

ODISHA REVIEW

VOL. LXIX NO. 10

MAY - 2013

PRADEEP KUMAR JENA, I.A.S.
Commissioner-cum- Secretary

DEBENDRA PRASAD DAS, O.A.S.(SAG)
Director

DR. LENIN MOHANTY
Editor

Editorial Assistance
Bibhu Chandra Mishra
Bikram Maharana

Production Assistance
Debasis Pattnaik
Sadhana Mishra

Manas R. Nayak
Cover Design & Illustration

Hemanta Kumar Sahoo
D.T.P. & Design

Raju Singh
Manoranjan Mohanty
Photo

The *Odisha Review* aims at disseminating knowledge and information concerning Odisha's socio-economic development, art and culture. Views, records, statistics and information published in the *Odisha Review* are not necessarily those of the Government of Odisha.

Published by Information & Public Relations Department, Government of Odisha, Bhubaneswar - 751001 and Printed at Odisha Government Press, Cuttack - 753010.

For subscription and trade inquiry, please contact : **Manager, Publications, Information & Public Relations Department, Loksampark Bhawan, Bhubaneswar - 751001.**

Five Rupees / Copy

E-mail : iprsec.or@nic.in
iprsec@rediffmail.com
Visit : <http://orissa.gov.in>
Contact : 9937057528(M)

CONTENTS

Really, You are great, Oh Lord !	<i>Er. Raghunath Patra</i>	...	1
Good Governance		...	3
Jayadeva, the Devotee of Madhava and Jagadisa	<i>Dr. A.K. Tripathy</i>	...	6
Jayadeva, the Poet and his Times	<i>Prafulla Chandra Tripathy</i>	...	12
Rutusambhara in Sri Geetagovinda	<i>Madhumita Mishra</i>	...	22
The Significance of the ‘May Day’ and India’s Response	<i>Dr. Anil Kumar Mohapatra</i>	...	24
Jayadeva's Geetagovindam and Srimad Bhagavat Geeta : In Pursuit of Truth	<i>Dr. K.C. Sarangi</i>	...	29
Odisha Power Sector Reform, Role of Regulatory Commission and Performance of Electricity Distribution Companies	<i>Ajoy Sahu Shibalal Meher</i>	...	39
Involvement of SHGs in Watershed Management - An Impact Analysis	<i>Sandhyarani Sahoo Anup Dash</i>	...	49
Conceptual Clarity on Special Category Status	<i>Hemanta Kumar Nayak</i>	...	53
Right to Privacy in Sting Operations of Media	<i>Om Prakash</i>	...	56
Newly Discovered Archaeological Sites in Coastal Odisha	<i>Dr. Anam Behera</i>	...	61
Historical Curtain Raiser : Two Kingdom, One King in 261 B.C.	<i>Chinmaya Roy</i>	...	66
Fertigation in High Value Tuber Crops - A Review	<i>S. K. Jata, M. Nedunchezhiyan Tapas Ranjan Sahoo and Viswanath Sahoo</i>	...	68
Sesamum in Odisha and Its Disease Pest Management	<i>N. Ranasingh T. Samal</i>	...	78
The Picnic Dress of Shri Jagannath	<i>Mahimohan Tripathy</i>	...	80

Editor's Note



The Universal Declaration of Human Rights states that “everyone is entitled to all rights and freedom without distinction of any kind such as race, colour, sex, social origin, birth or other status.” Yet women, who constitute a decent half of the society, live a life of vulnerability. Gender-based violence kills as many women in between the age group of 15 and 45 as that of Cancer. His Excellency the Vice-President Shri Mohammad Hamid Ansari has aptly said “much too often we have failed to treat women as equal citizen.” Our attitude towards women are not reflected upon gender parity. The month of April started with a visit of our Hon’ble Vice-President to Odisha to grace the centenary celebration of Shailabala Women’s College at Cuttack. He said “Utkal Gaurav Madhusudan Das was champion of women’s cause and believed in change through education. He acknowledged the contribution of Shailabala Das, daughter of Utkal Gaurav Madhusudan Das in setting up of the College. Very rightly our Vice-President pointed out “The paradox is that we are somewhat schizophrenic in our attitude to women and in practice oscillate between deep respect and endemic display of brutality in word and in deeds.”

To empower the women of our State further, Hon’ble Chief Minister Shri Naveen Patnaik has launched the Shakti Varta Programme. It aims to find out local problems and find appropriate solutions to these. The Programme would specifically focus on issues like mal-nutrition, health, safe drinking-water and sanitation in the target areas. The pioneering Programme would involve more than 10 lakh women in the State.

His Excellency the President of India Shri Pranab Mukherjee graced the 45th Convocation of Utkal University as its Chief Guest. He opined that Universities must help in meeting the moral challenges of our society. Raising concern that no Indian University finds place in world’s top 200 varsities, he said, “distributive justice in society is ensured through sound education policy”.

Hon’ble Chief Minister Shri Naveen Patnaik welcomed the President of India for his maiden visit to our State after becoming the country’s first citizen. He also highlighted the development of the State in Higher Education sector.

As is the practice every year the birth anniversary of the master of lyrical poetry, eminent Sanskrit Scholar “ Jaydev” is being celebrated in our State with much gaiety. His collection of

Sanskrit poems “Geeta Govinda” is popular across our country and also abroad. The Dasavatar worship has flourished across the country being influenced by Geeta Govinda. His belief that fascinates all including me is that if one completely surrenders before Lord Krishna, he or she would be free from bondage of illusion and will secure a place in God’s own abode.

The State of Odisha and its people are still inspired by Santhakabi Bhima Bhoi’s immortal words “ Mo Jeevan Pachhe Narke Padithau-Jagat Uddhar Heu”. Eminent poet and prophet of Mahima Dharma Bhima Bhoi wielded his pen against the prevailing social justice, religious bigotry and caste discrimination. His life story and achievements are still a learning example for all of us.

Last but not the least, the demand of our Hon’ble Chief Minister for a special category status in favour of our state and seeking more funds is the need of the hour. Odisha satisfies all criteria of Special Status Demand except the condition of strategic location along borders. However, the influx of refugees and anti-national elements through sea routes can substitute the border State criteria. Many areas of Odisha are not only hilly but also provide little access. Our State has performed well in terms of growth and poverty reduction but if it gets the Special Category Status it will gain much financially and there will be tax holidays for investors setting up industries in Odisha and ratio of Grants given by the Planning Commission will be treated in favour of our State. It is high time the Central Government concedes to the genuine demand of our State placed by our Hon’ble Chief Minister Shri Naveen Patnaik. It is only then we can bring a smile in the face of every Odia.



Editor, Odisha Review



Really, You are great, Oh Lord !

Er. Raghunath Patra

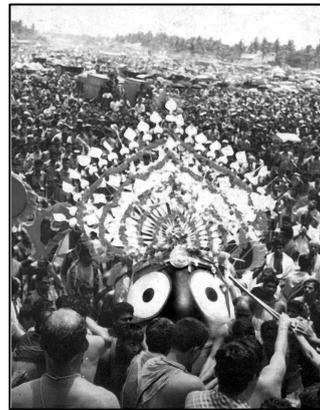
You come swinging from Srimandir
Tossing your flower-crown high
Slowly step on looking around
With circular unwinking eye

Beloved devotees encircled around
And amidst musical note
gongs and tabor sound high
'Jay Jagannath' throngs aloft.



