science of lightning is called fulminology, and someone who studies lightning is referred to as a fulminologist. It is an atmospheric electrostatic discharge (spark) accompanied by thunder, which typically occurs during thunderstorms. It can be seen in the form of a bright streak (or bolt) from the sky. It occurs when an electrical charge is built up within a cloud, due to static electricity generated by super cooled water droplets colliding with ice crystals near the freezing level. When a large enough charge is built up, a large discharge will occur and can be seen as lightning.

One of the most common understandings of a lightning is that when a thunderstorm develops with cumulonimbus clouds, the temperature at the top of the cloud becomes much cooler than that at the bottom. For reasons that scientists still do not understand, this temperature difference results in the accumulation of negatively charged particles near the base and positively charged particles near the top of the storm cloud. The negatively charged particles repel the electrons of atoms in nearby objects, such as the

bases of other storm clouds or tall objects on the ground. Consequently, these nearby objects take on a positive charge. The difference in charge, or voltage, builds until an electric current starts to flow between the objects along a pathway of charged atoms in the air. The current flow heats up the air to such a degree that it glows, generating lightning. Initially, a bolt of lightning carrying a negative charge darts from one storm cloud to another or from a storm cloud to the ground, leaving the bottom of the cloud with a positive charge.



Thunderstorms and Formation of Lightning

According to the Electrostatic Induction Hypothesis charges are driven apart by as-yet uncertain processes. Charge separation appears to require strong updrafts which carry water droplets upward, super cooling them to between -10 and -20 °C. These collide with ice crystals to form a soft ice-water mixture called graupel. The collisions result in a slight positive charge being transferred to ice crystals and a slight negative charge to the graupel. Updrafts drive the less heavy ice crystals upwards, causing the cloud top to accumulate increasing positive charge. Gravity causes the heavier negatively charged graupel to fall toward the middle and lower portions of the

cloud, building up an increasing negative charge. Charge separation and accumulation continue until the electrical potential becomes sufficient to initiate a lightning discharge, which occurs when the distribution of positive and negative charges forms a sufficiently strong electric field.

Types of Lightning

There are several types of lightning based on their characteristics, source area of origin and the path of striking. They are;



Cloud-to-Ground Lightning



Positive Lightning

(a) Streak Lightning is lightning within a cloud and is sometimes called intra-cloud or sheet lightning. It is the most common phenomena within the cloud mass of a thunderstorm.

(b) Cloud to ground lightning is when a bolt of lightning from a cloud strikes the ground. This is the best known and second most common type of lightning. Of all the different types of lightning, it poses the greatest threat to life and property since it strikes the ground. It is initiated by a leader stroke moving down from the cloud.

(c) Ground-to-cloud lightning is a lightning discharge between the ground and a cumulonimbus cloud initiated by an upward-



Cloud-to-Cloud Lightning



Anvil Crawler

moving leader stroke. This type of lightning develops when negatively charged ions called the stepped leader rise up from the ground and meet the positively charged ions in a cumulonimbus cloud. Then the strike goes back to the ground

as the return stroke. This is also called positive lightning.

(d) **Cloud to cloud lightning** is when a bolt of lightning arcs from one cloud mass to another. Lightning discharges may occur between areas of cloud without contacting the ground. When it occurs between two separate clouds it is known as inter-cloud lightning. These are also most common between the upper anvil portion and lower reaches of a given thunderstorm. This lightning can sometimes be observed at great distances in the night. These are also called as “heat lightning”.

(e) **Anvil Crawlers** are horizontal, tree-like, in-cloud lightning discharges whose leader propagation is resolvable to the human eye. In other words, the anvil crawler’s movement is slow enough (compared to most lightning discharges) that a human observer or normal-speed video camera can see its rapid motion across the sky. This type of lightning (sometimes referred to as ‘crawlers’ or ‘rocket lightning’) often cover very large distances, resulting in vast, spectacular sky-filling discharges. Anvil crawlers are often very high-altitude events, and as such typically result in soft, rolling thunder due to their great distance from the observer. The name ‘anvil crawler’ is derived from the visible ‘crawling’ motion and their tendency to appear along the underside of the anvil portions of a thunderstorm. Anvil crawlers can either occur independently completely within the cloud, or in connection with a cloud-to-ground discharge.

(f) **Rocket lightning** is a form of cloud discharge, generally horizontal and occurs at the cloud base, with a luminous channel appearing to advance through the air with visually resolvable speed, often intermittently.