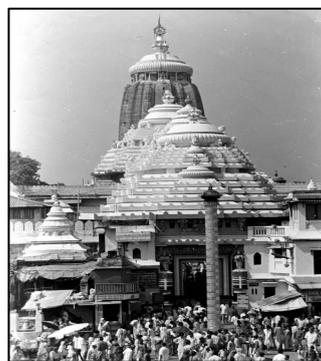
To mingle with common stream
Come to public field
to redress devotees' grief and pain
forgetting caste and creed

All restraints of temple, you offend
step on to Grand Road
Themes of splendour fade away
to match with public trod.



Car Festival is chance for you
leaving all pomp and power
gravity and dignity ignore all
come to public sphere.

Your majesty forgets royal ritual
come for pastimes amour
Love and affection exceed all
You look charming more.



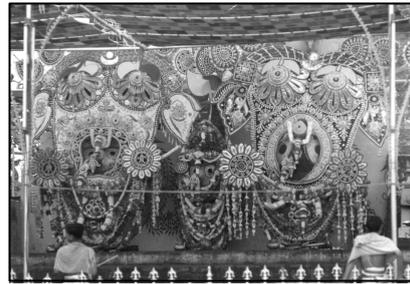


In temple hear themes of Scriptures
now country-theme on road
uncommon to common, frequent all
pervade all realms of world.

In 'Sahan Mela' public Darshan
permit all to come nigh
In car festival fraternize all
to redress their grievances high.



Oh Paramount Lord of Universe !
forsaking your majesty back
Display self in open field
to teach amicable track.



Accepted Dasia's coconuts, mangoes
took curd of Manika with glee
Prayer of Balaram, Salbeg heard
The Chariot could not flee.

Your presence I see, in all creatures
presence on Nadighosh Car
you are present inside, outside both
in every nook and corner.

You are beyond dignity, fellowship
beyond lucency and shade
Beyond pang and delight of man
remain under devotees' tread.



On your return car to Srimandir
your spouse secures temple gate
you proceed to stay with devotees
Really, You are great !!!

You never trust in caste and creed
you love one and all
shoulders stretched to embrace all
to devoted distressed soul.

You are Supreme, one without second
govern the cosmos well
from pauper to rich, sick to hale
to redress cry and wail.

Rivers flow to mingle with ocean
now ocean flows to rivers
Poet seeing such celestial pastimes
forgets mundane affairs.





GOOD GOVERNANCE





On the occasion of the International Labour Day-2013, the Government of Odisha has declared some welfare measures for the benefit of the eligible registered construction workers through Odisha Building and Construction Workers' Welfare Board.

New Proposals :

- During the Financial Year 2013-14, 50 nos. of rest shades will be constructed.
- Rastriya Swasthya Bima Yojana will be extended to all Registered Construction Workers.
- Eligible registered beneficiaries will be given Bi-cycle those who completed three years through Cheque amounting to Rs.4,000/- (four thousand).
- Registered construction workers will be given Helmet, Shoe and Hand Gloves through Cheque amounting to Rs.1,000/- (one thousand).

Enhancement Assistance :

- **Assistance in case of accident :** For (minor) treatment-maximum Rs.1,000/- (one thousand) to Rs.2,000/- (two thousand). For disability-Maximum Rs.75,000/- (seventy five thousand) will be increased to Rs.1,50,000/- (one lakh fifty thousand).
- **Death Benefit :** Normal death-Rs.50,000/- (fifty thousand) will be increased to Rs.1,00,000/- (one lakh). Accidental death-Rs. 1,00,000/- (one lakh) will be increased to Rs.2,00,000/- (two lakhs).
- **Pension :** As per National Pension Scheme
- **Medical Expenses for Treatment of major ailments:** Full reimbursement in case of treatment in Government Hospitals/ESI Dispensaries and Referral Medicals.
- **Loans and advances for construction of house :** Rs.40,000/- (forty thousand) will be enhanced to Rs. 80,000/- (eighty thousand).
- **Financial Assistance for skill up-gradation :** Rs.3,000/- (three thousand) will be increased to Rs. 6,000/- (six thousand) for 3 months training.

Education Assistance : Financial assistance for two children of beneficiary is to be given in the following manner.



1. For Class-XI & XII or equivalent- For son-Rs.1,500/- (one thousand five hundred) will be increased to Rs.3,000/- (three thousand) per annum.
 2. For daughter-Rs.2,000/- (two thousand) will be increased to Rs.4,000/- (four thousand) per annum.
 3. For Classes of B.A., B.Sc., B.Com., equivalent : For Son-Rs.2,000/- (two thousand) will be increased to Rs.4,000/- (four thousand) per annum. For daughter-Rs.2,500/- (two thousand five hundred) will be increased to Rs. 5,000/- (five thousand) per annum.
 4. For ITI/Engineering/Medical/P.G. studies (for technical and professional): For both son and daughter-Rs.3,000/- (three thousand) will be extended fully reimbursed as per State Govt. Rate of admission fees.
- Assistance for purchase of working tools : Rs.2,000/- (two thousand) will be increased to Rs.4,000/- (four thousand) for all categories of workers.
 - Assistance for funeral expenses : Rs.1,800/- (one thousand eight hundred) will be increased to Rs.5,000/- (five thousand).
 - Marriage Assistance : Rs.5,000/- (five thousand) will be increased to Rs.10,000/- (ten thousand).
 - Maternity Benefit : Rs.2,000/- (two thousand) will be increased to Rs.4,000/-.



Shakti Varta in Odisha

Chief Minister, Shri Naveen Patnaik has recently launched Shakti Varta, a community process initiative led by the Department of Women & Child Development, Health & Family Welfare and Rural Development under Odisha Health and Nutrition Sector Programme (OHNSP). Those participated in the event were the Minister of Health & Family Welfare, Dr Damodar Rout, Minister of Rural Development Shri Bikram Keshari Arukh, Minister of Women & Child Development Smt. Usha Devi, Minister of School & Mass Education Shri Rabi Narayan Nanda, Commissioner and Secretary, Department of Women & Child Development Smt. Arati Ahuja and Director, Social Welfare, Smt. Aswathy.S.

SHAKTI VARTA is a demonstration of Govt. of Odisha's and DFID's commitment to tackling health, nutrition and water and sanitation - and to empowering our communities, especially women, to drive their own development solutions.

SHAKTI VARTA will :

- empower communities to take ownership of local problem identification and solution, and stimulate higher quality, more responsive services.
- work with 140,000 women's self-help groups
- work in 24,000 villages
- train 7,000 Shakti SHG members as facilitators
- reach more than 10 lakh women

Key Points about SHAKTI VARTA

- As a community mobilisation strategy, Shakti Varta will work directly with women's Self-Help Groups (SHG) tapping into the enormous resource represented by women in communities, and building on the success women have already achieved within their communities through activities such as savings and credit and promotion of income generation.
- Shakti Varta will nurture and develop the capacity for decision making and contribution to community development which these women have already demonstrated.
- Shakti Varta will use a newly developed PLA cycle that builds on state, national and global learning, enabling the women participants to identify and prioritise their own problems and develop strategies for action.
- This new PLA cycle works simultaneously on a broad range of interconnected technical areas within health, nutrition and WASH, where previous PLA initiatives have focused more narrowly on single issues.