(g) **Positive lightning** occurs when a positive charge is carried by the top of the clouds (generally anvil clouds) rather than the ground. Generally, this causes the leader arc to form in the anvil of the cumulonimbus and travel horizontally for several miles before veering down to meet the negatively charged streamer rising from the ground. The bolt can strike anywhere within several miles of the anvil of the thunderstorm, often in areas experiencing clear or only slightly cloudy skies; they are also known as “bolts from the blue” for this reason. Positive lightning makes up less than 5% of all lightning strikes. Positive lightning strikes typically carry six to ten times the charge and voltage difference of a negative bolt and last around ten times longer. As a result of their greater power, as well as lack of warning, positive lightning strikes are considerably more dangerous and in the past it has been related to explosions in the aircrafts while in flight.

Facts about Lightning

Since it is a major natural hazard of the tropics and is associated with loss of life and property, it is important that the people experiencing these hazards must have an understanding of the events and their behavioural characteristics. Understanding the phenomena may be helpful in coping with the disaster and immediate response in the event of occurrence. Some of the basic facts as well as the myths and realities behind these events can make people to respond appropriately to protect themselves against these hazards.

(a) Lightning can occur with both positive and negative polarity. An average bolt of negative lightning carries an electric current of nearly 30,000 amperes (“amps”)—30 “kiloamps” (kA), and transfers five coulombs of electric charge and

500 mega-joules of energy. Large bolts of lightning can carry up to 120 kA and 350 coulombs.

(b) An average bolt of positive lightning carries an electric current of about 300 kA — about 10 times that of negative lightning. The voltage involved for both is proportional to the length of the bolt. However, lightning leader development is not just a matter of the electrical breakdown of air, which occurs at a voltage gradient of about 3 megavolts per metre (MV/m). The ambient electric fields required for lightning leader propagation can be one or two orders of magnitude (10^2) less than the electrical breakdown strength.

(c) The potential (“voltage”) gradient inside a well-developed return-stroke channel is on the order of hundreds of volts per meter (V/m) due to intense channel ionization, resulting in a true power output on the order of one megawatt per meter (MW/m) for a vigorous return stroke current of 100 kA. The average peak power output of a single lightning stroke is about one trillion watts — one “terawatt” (10^{12} W), and the stroke lasts for about 30 millionths of a second — 30 “microseconds”.

(d) The turbulence which promoted the development of the charge imbalance in a cloud mass continues, and grows as the storm develops, so a sequence of repeated charge build up and equalization through lightning discharge will continue during the storm.

(e) Because the pattern of storm formation is complex, the distribution of positively and negatively charged zones within the storm system is also complex, and the situation changes minute by minute. Lightning will travel wherever necessary to restore equilibrium - within the cloud, from cloud to cloud, from cloud to air or from cloud to ground.

(f) The cloud to ground strikes has the greatest effects on life and property. The physics of a cloud to ground strike are not completely understood, but one surprising thing about a lightning strike is that the bright strike that we see is a massive current flow upwards from earth to cloud, after a visually insignificant first contact by a leader from cloud to ground. This happens so fast that the human eye sees it differently, as if the bright lightning bolt has travelled downward from the cloud.

(g) Lightning poses a threat for anyone caught outside in a thunderstorm. Even those who remain indoors face the possibility of electrocution. Lightning can hit the same place many times too. Lightning can stop heart beat and can kill a person. But one can also get burns, nervous system damage, and other health problems. Some of these are not noticeable until months after a lightning strike.

(h) Lightning’s unpredictability increases the risk to individuals and property. Lightning often strikes outside of heavy rain and may occur as far as 15 Km away from any rainfall. Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.

(i) Your chances of being struck by lightning are estimated to be 1 in 600,000, but could be reduced even further by following safety precautions.

(j) Lightning strike victims carry no electrical charge and should be attended immediately.

Lightning Safety

(i) Prediction of precise time and location of lightning is very difficult and impossible also. However, some what a season or period of lightning occurrence at many areas is known. Lightning has been found to occur at almost all

times of the day with a maximum occurrence in the afternoon.

(ii) Whenever possible, one should remain indoors during lightning and thunderstorms. If you must stay outdoors, avoid tall objects and large bodies of water. Whenever you hear thunder, count the seconds until you see lightning. If less than 30 seconds pass, the storm is still close enough to pose a risk to your safety. If more than 30 seconds pass, it may be safe to go outside.

(iii) The in-cloud discharges are harmless except for the shock from the resultant thunder. It is the cloud-to-Earth lightning strike that needs protection from. The power of such strikes can cause considerable damage to life and property. The height of trees makes them especially vulnerable to lightning strikes. These high-voltage electric shocks are fatal to human and animals also. Therefore, lightning protection methods are used to diffuse the electric charge from a cloud-to-ground lightning safely.

(iv) Lightning protection is a device or number of devices used to protect a building from lightning strikes. These devices do not prevent lightning strikes, but instead help to minimize damage and injuries. This is primarily done using lightning rods, which offer a “path of least resistance” for the lightning to reach the ground. Lightning protection guidelines need to be followed for the buildings and their electric installations.

(v) Lightning hits tall things, metal, and water – or a person standing on open ground or a roof.

Your worksite should have a plan for what to do in a lightning storm.

How to protect from lightning?

(a) Safety measures during a lightning

- Do not be the tallest object in an area.

- Do not stand out in the open. Stay away from windows and doors, and stay off porches.
- Do not stand under a tree to keep dry during lightning and thunderstorms. (If the tree is hit, you can be hit too!)
- Do not stand in an open shelter, isolated sheds or other small structures in open areas like a baseball dugout or bus shelter.
- Do not stand next to metal objects – pipes or light poles or door frames or metal fences or communication towers – indoors or out.
- Do not stay next to water, ponds or running water, indoors or out, on hilltops, open fields, on the beach, or a boat on the water. (Do not take a shower.)
- Do not use plug-in power tools or machines – indoors or out.
- Do not use a plug-in telephone or corded telephones or a computer with a modem – either indoors or out. Cordless and cellular telephones are safe to use.
- Do not lie flat on the ground or concrete floors and do not lean against concrete walls.
- Do not go back to work outdoors until half an -hour after the lightning and thunder stop. If someone is hit, call emergency services.
- Avoid showering or bathing. Plumbing and bathroom fixtures can conduct electricity.

(b) What to do before and during a lightning

One of the most important things to be remembered is that a thunder cloud or lightning will be active in an area only for a short duration of time. So, observing what is given below for nearly an hour may save one from death or a

serious injury. The best shelter against lightning is a large fully constructed house, school, library, or other public building with wiring and plumbing in the walls. The vast majority of lightning casualties can be easily, quickly, and cheaply avoided, if proper rules are followed. People need increased awareness of the lightning hazard and knowledge of lightning safety. Lightning safety involves several easy steps that anyone can follow. While lightning safety can be inconvenient, consider how inconvenient the alternative of not following these simple rules could be! Adults are always responsible for the safety of children under their care. It can be remembered that no place outside is safe during lightning, public education is the key for the safety ! Some safety measures which can be taken at the individual level are:

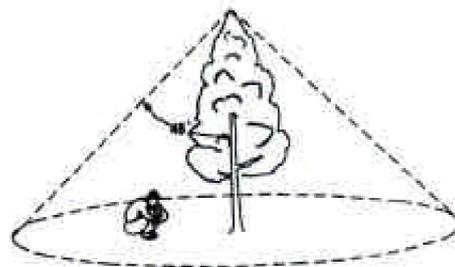
- “*If thunder roars, go indoors*” because no place outside is safe when lightning is in the area. Everyone should stay indoors until 30 minutes have passed after they hear the last clap of thunder. Get into an enclosed building – like a house or shopping center or school or office building.
- Locations, surrounded partially or fully by unbroken metallic surfaces or nets do not allow lightning to penetrate to the interior and hence a person is safe inside. However, inside these buildings: stay away from doors and windows. Avoid water. Do not use the hand telephone. Take off head sets. Turn off electricity, unplug, and stay away from appliances, computers, power tools and TV sets. Unplugging power cord and antenna should be done well before, say in the forenoon of a possible day of lightning occurrence. Lightning may strike exterior electric, TV cable and phone lines, carrying the energy to inside equipment. Keep away from all loose wires and wall sockets of power, phone etc. If possible, keep away from the large metallic objects such as stoves and ranges, bath tubs, furnaces, water and gas pipes, and also from electric lines especially at points where these enter the house from outside. If there is an assembly of people, disperse into different rooms to the extent possible and individuals should take the above precautions.
- Get into a car, van, truck, or bus with the windows closed all the way. Do not touch the doors or other metal inside. Open cabs on heavy equipment will not protect you. Cars are safe because of their metal shell. Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside. Remember, rubber-soled shoes and rubber tires provide no protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.
- If you are out in the open and have nowhere to go, squat down with your feet together and only let your feet touch the ground. Put your hands over your ears (to protect against noise). That way, you are so low; the lightning may hit something else. And by not touching much of the ground, you have less chance that the lightning will move across the ground to you.
- A victim does not stay electrified. One can touch him/her right away. If the victim has no pulse, try CPR (cardio-pulmonary resuscitation). If there’s a portable defibrillator, follow the instructions. But be

careful about staying in the open in a storm to take care of the victim – or you can get hit too.