Shakti Varta entails a high level of convergence on community process through collaboration between Mission Shakti, NRHM, the Departments of Health, Women & Child Development, Rural Development supported by DFID and TMST.



Jayadeva, the Devotee of Madhava and Jagadisa

Dr. A.K. Tripathy

In the Divine Love episode, Radha and Madhava have been depicted as the Nayaka and Nayika and the whole of the *Gitagovinda* indulges in pouring forth the sweet nectar of their blissful sportive union to the fullest extent. It can be affirmed that the term 'Madhava' found its expression in the *Gitagovinda* only after the conception of incarnation of Radha and Krsna. The term 'Madhava' finds place in the following *slokas* of the *Gitagovinda*.

First Canto :

*Radhamadhavayorjayanti yamunakule rahah
kelayah* (1)

Third Canto:

Radhamadhava hrdaye tatyaja Brajasundari (1)

Fourth Canto:

*Madhav manasijavisikha bhvayadiva bhavanaya
tvayi lina* (1)

Fifth Canto :

*Stasmineva nikunja manmatha mahatirthe
punarmadhavah* (1)

Seventh Canto :

*Prasarati sasadharabimbe vihitalilambe cha
Madhave vidhura.* (2)

xxx

xxx

*Athagatam Madhava mantarena sakhimiyam viksa
visadamukam* (4)

*Ksanam Jagatprana vidhaya Madhavam puro mama
pranaharo bhavisyasi* (7)

Eighth Canto:

*Hari Hari yahi Madhava yahi Kesav ma vada kaitava
vadam* (1)

Ninth Canto :

Madhave ma kuru manini manamaye (1)

Eleventh Canto :

Pravisa Radhe Madhava samipamiha (5)

*(Geetagovinda edited by Pandit Nilamani Mishra
published by Grantha Mandir, Cuttack-1995, 1998)*

It seems proper to discuss whether the worship of the image of Visnu under the name of Madhava and the term Madhava were associated with the national life of the then Tosali and Kalinga. The social traditions and customs find expression through the works of the poet. Had not the worship of Madhava gained ground in the social life of the then Tosali and Kalinga, Jayadeva would never have accepted Krsna as the hero of his immortal work. A clear and vivid picture can be had by a discussion about the worship of Visnu in Kalinga. It is believed that the civilisation on the river valley of Prachi flourished long before the



birth of Christ. The significant contribution of the Prachi valley is the introduction of the worship of four-handed Visnu as Madhava before the 12th century A.D. The stages of transformation of this four-handed Visnu to four-handed Krsna holding the flute and two-handed Krsna with the flute have been discussed separately. Madhavi Devi of Bhaumakara dynasty was also a chief patron of Madhava worship. Shree Jagannatha is the national deity of the Odias Whose original name was Madhava and this accounts for the spread and popularity of worship of Madhava in Kalinga. In the *Viraja Mahatmya* composed in the 10th century A.D. there is mention of 12 Madhava *pithas* (shrines) situated at different places on the bank of the river Vaitarani flowing through Odisha or the then Kalinga.

Proktam Bhagavata purbam Madhava dvadaseti me Ksetre vairajase nitya mantagrha nivasinah (1)

These *pithas* are 1. Adi Madhava, 2. Ananta Madhava, 3. Bhoga Madhava, 4. Champaka Madhava, 5. Rama Madhava, 6. Prasanna Madhava, 7. Purusottama Madhava, 8. Sudarsana Madhava, 9. Janardana Madhava, 10. Narakantaka Madhava, 11. Vasudeva Madhava, 12. Govinda Madhava. (*Viraja Mahatmya*, 8th Canto)

The worship of Madhava in the bank of the river Prachi has been described before. Besides the shrines of worship of Madhava there were others belonging to different regions like Vajrayana branch of Buddhism, the Jainas, the Saktas and the Tantrikas built up in course of time. A study of the shrines of Madhava worship around Kenduli, the place of birth of the great poet Jayadeva, shall give a clear picture of the spread of Madhava worship. In the *Prachi Mahatmya* composed in the 18th century A.D. there is mention of twelve Madhava *Pithas*. The *Prachi Mahatmya* is composed in the Sanskrit following

the mode of composition of the *Kapila Samhita* of the 10th century A.D.

Madhavananda :

Description about the image of Madhavananda and the monastery at Adaspur at a distance of two kilometers near Kenduli towards the north has been given in an earlier chapter. Resemblance of the image of Madhava discovered at Kenduli with those of other architectural specimens, has been discussed elsewhere. This place comes under Govindpur police station of Cuttack district.

Niali Madhava :

Ten images of Madhava gathered from the dilapidated temples from the Prachi river valley have been preserved at the Museum in the courtyard of Sobhanesvar Siva temple of Niali under Cuttack district. Two images of Madhava Visnu discovered from the tank close to the Brahma temple have been preserved inside the *Jagamohan*. In the Radhakanta Matha of village Nuagaon at the north-west corner of Sobhanesvar temple a beautiful image of Krsna made of black granite stone, is worshipped. This place comes under Niali Police Station of Cuttack district.

Madhava :

The worship of Madhava in the village Madhava on the bank of the river Prachi is famous all over Odisha. The village comes under the jurisdiction of Niali Police Station in the district of Cuttack.

Angesvara Madhava :

The temple of Angesvara Siva is situated in the village of Pitapara at a distance of five kilometers from the Madhavananda temple of Madhava towards the south. The temple has been designed in *Pancharatha* style made in ancient



bricks. The four dilapidated temples around the main temple testify the fact that it was at one time a *Pancharatha* style. The *Jagamohan* of the temple is about to collapse and is covered with plants, creepers and moss. Inside the *Jagamohan* there are two images of Madhava Visnu, two of Uma-Mahesvara, one of Lord Siva in meditative pose, one of Astika Jaratgaru, one of the eight-handed goddess Chamunda and a slab with *Navagrahas* engraved on it. In a thatched house towards the east of the temple two images of Madhava Visnu of three feet high are being worshipped. This goes to prove that there was at one time a temple of Madhava Visnu which having been ruined in course of time, the images have thus been preserved. This place on the bank of the river Prachi is known as Angatirtha. In the *Mahabharata* it has been mentioned that Karnna, the gallant hero, took to austere penance at this place to earn the grace of Lord Siva. There is also the practice of offering oblations to the forefathers at this holy place. In a monastery closeby an image of Krsna made of black granite stone is worshipped. The distance of this place from Kenduli is about eight kilometers in a straight line. It is probable that the Angesvara temple had been built by the rulers of Soma dynasty. The temple bears evidence to the confluence of Sakta, Saiva and Vaisnava cults in the Prachi Valley before the period of Jayadeva.

Amaresvara Madhava :

On the southern bank of the river Prachi close to the road in between Nimapara and Astaranga there is seen at Amareswara the dilapidated Siva temple made of bricks. The temple appears to have been built in *Pancharatha* style. Inside the *Jagamohan* there is the beautiful image of Madhava holding in hand the conch, wheel, mace and the lotus. The conjoined images of Uma-Mahesvara, the images

of Ganesa and that of Kartikeya are placed as side deities. To the west of Amaresvara Siva temple the images of Laksmi-Nrsingha is worshipped in a temple made of red sand stone. The goddess Laksmi sits close to the bosom of Lord Nrsingha. As mentioned in the foregoing chapters such images are to be found in the temple of Kenduli. The place comes under Nimapara Police Station in the district of Puri.