- Avoid contact with electrical equipment or cords. If you plan to unplug any electronic equipment, do so well before the storm arrives.
- Avoid contact with plumbing. Do not wash your hands, do not take a shower, do not wash dishes and do not do laundry.
- Using a corded telephone is not safe during striking of lightning. Hence unplug it and use it only for some emergencies.
- Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
- Use a battery-operated radio for updates from local officials.
- If you are in a forest; then: seek shelter in a low area under a thick growth of small trees.
- If you are in an open area: then go to a low altitude place such as a ravine or valley. Be alert for flash floods.
- If you are in open water, then get to land and find shelter immediately.
- If you are in a open ground and /or anywhere you feel your hair stand on (which indicates that lightning is about to strike), squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. Do not lie flat on the ground.



Crouch on the floor with both feet and knees pressing each other and hands circling the knees with the chin pressing on the knees as shown in figure above.



SUGGESTED POSTURE NEAR TREE IF SURPRISED BY LIGHTNING AROUND

If you happen to be near a tall tree in the open, sit and crouch as above a little away from the branch of the tree as shown in fig.

(c) The Indian Code of Practice

This Code outlines the general technical aspects of lightning, illustrating its principal electrical, thermal and mechanical effects. Guidance is given on how to assess the risk of being struck and it offers a method of compiling an index figure as an aid in deciding if a particular structure is in need of protection. The Code also offers guidance on good engineering practice and the selection of suitable materials. Recommendations are made for special cases such as explosives stores and temporary structures, for example, cranes, spectator stands

constructed of metal scaffolding. Where current carrying conductors are directly associated with structures coming within the scope of this code, certain recommendations relating to them are included.

Lightning First Aid

Of the people who die in lightning accidents, the number of deaths due to direct hit and burns are very low. Most of the deaths happen due to respiratory arrest. This can happen due to many reasons, the main one being the respiratory centre of the brain, located at the back of the head, getting affected. Giving artificial respiration can save a lot of people who get involved in lightning. This is one first aid that can be given to a victim and can be done while reaching for medical aid. There are other causes like heart getting affected etc. for which medical aid should be sought immediately.

Some Safety Tips to protect from Lightning

Before the Lightning : Plan in advance for safety and evacuation measures.

If planning to be outside : Watch the weather forecast, know your local weather patterns. Plan to avoid the lightning hazard.

If you hear thunder : You are close to the thunderstorm and likely to be struck by lightning. Go to a safe shelter preferably a large house, school, library, or other public building.

If you are inside a house : Avoid cord telephones, metal pipes and electrical appliances. Avoid taking a shower or a bath or

running water for any other purpose. Stay away from doors and windows, unplug computers and TV Sets, and take off headsets.

If you are in a car : Keep car windows closed. Do not touch the body of the car. Sit with your hands on your lap till the storm passes.

If you are in the Forest : Take shelter under shorter trees and bushes. Isolated tall trees are to be avoided.

While boating/ swimming : Get to the land and find the nearest shelter immediately.

If you are in an open field : Crouch down, feet together, hand on the ear to protect from thunder.

Places which are unsafe : Wide-open areas, including sports fields or play grounds, beaches, tall isolated objects like trees, poles, and light posts, higher elevations, boating, swimming (includes indoor pools), and fishing, golfing. open vehicles like open farm tractors, open construction vehicles. Avoid assembly of people in the open air or in small-unprotected rooms.

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Introduction

The temple of Panchu-Pandava is one of the Shaiva shrines of the Prachi Valley in Odisha. It is located at the village Ambiligaon in the Gop Block of the Puri district. This temple is situated about 10 kms away from the Nuahat and also same distance from the river Prachi. The site of the temple is a coordinating place of Shaivism, Saktism and Vaisnavism. Really, the temple is enshrined to Panchu-Pandava Sivas. They are such as Tamresvara, Bakresvara, Sovanesvara, Nilakanthesvara and Mallikesvara Sivas



Panchu-Pandava Temple at Ambiligaon : A Study on Art and Architecture

Ratnakar Mohapatra

respectively. The local people say that the present temple is completely a renovated shrine. From the religious point of view, this Siva temple is famous in that locality. The temple of Panchu-Pandava consists of two structures such as *vimana* and *jagamohana*. It faces to east. This temple is made of sand stones. It is a new temple for the scholarly works. Architectural features of this temple have not been covered by the earlier art historians as yet. Hence, a modest attempt has been made in this article to highlight the detailed art and architecture of the temple of Panchu-Pandava of Ambiligaon.

Art and Architecture of the temple

A. *Vimana*

The *vimana* of the temple is a *pancharatha rekhadeula* and its height is about 22 feet from the surface of the temple complex. It has four fold vertical parts such as *pistha*, *bada*, *gandi* and *mastaka*. The *pista* is plain and it measures 1 foot in height. The base of the *bada* measures a square of 11 feet 4 inches. The *bada* is *panchanga* type i.e. having five component parts such as *pabhaga*, *talajangha*, *bandhana*, upper *jangha* and *baranda*. The *pabhaga* consists of three horizontal mouldings, which are

joined by the vertical band at the centre of each *paga*. The *talajangha* and upper *jangha* are completely plain. The *bandhana* of the *bada* consists of single horizontal moulding. The *baranda* contains the three horizontal mouldings.

The central niches of the three sides of the *bada* are housed with the *parsvadevata* images of Ganesha, Kartikeya and Parvati. All the side deities have usual attributes in their hands. Ganesha is the *parsvadevata* of the southern side. The four armed image of Ganesha is carved in standing posture on the pedestal. Mouse, the conventional mount of the deity is carved on the right of the pedestal. All the hands of Ganesha image are broken and attributes are not found. The image Ganesha is thickly covered with the lime wash and it measures 1 foot 5 inches in height. The slab of the deity is made of sand stone. Kartikeya is the *parsvadevata* of the western side. The four armed image of Kartikeya is carved in standing posture on the pedestal. Peacock, the conventional mount of the deity is carved on the back of the deity. The lower part of the slab of Kartikeya is plastered with cement. The right side two hands of the deity are completely broken. The left side two hands hold the rooster cock. The image Kartikeya is about 1 foot in height and it is thickly covered with lime wash. The slab of the deity is made of sand stone. Devi Parvati is the *parsvadevata* of the northern side. The four armed image of Devi Parvati is carved in standing posture on the pedestal. Lion, the conventional mount of Devi Parvati is found depicted on the left of the pedestal. She holds *chakra* in upper right hand, rosary in lower right hand and the attributes in left hands are not clearly visible. The image Parvati is made of sand stone. The slab of Devi Parvati measures 9 inches in width and 1 foot 3 inches in height respectively. The image

Parvati is housed in the *pidha mundi* niche. The upper part of the niche is housed with a female figure.

The *gandi* of the *vimana* is a curvilinear superstructure and it continues the *pancharatha* plan of the *bada*. *Jhapasimhas* are projected on the base of the *rahapaga* in the three sides except the front. The upper part of the *gandi* is bereft of decorative elements. The *rahapaga* on the eastern side is decorated with a *khakhara mundi*, which is surmounted by the *jhapasimha*. *Dopichha* lions are fixed on the top of *kanikapagas* of the *gandi*. *Deula Charini* figures have been inserted in the four cardinal directions of the *beki* above *rahas*.

The *mastaka* of the *vimana* consists of *beki*, *amalakasila*, *khapuri*, *kalasa* and *ayudha* (trident). Here the *ayudha* is not inserted into the *kalasa* of the *mastaka*.

The sanctum preserves the *Shivalingam* within the *Shaktipitha* as the presiding deity of the temple. The *Shivalinga* is dedicated to Lord Tamresvara Siva. Inner walls of the sanctum are devoid of decorative elements.

The sanctum has one doorway towards the *jagamohana*. Nandi and Bhrunji figures are depicted on either side base of the doorframe. The upper parts of the doorframe and doorway lintel are bereft of decorative embellishments. *Navagrahas* are carved on the architrave above the doorway lintel. All the *grahas* are depicted in *yogasana* posture on the pedestal. Each *graha* is carved in the separate niche of the *navagraha* slab.

B. Jagamohana

The *jagamohana* of the temple is a rectangular hall and its wall is covered by the asbestos roof. Prafulla Kumar Padhi, the temple

priest says that the *jagamohana* hall of the temple was built in 1982 A.D.