Nilakanthapur Madhava :

Close to the block office at Kakatpur in Nilakanthapur village there is a ruined temple in which the image of Madhava with four hand (5'.6" x 2'.6") is worshipped. He holds the wheel in the upper right hand, the lotus in the lower right hand, the mace in the lower left hand and the conch in the upper left hand. The images of Varaha, Nrsingha and Trivikrama incarnations are placed as side deities.

Jangali Madhava :

At a place named Jangalabheri under Kakatpur Police Station situated in the left bank of the river Prachi the image of Madhava (4'.2") made of black granite stone is worshipped. This place is situated at a distance of three kilometers from Panichhatra in the midst of a jungle. Through the efforts of the Archaeological Department, the main temple, *the Jagamohan* and *the Natamandira* have been excavated from earth. The images of Ganesa, Manasa, the eight handed goddess Durga in the posture of demolishing the demon king Mahisasura are placed as side deities. A great fair is held there every year on the auspicious day of *Akshaya Trutiya*.

Nil Madhava :

On the south bank of the river Prachi close to the road in between Nimapara and Astaranga at a distance of two kilometers from the Amaresvar Siva temple, an image of Madhava



Visnu carved in hard black granite stone (3'.5" x 1'.10") is worshipped in a dilapidated temple of bricks under the name of Nila Madhava. The dimension of the throne of the image is (2'.8" X 1'.9"). There are two female figures on both sides of the image and Garuda is seen at the feet of the image sitting in a devotional pose. The excavated image of Lord Nrusingha has been placed there.

Lataharana Madhava :

At a distance of three kilometers from Kakatpur towards the south-west corner in the village Lataharan two images of Madhava Visnu are worshipped in the *Jagamohan* of Gramesvar Siva temple. Among other images there are those of Tribikrama, Varaha, Garuda and the eight-handed goddess Durga. The image of Ganesa in dancing posture and the goddess Parvati are placed as side deities. The existence of the image of Visnu and Garuda indicates that there was a temple of Visnu in this locality in the ancient days.

Mudgala Madhava :

In the village Mudgala on the bank of the river Prachi the image of Madhava (5'.7") made of black granite stone is worshipped. At a short distance from this holy place the image of Madhava (4'.2") is seen in a broken temple constructed of bricks. In the upper right and left hands are seen conch and wheel whereas in the lower right and left hands are seen the mace and the lotus. According to legends the sage Mudgala on his way to Lanka (Ceylon) found Vibhisana worshipping here the image of Madhava and he himself longed to worship in the same way. After that the sage Mudgala returned to the bank of the river Prachi and worshipped Madhava by building a hermitage. It is said that Lord Visnu appeared in dream before Mudgala and asked him to take to worship of Madhava. Basing on this the worship of the famous Mudgala Madhava was adopted by the villagers. Saivism or Sakti cult

did not have to disappear or overthrown for Vaisnavism to come in. it was accommodated smoothly, and the three cults even to-day not only co-exist, but contribute to each other to prosper.

Lalita Madhava :

The image worshipped on the tract lying in between the river Prachi and Lalita is named Lalita Madhava. This is made of black granite (3'.5" x 1'.10") which is worshipped by many people of the adjacent villages. At one point the temple made of bricks has collapsed in course of time.

Mangala Madhava :

Inside the compound of the goddess Mangala at Kakatpur two images of Madhava are being worshipped. It is said that one earns great bliss on having *darsan* of Madhava after the darsan of mother Mangala. It would be of interest to recall the legend described in the Puranas as to how Madhava became Jagannatha. The details need not be retold but the legend is based on a historical process.

The original name of Lord Jagannath was Nila Madhava. It is probable that the name is derived from the Blue Mountain where the Lord was being worshipped. The legend describes about how the Lord was the deity of the *Adivasi Savaras* worshipped in the dense forest, how the Malava king Indradyumna subsequently succeeded in stealing Him away through Vidyapati, his Brahmin commander, and how the Lord was again reinstalled on the Blue Mountain as Jagannath, the Lord of the Universe, is well known to all. From time immemorial Nila-Madhava-Jagannath has been worshipped as the national deity of the Odias. In Him is found an admixture of religious conceptions of different cults like the Hindus, Jains, Buddhists, Saktas, Ganapatyas and Tantrikas. From 16th century



onwards there came as well many Mohammedan devotees. Odia literature achieved great heights by singing His glory.

In the *Utkala Khanda* of the *Skanda Purana* it has been mentioned that Lord Jagannath used to be worshipped as Nila-Madhava in a temple on the Blue Mountain at Shree Purusottamkshetra before his installation at *Srimandira*.

“*Tamamum nilameghabham nilasmamani-vigraham, Nilachalaguhavasam pranamami krupanidhim, Sankhachakra gadapadma dharinam subhakaritam, Pranatasapapaughadaritam muravairitam, Namaste kamalapanga nityasamskarichaksuse, Srivatsa Kaustobhodhhasi manojna sputavaksase.*”

(*Skanda Purana, Utkala Khanda* 2nd Canto, p. 7)

Again the image contains the figure of Lord Jagannath embracing Laksmi by His left hand.

“*Sankhachakragadapanim divyalankarabhusitam (6) Ratnapadukayoh prusthe vinyastacharanambujam Vyakosapundarikaksyam prasannavadanam vibhum (7) Vama parsvagatam Laksmim vamenalingya vahuna Nagavalladalam kaddhamadadanam sriyahrtam. (8)*”

(*Skanda Purana, Utkala Khanda* 5th Canto, p.21)

It has already been described in an earlier chapter how such exquisitely beautiful images of Madhava Visnu are found in the area around Kenduli. The following verses speak how sacred and auspicious the worship of Madhava is considered by the Odias.

“*Mangalam Bhagavan Visnuh mangalam Madhusudana Mangalam Pundarikaksa mangalam Garudadhvajah Madhavo Madhavo VisnurMadhavo Madhavo Harih Smaranti sadhavo nityam sarvakaryesu Madhavam*”

The name ‘Madhava’ is uttered by the Odias with the greatest reverence and devotion. The Odia initiates every noble deed keeping in mind the sweet and holy name of Madhava though He is also termed in different names like Laksmi-Madhava, Kalika-Madhava and Durga-

Madhava. It has been mentioned in the *Madala Panji* that before his military campaign against Kanchi, Gajapati Purusottama Dev of the *Surya* dynasty had offered his devotional prayer to the image of Durga-Madhava.

“*Tu jai rajanku kaha – ambhe daksina pacheri konare Durga-Madhava murti darsana kari ambha pachhe jibu, Ehi rupe Mahasuara kahile. Patramane bahuta bhangai rajanku kahile, se tahamani daksina kone Durga-Madhava murtinki darsana kari bije karigale*” (*Madala Panji* p.94)

Mahasuara was directed in his dream as follows :-

You go and tell the emperor – the idol of Durga-Madhava is in the wall at the south corner to whom he should see first and then come behind us. All the *patras* (commanders) persuaded the emperor sincerely to agree to this proposal. Then the emperor visited the idol of Durga-Madhava and left out for the campaign.