Two bull figures are installed on the pedestal. They are kept in front of the doorway of the sanctum and are considered as the conventional mounts of Lord Siva. The *jagamohana* of the temple preserves three *Shivalingas* within the *Shaktipithas*. They are named as Bakresvara, Sovanesvara and Nilakanthesvara respectively. Brass images of Chandra Sekhara and Devi Parvati are being worshipped in the north-west corner of the *jagamohana* hall. The *jagamohana* has three doorways and all are completely plain.

Additional Shrines

Besides the main temple, there are some additional shrines noticed in the temple complex. They are being mentioned as follows:



A. Shrine of Mallikesvara

There is a separate incomplete shrine preserves the *Shivalinga* within the *Shaktipitha* as the presiding deity of the shrine. The *Shivalinga* is dedicated to Lord Mallikesvara Siva.

B. Shrine of Narayani

There is a separate shrine of thatched house, which preserves the image of goddess Narayani as its presiding deity. The eight armed image of goddess Narayani is carved in *lalitasana* pose on the pedestal. Mahisasura and lion figures are depicted on the pedestal. The right side hands of deity display arrow, *shankha*, *varadamudra* and *khadga* while the left side two hands hold *chakra*, bow and other two hands have indistinct objects. A human figure is depicted seated posture on the left of the pedestal. The presence of Mahisasura and lion figures conveys the image is definitely a Mahisamardini Durga. But this image is being worshipped by the local people as goddess Narayani. The image Narayani is made of sand stone. It measures 1 foot 4½ inches in width and 1 foot 11 inches in height respectively. The presiding deity is installed on the *simhasana* of 1½ feet high. The *simhasana* of the presiding deity is decorated with arch design crowned by the *kalasa*.

C. Shrine of Radha-Krishna

The shrine of Radha-Krishna is built in 2008 by the efforts of the villagers. The additional shrine of Radha-Krishna is a *pidhadeula* and its height is about 20 feet from the surface of the temple complex. The central niches of the three sides of the *bada* are housed with the *parsvadevata* images of Trivikrama, Narasimha and Varaha. All the side deities are housed in the *pidha mundi* niches. The *gandi* and *mastaka* of

the shrine have usual elements of the Odishan *pidhadeula*.

The sanctum of the shrine preserves the stone image of Lord Krishna and brass image of goddess Radha. Besides, the *Daru* images of Jagannatha, Balabhadra and Subhadra are also being worshipped in the *simhasana* of the shrine. Anthua Gopala, *Salagramasila*, Lakshmi-Narasimha, Durga images are found worshipped in the wooden *khatuli*. The doorway of the sanctum is completely plain.

The *jagamohana* of the shrine is a flatroof and it is about 10 feet high from the surface of the temple complex. Garuda, the conventional mount of Lord Visnu is installed on the square sized pillar of 3 feet high. It is noticed at the centre of the pedestal.

D. Shrine of Mahavir Hanumana

There is a stone image of Mahavir Hanumana found installed on the south-west corner of the temple complex. It is being worshipped in open air.

There is a big pond noticed at the south-east corner of the temple complex.

Date of the temple

There is no authentic record with regard to the exact date of the construction period of the Panchu-Pandava temple of Ambiligaon. The local tradition says that the Panchu-Pandava temple is contemporary of the Sun temple of Konarka. On the basis of the architectural pattern and iconographies of the *parvadevatas*, the construction period of the Panchu-Pandava

temple of Ambiligaon may be assignable to the 16th century A.D.

Now the temple is being managed by a local committee of that village.

Conclusion

Thus, it is known from the above discussion that the site of the Panchu-Pandava temple of Ambiligaon is a co-ordinating place of Saivism, Shaktism and Vaisnavism, which can be proved by the available respective shrines in the temple premises. This temple is a unique Saiva shrine in the whole Prachi valley, because five *Sivalingas* are being worshipped in the site. An image of goddess Durga is being worshipped in the additional shrine of the temple complex as goddess Narayani, which is a peculiar feature of that site. In this temple, *Shivaratri* is highly celebrated by the devotees on *Chaturdashi Tithi* during the *Krishna Paksha* in the month of *Magha*. Here, *Shivaratri puja* is also performed during the night like other notable Shaiva shrines of Odisha. The whole night duration is divided into four to get four *prahar* to perform *Shiva puja* four times. Both from the religious and architectural points of view, the Panchu-Pandava temple of Ambiligaon can be considered as one of the important Saiva shrines of the Prachi valley in Odisha.