The tradition of worship of Madhava was followed throughout the length and breadth of Odisha and it is no wonder that the great poet Jayadeva had accepted Madhava, the prince of Vrndavana as the central figure which illuminated the pages of his immortal work, the *Gitagovinda* with celestial and heavenly light.

Not in Odisha but also four handed idols of Vishnu are worshipped as Madhava in other parts of the country.

According to the *Skanda Purana, Utkala Khanda*, written probably during the 11th century A.D., Purusottam Puri, the seat of Lord Jagannath, is called Dasavatara Kshetra.

Etadrasahyam param putra te kathitam maya Dasavatara ksetrasya mahatmyancha sugopitam Iti Utkalakhande chatuh-panchasodhyayah (18)

(*Sri Jayadev O Sri Gitagovinda* p.72)



Further the word Jagadisa mentioned in different cantos therein is only meaning Jagannath which are as follows :

1. “*Jagadisa prasadaya pitamaha nidesatah*” (*ibid*, p. 72)

In order to please Jagadisa, Indradyumna completed *Hayamedha Yajna* at the direction of Brahma.

2. “*Astadasabhyo dvipevyo Janmaya Purusarjitam Tatsarvam Jagadisasya prasadayo-pavarjitam*”.

(42) (*ibid*, p. 72)

I have owned every thing on my own might from among the eighteen islands and have gifted those for the construction of the temple of Jagadisa.

3. “*Janita Jagadisasya Prasadam karitam maya Avirvabhava bhagavan darurupa vapuh svayam*”

(32) (*ibid*, p. 73)

The god Himself in form of Darubrahma is sitting in the temple made by me.

4. “*Purato Jagadisasya pasyan suddham pitamaham krtanjalipto vipra mamajjananda sagare.*” (57) (*ibid*)

O’ Brahmins, Indradyumna prayed standing before Jagadisa very politely and dipping in the ocean of joy.

5. “*Yena devah samayanti ksetreasmin Purusottame Bhusvarge Jagadisasya darsanaya dine dine.*” (171) (*ibid*)

All the gods leaving their heaven come down daily to see the Lord Jagadisa at this Purusottama *kshetra*.

6. “*Brahmana Jagadisasya jangamastanavah smrtah*” (p. 194) (*ibid*)

The human form of Brahmins and *sevayats* of Jagadisa are like germs in the Body of Jagadisa.

7. “*Asadhasya site pakse panchami pitrdaivatam Naksatram Jagadisasya mahavedi samagamnam*” (27)

(p.203) (*ibid*)

Jagadisa come down to *mahavedi* on the day of *asadha sukla panchami* in *magha nakshatra*.

8. “*Nirmalyam Jagadisasya nasitvasnami kinchan*” (p.218) (*ibid*)

I will not touch any food until taking *nirmalya* of Jagadisa.

9. “*Tatah Srijagadisasya krode tam vasaye dvija*” (p.232)

All the good devotees are sitting on the lap of Jagadisa by the grace of goddess Laksmi.

10. “*Nayet Srijagadisasya samipamdvijasattamah*” (p.251) (*ibid*, p. 74)

Well scented *gandhatrna* is placed in the head of Jagadisa.

xxx

xxx

According to the *Sangraha Dipika*, an old commentary on the *Gitagovinda*, the word Jagadisa is used for Jagannath originally. This commentary is found in Madras Oriental Manuscript Library, a copy of which is in the Odisha State Museum, Bhubaneswar also.

The Manibhadreswara Siva temple at Bhubaneswar is about 40’ high and built in hard granite stone. No architectural decorations are found in the wall of the temple except installation of ten form of incarnations of Visnu. It is peculiar why Visnu incarnations are installed in Saiva temple. This temple was constructed during the Ganga period. The *Gitagovinda* and its song of Dasavatara was so popular in the society in those days that this was placed in the Siva temples as well. The *Gitagovinda* is recited in a *Sakta* temple near Kenduli during *Dussehra* festival in place of *Chandipatha*. Visnu and Siva were taken as only two faces of the same Parambrahma.

Some of the historians are of opinion that the aforesaid temple might have been built during the Somavamsi rule, but to me, it appears that the same has been built after that.

Dr. A.K. Tripathy, State Election Commissioner, Odisha, Qrs. No.6R-1, Unit-6, Bhubaneswar.



Jayadeva, the Poet and his Times

Prafulla Chandra Tripathy

While introducing the immortal work, the *Gitagovinda*, Jayadeva invokes the attention of the lovers of poetry in the following verses :

“Yadi Harismarane sarasam mano yadi
vilasakalasu kutuhalam
Madhura komalakantapadavali srnu tada
Jayadeva Sarasvatim.”

(*Gitagovinda* , Chapter-I, canto-3)

“If your heart fills with sublime joy at the utterance of Lord Hari’s name, if you take delight in poetry and artistic creations, endowed with soft, sweet, delicate and musical expressions of high poetical excellence, you are cordially invited to go through the verses of Jayadeva, which may be considered to have come out from the lips of Sarasvati, the goddess of music and learning.”

In the following verses the poet comments upon Umapatidhara, Sarana, Govardhana Acharya and Kaviraja Dhoyi and the poetic value of their works.

“Vachah pallavayatyumapatidharah
sandarvasuddhim giram
Janite Jayadeva eva Saranah slaghyo
duruhadruteh
Srngarottarasa prameyarachanairacharya
Govardhanam
Spardhi koapi na visrtah srtidharo, Dhoyi
Kaviksmatih.”

(*Gitagovinda*, Chapter I, canto-4)

“Umapatidhara’s poetry lacked spontaneity, word choice and poetic diction and therefore did not appeal to lovers of poetry. The writings of Saran were clumsy and prosaic and far from entertaining. Though unrivalled in writing poetry on passionate love, Goverdhana lacked the talent to write on other topics of poetic beauty. The title of *Acharya* before his name was only a mockery. Srtidhara Dhoyi, though a scholar, did not possess the poetic skill in rhythmic expression and word choice and the title of *Kaviraja* before his name was nothing but the outcome of this own vanity. This observation has been recorded in the commentary *Rasa Manjari* by Mahamahopadhyaya Sankar Misra.

In the *Gitagovinda* there is no mention of these poets being under any royal patronage. We give below brief descriptions of the lives and achievements of these poets.

UMAPATIDHARA

Umapatidhara was a minister in the court of the Sen dynasty, who had composed the *Deopara Prasasti* of Vijaya Sen (Inscription of Bengal, Vol. III, p. 49) and Umapatidhara referred to in the *Gitagovinda* may be one and the same person. This eulogy records the war between Vijaya Sen and Raghav Deva (A.D. 1156-1170), the Ganga emperor of Kalinga and



contains at the end the name of Umapatidhara. It is quite probable that this eulogy might have been composed between A.D. 1156-1158. The 7th, 23rd, 24th and 30th *slokas* of this eulogy have been mentioned in the *Sadukti Karnamrtam* as mentioned in the *History of Bengal* published by Dacca University. Another *sloka* of Umapatidhara resembling the 4th *sloka* of the copper plate inscription of Madhainagar has been quoted here. It can be said that Umapatidhara was in the court of Sen kings. It has been described in the 5th chapter of the *Prabandha Chintamani* composed in A.D. 1304 that Umapatidhara, the minister of the Gauda king Laksmna Sen was very wise and intelligent. While going to explain the *sloka*, “*Vachah pallavayati*” in his *Rasa Manjari*, a commentary on the *Gitagovinda*, Mahamahopadhyaya Sankar Misra writes : “*Umapatidhara namna Laksmnase namatyo vachah pallavayati vistarayati*” etc.

SARANA

There is only one *sloka* found in the *Sadukti Karnamrta* in praise of Sarana. No other writing on this poet has yet been discovered. There is also no authentic record on the native place of the poet and his date of birth. There is no evidence of Sarana being in the court of Laksmna Sen.

GOVARDHANA

In his *Aryasaptasati*, (Published in Chaukhamba Sanskrit Series) Govardhana Acharya speaks very highly of the poetic talent of Sen king Pravara Sen of Vakataka clan, the famous writer of the *Setubandha* or *Ravana Baho*. This dynasty ruled in the 2nd and 3rd century A.D. Acharya Dandi, in his famous treatise on poetics known as *Kavyadarsa* and his fiction *Avanti Sundari Katha* speaks very highly of the poetic beauty of the *Setubandha* of Pravara Sen. Pandit Ananta of Maharashtra, the famous

commentator of the *Arya Saptasati* supports this view in the *Byangartha Dipika*. The description “*Senakulatilaka*” also appeared in the original book by Halo, from which *Arya Saptasati* was translated and hence it could not have referred to Laksmna Sen at all.

“*Kumudavanavandhoschandrasasyacha sodasakalahkalayitum vaktum, kartum va pakse darsayitum senakulatilaka bhupatih setukarta Pravarasenanamaraaja, paurnamasipradosa ekah prabhuh samarthah, nanya ityarthah.*”

The Malava king Arjunavarma Deva (A.D. 1211-1215) has quoted only one *sloka* from the *Arya Saptasati* in his *Amarusatakam* commentary. But Sridhara Das, the court poet of Laksmna Sen, has not quoted even a single *sloka* from the *Arya Saptasati* in his *Sadukti Karnamrtam* composed in A.D. 1205. There might be a simple mention of the name of Govardhana. It is indeed strange that Sridhara Das was ignorant of such a renowned scholar and had simply heard his name from the people.

In his *Arya Saptasati* Govardhana has expressed his gratitude to his two younger brothers Udayana and Balabhadra. Udayana Acharya was a great scholar of the then Kalinga. He had composed the eulogy inscribed on the Sobhanesvara temple, located at Niali and Meghesvara temple of Bhubaneswar. He was the court poet of Brahmin feudatory Chief Vaidyanatha of Bhujangam Puri and latter graced the court of Svapnesvara Deva, the Feudatory Chief of Bhubaneswar and brother-in-law of the Ganga emperor Raja Raja Deva (A.D. 1170-1190). In the stone inscription of Meghesvara temple at Bhubaneswar he has described in 11 *slokas* the glorious achievement of Chodaganga Deva, Raja Raja Deva and Aniyanka Bhima Deva of Ganga dynasty. In the *History of Bengal*



published by the Dacca University it has been accepted that Govardhana, the writer of the *Arya Saptasati* and Udayana are two brothers and Udayana was the first commentator of the *Gitagovinda* entitled *Bhava vibhavani*. Dr. F. Keilhorn came across this commentary in a peasant's home in Madhya Pradesh in A.D. 1874 and carried on research on it. Kaviraja Udayana had made a commentary on the *Naisadhiya Charita* of Sriharsa and named it *Udayakari*. Govardhana Acharya stayed at Puri and has composed the *Govardhana Sataka* in praise of Lord Jagannatha. Unfortunately there is no trace of this book now.

KAVIRAJA DHOYI

Kaviraja Dhoyi had composed *Pavanadutam* in Sanskrit in initiation of the famous *Meghadutam* by Kalidas. By the time of Laksmna Sen, the capital of Kalinga was shifted to Yajatinagar on the bank of river Mahanadi. Chodagangadeva had shifted his capital from Kalinganagar on the river Vansadhara to Yajatinagar or Nagari Kataka in the second decade of 12th century A.D. and had started living with his family there after 1126 A.D. Dhoyi's *Pavanadutam* refers to Kalinganagar as the capital of Kalinga. This means that Dhoyi must have written *Pavanadutam* before 1126 A.D., which makes him a contemporary of Vijaya Sena and not Laksmna Sen who ruled from A.D. 1176 to A.D. 1205. He would not have confused the name of a neighbouring State like this.

Assuming but not admitting that all these four poets belonged to the court of Laksmna Sen, had Jayadeva been one of the court poets of Laksmna Sen he would never have looked low upon the poetic ability of the above mentioned poets nor would he have condemned the writings of his own colleagues. Criticism on the court poets would mean insubordination to the king and was

to be considered a challenge to the king's authority as a result of which one could not expect to remain in his kingdom. So it is far from truth that Jayadeva was a poet in the court of Laksmna Sen. The poetic genius that Jayadeva was, he did not have to make efforts like this in his book to establish his relative superiority over these much less known poets.

Again this *sloka* of Jayadeva is a start deviation from the established poetic tradition of that age. The great poets of India followed the principle enumerated in Kalidasa's *Raghuvamsa*: "*Athava krtavagdvarevanseasmin purvasuribhih*". They sang the praise of the poetic creations of their predecessors while going to highlight the poetics of their own writings. But condemning the contemporary poets was unknown to Indian literature of that age. Having said, "*Srunu yada Jayadeva Sarasvatim*" in praise of his own poetic skill in this *sloka*, he goes to decry in the next *sloka* the five poets said to be belonging to Laksmna Sen's court. If at all they adorned the court of Laksmna Sen how is it that Jayadeva did not even mention the name of king Laksmna Sen once in the *Gitagovinda*? The above five poets referred to in this *sloka* specialized in five different themes. As the *Gitagovinda* of Jayadeva deals with love episode of Radha and Krsna, how could Jayadeva admit his own inferiority in composing poetry on Sringara, if he said that Govardhana Acharya was unrivalled in writing on sex or Sringara.

In the second *sloka* that is *Vachapallavayati* Jayadeva claims to have knowledge of *Sandharvasuddhi* which means clarity in composition. In Sanskrit, scholars have explained the word *Sandharva* as *Sandorta Grantha*. This word has been derived from Sanskrit root *drutah* which means weaving. So *Vak Sandarva* means the skill of sewing or



weaving words in a proper rhythm and sequence. A sentence has two aspects – one is the word contained and the other is the depth of feelings expressed. So if *Sandarva* is taken to be a literary piece of musical verses, the sweetness and appropriateness of words used, the feelings they stand for, the intensity of thought, the style of expression, the manner and sequence of the ideas dealt with accompanied with rhyme and poetic diction come under its purview. Considering from this viewpoint let us now see how far this *sloka* itself maintains *Sandarva Suddhi*.