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Khiching, a corrupt pronunciation of Khijjinga or Khijingakotta, situated in the Panchphir Sub-division of Mayurbhanj district is the ancient capital of the kingdom called Khijjingamandala of the early Bhanja rulers. Today, Khiching, having the ancient temples dedicated to Kichakeswari, Kutaitundi and Chandrasekhar, the ruins of the forts Viratgarh and Kichakagarh, few *stupas* and several sculptures, is acclaimed as a great heritage site of Odisha.

The archaeological finds brought to light through explorations and excavations are valuable source materials for writing the history of Khiching. It was in the year 1840 A.D. that the ruined and

23, Rama Prasad Chanda, the then Superintendent of Archaeological Section of the Indian Museum, Calcutta visited Khiching and published a report in the Annual Reports of A.S.I. After visiting the archaeological sites of different parts of Mayurbhanj Mr. Chanda remarks, "Khiching far surpasses all these sites in antiquity and importance". He reports that at Khiching there were remains of two fortified palaces known as Viratgada and Kichakagada after the well known characters of the Mahabharat. But the chief centre of interest at Khiching, both for pilgrims and archaeologists are the temples and sculptures of the Thakurani's compound. Goddess

Archaeological Treasures of Khiching

Balabhadra Ghadai

devastated Khiching was visited by the British explorer Lieutenant Tickell. His report gives an idea of Khiching when it was not only in complete ruins but also was so much overgrown with forest that it was difficult to approach the site that was full of antiquities of the Bhanjas. In 1874 and 1876 J. D. Beglar, Cunningham's Assistant, visited the sight which has been described under the name of 'Kichang' in Cunningham's reports in Archeological Survey of India. He has reported to have seen pillared hall, Vaishnavite and Saivic temples, Buddhist mound, brick of 12" x 9" x 3", life size figures, a hut with images and the sacrificial remains of twenty goats. Prior to 1911, N. N. Vasu visited the remains of Khiching. In 1922-

Kichakeswari, a Chamunda figure now the family deity of the Bhanja royal family of modern times was installed in a small plain brick built shrine on a mound of the old temple in the centre of the compound. Near the shrine of *Thakurani* stands the *Khandia Deula* or the unfinished temple. Around the *Khandia Deula* under a shade near a mound lie scattered a very large number of images and sculptures. All sects including Buddhist and Jain are represented in the collection.

The excavation during 1923-24 inside the *Thakurani* compound has brought to light stray scriptural pieces, foundation of a few temples,

fragments of an image of Tara to which the early Bhanjas of Khiching have referred to in their copper plate inscriptions, the foundation of Jateswara Siva Temple, a good numbers of *Nagas* and *Naginis* the workmanship of which are of very high order and many other relics.

The archaeological museum located in the *Thakurani* compound contains large number of images which were found in course of excavation at different sites. Many of these images are of life size and of great artistic merit. The *Vishnu Chakra* with *Navagrahas* with sculpted deities on either sides recovered from the ruins of Khiching, is now preserved in the site museum at Khiching. This *Chakra* has an original pedestal to be fixed at the top of a temple. Besides this emblem of the Vishnu temple at Khiching the figures of Vishnu housed in the site museum assert the popularity of *Vaishnavite* cult in this region. The life size images of Siva indicate that Khiching was a centre of *Saivism* during the mediaeval period. It is pertinent to mention that the worship of Siva in the form of *Linga* is common throughout India but the worship of Hara in human form as a cult image is a peculiarity of Khiching. The sculpture looks elegant with his smiling face flanked by two beautiful chiseled female attendants and the mount (*Vahana*) bull. Two other large images Chanda and Prachanda in a standing pose are equally beautiful. In the artistic merit and bodily features they correspond to the features of the image of Hara. They are elegantly carved with beautiful floral designs. The artist has successfully depicted the distinction of *Chanda* and *Prachanda* by showing the pleasing feature in the face of Chanda and fiery (*ugra*) aspect in the face of *Prachanda*. The *Saptamatrukas* of Khiching are beautiful pieces of art during the rule of the Bhanjas. *Chamunda* of the *Saptamatruka* group is worshipped as Goddess Kichakeswari,