As discussed earlier, this *sloka* does not maintain the poetic tradition of paying regards to the earlier poets. On the other hand this *sloka* condemns the contemporary poets. Let us take into consideration the expression. “*Saranaslaghyo duruhadrute*” in this *sloka*. The commentators have almost explained this as *Duruhasya duruha kavyasya drute druta rachane*. In a *sasthi tatpurusa* compound it was not the practice to use adjectives which are not as extraordinary as the first and second word of *tatpurusa* compound. It was not in use in language like Odia, Bengali and Hindi derived from Sanskrit, not to speak of Sanskrit grammar. So *Sandarva Suddhi* has not been maintained in these verses either in proper use of words or their underlying meaning. So it is difficult to say how this *sloka* found place in the original *Gitagovinda*.

The commentators of latter times have of course explained these verses. But these appear to be interpolations. The *Saduktikarnamrtam* is only a collection of extracts from the works of poets very familiar among the then people. The court poet Sridhara Das of Laksmna Sen was the publisher of this literary collection. It is learnt from the *Dan Sagara* composed by Balala Sen, father of Laksmna Sen, that in the *Saka* era A.D.

1091 or A.D. 1169 the editing of *Saduktikarnamrtam* was started and completed in the 17th regnal year of Laksmna Sen. Balala Sen had taken up composing a scripture entitled *Adbhuta Sagara* in *Saka* era 1090 or A.D. 1168 which was completed after Laksmna Sen has ascended the throne.

There is historical controversy in regard to the date of his coronation to the throne. In the opinion of the compiler of *Visvakosa* he had ascended the throne in A.D. 1199 and having been vanquished by the Muslim invaders fled away. Some other say that he had ascended the throne in the *Saka* era 1090 or A.D. 1169. Again there is another opinion that having ascended the throne during A.D. 1178-84 he ruled till A.D. 1204-05. Whatever it might be, the compilation of the *Saduktikarnamrtam* had begun in the reign of the king Balala Sen. This collection has been divided into 5 *pravahas* (streams). These are *Deva Pravaha*, *Srngar Pravaha*, *Chatu Pravaha*, *Apadesa Pravaha* and *Ucha Pravaha*. From among them in the 59th *Vichi* (wave) of the *Deva Pravaha* the 4th *sloka* reproduces the 78th *sloka* of the *Gitagovinda* reading ‘*Jayasri Vinyastairmahita iv amandarakusumaih*’ etc. which is the concluding stanza of the 11th canto. In the *Srngar Pravaha* 80th *sloka* of the 12th canto of the *Gitagovinda* constitutes the 4th stanza of the 132th *Vichi* (wave) which begins with, ‘*Pratyuhah pulakankurena nivaslese nimisena cha*’. The 43rd concluding *sloka* of the 6th canto of the *Gitagovinda*. “*Angesvabharanam, karoti vahusah patreapi sancharini*” etc. constitutes the 4th stanza of 37th *Vichi*. Again the 81st of the *Gitagovinda* beginning with “*Maranke rतिकेली संकुलानाराम्बहे तया साहासा*” etc. constitutes the 4th stanza of 37th *Vichi*. The 83rd *sloka* of the *Gitagovinda* “*Tasyah patala panijankitamure nidrakasaye drsau* “ is reproduced as the 5th stanza of 137th *Vichi*.



From the above it is learnt that in the very first stream of the *Saduktikarnamrtam* the last *sloka* of the 11th canto of the *Gitagovinda* containing 12 cantos has been quoted. So it is sure that this has been produced in the compilation of the *Saduktikarnamrtam* which was started in the reign of Balala Sen. It is therefore clear that the *Gitagovinda* had already gained popularity and admiration before the reign of Balala Sen. And its composition had also been completed by that time. That Jayadeva had composed the *Gitagovinda* during the reign of Laksmāna Sen is not based on truth.

There are 72 *slokas* in all in the *Gitagovinda*. The verses “*Jayasri Vinyastairmahita iva mandarakusumaih*” etc. quoted in the *Saduktikarnamrtam* as *slokas* from the *Gitagovinda* are considered to be interpolations. Many commentators have not accepted the *sloka* as it is none of the 72 *slokas* in the original text of the *Gitagovinda*. It has been discussed elsewhere how the interpolated verses mingled with the royal edition of the *Gitagovinda* have found a place in the original text. It has to be ascertained first when these interpolated *slokas* were composed and how these found a place in the *Gitagovinda*. The interpolated *slokas* with the four original *slokas* of the *Gitagovinda* were included in the *Saduktikarnamrtam* much later. Had Jayadeva been the court poet of Laksmāna Sen and a contemporary of Sridhar Das, the compiler of the *Saduktikarnamrtam*, the above *slokas* would never have been condemned by the commentators of later times.

The question that comes up next for consideration is that in the same *Saduktikarnamrtam* some *slokas* said to be composed by Jayadeva in praise of a king have been included. Among them the oft-quoted *sloka* is :

“*Laksmikeli bhujanga jangamahare
sankalpa kalpadrma*”

*Sreyah sadhkasanga sangarakalagangeya
vamsapriya (vangapriya),*

*Gaudendra pratiraja rajakasabhalankara
karnarpita*

*Pratyatha ksitipala palakasatam
drstoasi tusta vayah*”

This means :

‘O thou movable deity of Hari, Laksmi’s Consort, O thou wish-fulfilling tree of the supplicants, O symbol of bliss and happiness, O the dear one of the king of Gana dynasty. O mighty one, O king of the kingdom of Gauda, O jewel in the crown feudatory princes, O the slayer of the enemies and the patron of the saints, O benevolent lord, we are blessed indeed at the sight of your ‘Majesty’.

Instead of singing in praise of any royal power, Jayadeva devoted his life to sing the glory of Lord Jagannath, the Lord of the universe. It is quite impossible that such a dauntless poet and a staunch devotee of Lord Jagannatha like Jayadeva could stoop so low as to compose the above *sloka* glorifying an earthly king.

Hundreds of poets and scholars visited the royal courts with eulogical *slokas* in honour of the kings with a view to obtaining gifts and rewards. In the above *sloka* it has not been mentioned as to which of the Gouda kings has been honoured and glorified. So it is not understood as to how Jayadeva was identified as the court poet of Laksmāna Sen who wrote this.

If at all this *sloka* was composed in the 12th century A.D. it might very well have been a eulogy glorifying a Ganga king. It was originally Gangeya “*vansapriya*” meaning dear one of Ganga (dynasty) Vansa. Instead of Vansapriya it has been written by some as “*Rangapriya*” for some *sloka*



meaning thereby a King of Ganga dynasty fond of art and music. Some others replaced 'msa' with "nga" meaning Vangapriya meaning dear to Bengal. If 'r' is substituted in place of 'v' in 'Vangapriya' the word will be 'Rangapriya'. The word 'Gangeya' might have been derived from the Ganga dynasty and refers to Ganga emperors. It is widely known that the Ganga emperors of Kalinga bore the title 'Gaudesvara' before their names. Sen kings were not Gangaya or belonging to Ganga dynasty. *Rangapriya* stands for lover of art, music and entertainment. Even now the Gajapati kings of Odisha bear this dignifying title. This title along with others are 'Vira Sri Gajapati Gaudesvara Navakoti Karnatokala Kalavargesvara Viradhi Viravara' etc. This title along with the name of particular Gajapati king and his regnal year are incorporated in the horoscope of every Odia. There is another interpretation. 'Vamsapriya' was the original word used meaning thereby that the king of Bengal was dear to the kings of Ganga dynasty of Kalinga after their treaty to fight the Palo dynasty together. There was no princely state called "Banga" during 12th century. Therefore instead of "Bangapriya" it could well be "Rangapriya" or *Vamsapriya*.