the tutelary deity of the Bhanjas. The images of *Maheswari*, *Brahmi* and *Vaishnavi* now preserved in the museum belong to *Saptamatruka* group of goddesses then popularly worshipped at Khiching. Other images of the *Saptamatruka* group are missing –perhaps damaged when the great temple collapsed or buried under the earth at different places at Khiching. Ganesh is regarded as the ‘gem of Khiching art’ for its grandeur and elegance. The dancing Ganesh with eight hands on a lotus pedestal alongwith other figures of Ganesh with two and four arms preserved in the museum go to prove that the cult of Ganapati was popular at Khiching. The mention of ‘*Bhaba*’ in the Copper Plate Grants of the Bhanja rulers and the sculptural representation of Surya found in the Khiching museum throw much light on the wide prevalence of Sun worship at Khiching. Life size images of Buddha in earth touching pose and of *Avalokitesvara* are also seen indicating the hold of Buddhism that one flourished here probably earlier than Saivism. Jaina images like *Parsvanath*, *Risavanath* and *Santinath* recovered from the site bespeak the emergence of Jainism along with the mainstream of Indian religion. Among the sculptures representing Brahmanical Hinduism one finds large number of *Vaisnavites*, *Sakta*, *Saiva*, *Ganapatya* and *Soura* (Solar) deities which proved that Khiching was a ‘*Panchopasana Kshetra*’. From the study of different religious cults developed at Khiching, it appears that the Bhanja rulers were tolerant to religious adherence of their subjects although they were the followers of Brahmanical faith.

Several pre-historic tools such as the crude pebble tools, hand axes, cleavers, scrapers, knives, ranging from the crudest to the most developed forms, have been collected from the sites in and around Khiching and displayed in

the Museum. Besides, the primitive copper shouldered celts found from Khiching and exhibited in the Museum would suggest that these were manufactured at a time when the knowledge of metal working was much less developed than the early historic period.

Different varieties of coins representing both political and commercial activities have been found in Khiching. Among the finds, Kushan coins are large in number and few Roman and Gupta coins have also been discovered. Unfortunately, Roman coins are lost at present but Mr. J. D. Beglar reported that he has seen few Roman coins discovered at Baman Ghaty of Mayurbhanj. The finds of these coins at Bamanghaty shows that it laid on some great line of road from the Sea port Tamluk to the interior, for it is more probable that they came in via Tamluk than overland from the Roman Empire.

The *Kushan* coins of *Kaniska* and *Huvishka* along with a large number of imitation coins known as *Puri-Kushana* coins with standing figure of the king on the obverse and the figure of MAO or Moon God on the reverse have been found mostly from Khiching and its neighbourhood. A hoard of such coins was discovered in 1923 at Bhanjki near Khiching, and during the excavation of *Viratgarh* at Khiching a number of *Kushan* coins were also found. In May 1939 as many as 105 *Kushan* coins were also found in a brass pot in Nuagaon, three miles east of Bhanjki. In 1948 more than one thousand imitation Kushan coins along with a single coin of *Kanishka* were found at Bhanjki. The discovery of the Kushan coins in Mayurbhanj as well as other districts of Odisha have given rise to much speculation amongst the scholars. Dr. A.S. Altekar believes that an Indo-Scythian tribe called *Murunda* were ruling over these parts during the second and third centuries A.D. The

Gupta coins were not found in such numbers. Only the gold coins of Chandragupta II were discovered in August, 1939 at Bhanpur, on the bank of the river Sone. These three coins are of archer-type and very probably they were brought to this territory by merchants.

A large number of copper plate inscriptions issued by different kings of Bhanja dynasty have been discovered from Khiching locality. These inscriptions provide ample information regarding the history and culture of the Bhanjas of Khiching. They are: 1. Bamanghaty Plate of Ranabhanja, 2. Khandiadeuli Plate of Ranabhanja, 3. Bamanghaty Plate of Rajabhanja, 4. Ukhunda Plate of Prithivibhanja, 5. Keshari Copper Plate of Satrubhanja, 6. Adipur Grant (A) of Narendrabhanja, 7. Adipur Grant (B) of Ranabhanja, 8. Adipur Grant (A) of Ranabhanja, 9. Adipur Grant (B) of Ranabhanja, 10. Adipur Grant of Durjayabhanja, 11. Khiching Grant of Mohan Madhababhanja alias Rajabhanja.

Khiching Museum Votive Inscription is inscribed on the pedestal of an image of Avalokitesvar stating that the image of God Lokesa is caused to have been carved out by Dharani Varaha with Kirtti (wife of Dharani Varaha) during the rule of Sri Rayabhanj, who is the same as king Rajabhanj of Bamanghaty copper plate.

Thus, Khiching occupies a place of distinction in the Odishan archaeological heritage. The remnants of the monuments standing here are the witness of its past glory highlighting the cultural greatness of the region and the country as well.

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