In hundreds of eulogies singing the praise of kings nowhere else has it been found that a king has accepted such titles as 'Kalingapriya', 'Karnatapriya', 'Vangapriya' etc. It can be firmly established that Jayadeva the poet of the *Gitagovinda* was not the writer of this eulogy. According to Dr. Satyanarayan Rajguru, the words Gangeya Vamsapriya have been wrongly interpreted by some as dear to the dynasty of Bhisma, who was addressed as Gangeya (son of Ganga) in the Mahabharat. This *sloka* has been taken out of some eulogy to a Ganga king and reported as having been composed by Jayadeva. It is more interesting to note that Dr. Prasanta

Kumar Dasgupta changed the words "Gangeya Vamsapriya" to Gangeya Bangapriya in his book *Jayadeva And Some of His Contemporaries* (pages 15-16).

According to Kedarnath Mohapatra, it is more likely that some court poet might have composed this eulogy and presented it to Chodaganga Deva who had assumed the title Gaudendra, ruler of Gauda after he had defeated the Palos at Mandargada. The word Bangapriya is an impossibility because such words nowhere else appear in any other eulogical *sloka*. No king ever liked to be addressed as loving only his own subjects or own state or even a conquered state. Chodangadeva, himself belonging to Ganga Vamsa could not be described as Ganga Vamsa Priya, or "dear to Ganga dynasty".

The Ganga kings claimed their descent from the Pandavas who belonged to the family of Bhisma, the son of Ganga and called Gangeya in the Mahabharat. Vijaya Sen had made friendship with Chodaganga Deva and in all likelihood he could have been addressed as 'Gangeya Vamsapriya' or dear to the Ganga Vamsi kings. A Sena king could not have been described in any eulogical verse as being Gaudendra and Bangapriya at the same time. Therefore in either case the word is not Bangapriya. It is 'Vamsapriya' or 'Rangapriya' and most likely addressed to King Vijayasen.

Chand Baradai (Chandrakavi) in his work the *Prthviraj Raso* written in old Rajasthani language has followed the footprints of eight poets of whom Jayadeva has been accepted as the 8th poet.

"Kavi kitti kirtti bhakati sudikkhi
Ninaiki uchasthi kavichandra bhakkhi
Jayadeva athatham kavi kabirayam
Jinaim kevalam kitti Govinda gayam"



Chand Baradai was the contemporary of the last independent Hindu king Prthviraj A.D. 1169-1192 of Chauhan dynasty. Many important and interesting events of the reign of Prthviraj have been recorded in his *Raso*. Here salutations have been paid to the ten incarnations of the Lord in imitation of the *Gitagovinda*. Chand Baradai was contemporary of Laksmana Sen, the king of Gauda and Sridhara Das, compiler of the *Saduktikarnamrtam*. So it goes without saying that in the distant Rajasthan region the *Gitagovinda* had already earned popularity and admiration before Chand Baradai offered his salutations to Jayadeva. Much before the composition of *Prthviraj Raso*, the *Gitagovinda* was familiar among the people and it is sure that it must have been completed before the *Raso*.

The main reason of the quick popularity of the *Gitagovinda* in the distant Rajasthan regions centers around Puri, the abode of Lord Jagannath. It may be that the pilgrims coming to Puri for a visit of Lord Jagannath must have been fascinated by the charming melody of the *Gitagovinda*, sung before the Lord in the temple as an indispensable item of daily worship and might have carried in memory as well as in palm leaf its enchanting eloquence to the distant corners of Rajasthan. This is certain that after the introduction of the singing of the *Gitagovinda* in the ritual services of Lord Jagannath, it spread like wild fire to every nook and corner of India.

It has been described in *Prthviraj Raso* that Sri Vijaya Palo king of Kanyakubja during his campaign to the Deccan had arrived at Odisha and received the hospitality of Mukunda Deva, the emperor of Soma (Kesari) dynasty and devotee of Lord Jagannath. There is also mention of the marriage of the eldest son of Vijaya Pala's daughter with the daughter of Mukunda Deva.

In the middle of the 12th century A.D. an anthology compiled by Vidyakhara Pandit named *Subhasita Ratnakosa* includes in it two *slokas* written by one Jayadeva by name, the 1567th *sloka* of this anthology has been repeated in the *Saduktikarnamrtam* as its 1538th *sloka*. Jayadeva the poet of the *Gitagovinda* and Jayadeva of *Subhasita Ratnakosa* are not one and the same person. (Sri Jayadeva O Sri *Gitagovinda* , p. 235)

In the preface of the text *Saktimuktavali* composed by Jahlan in A.D. 1275, it has been mentioned that the dramatist of the *Prasanna Raghava* had composed the *sloka Laksmikeli Bhujanga* etc. in praise of a Sena king of Bengal.

SEKASUBHODAYA :

Sekasubhodaya written by one Halayudha Misra describes the holy coming of the Seikh to Bengal. The Seikh belonged to the kingdom of Attava. While proceeding to the east on his mission to preach Islam he entered into the kingdom of Bengal. At that time Laksmana Sen was the king of Bengal.

The Seikh possessed many supernatural powers. He could go wherever he liked putting on the enchanted sandals. He built his *asrama* close to the palace of Laksmana Sen. Knowing the motive of the Seikh and apprehending danger Umapatidhara, the minister of Laksmana Sen tried to poison him to death. But Seikh could save himself by reading *Namaj* in a thundering voice. It was reported that the Seikh has saved the life of a washerman from the attack of three tigers. He could also save through his magic powers three ships of a merchant named Prabhakar at the point of sinking in the sea.

Once Kumardutta, brother-in-law of the king, having entered into a rich merchant's house molested his young wife Madhavi. The merchant



and his wife complained before the king. But the queen advocated her brother's cause and beat Madhavi clutching her by lock of her hair. But Jagatguru Govardhanacharya who happened to be present there scolded the king and threatened to curse him. Out of anger he was about to leave the place with his staff and *kamandalu* (water pot of an ascetic), but the king lay prostrate at his feet and pacified him. The Seikh had brought in a compromise.

At the machinations of Umapatidhara four persons went in disguise to the Seikh for causing him an injury. But they had to lose their eye sight. After a lot of entreaties the Seikh had withdrawn the curse and they got back their eyesight.

Another episode goes like this :-

Once a musician named Budhan Misra had come to the royal court of Laksmana Sen. As he was an adept in the art of music, Kapilesvara Deva, the Gajapati emperor of Odisha had granted him the title of *Sadachandra Gaja Jayapatra*. When he sang in the *Patta Manjari* tune all the leaves of the Pipal tree close by fell down. All present praised Budhan Misra very highly. Padmavati, Jayadeva's wife, while coming after a bath in the Ganga heard the praises and applause. Laksmana Sen announced to reward Budhan Misra with a letter of commendation. Appearing at the royal court she demanded before the king that no commendation should be given to anybody unless he excels her and her husband in music.

The Seikh who was present there requested Padmavati to sing. On his request Padmavati sang *Gandhara* tune so sweetly that all the boats sailing in the Ganges came ashore. All were amazed to see the boats moving like animate creatures. The Seikh asked Budhan Misra to face a competition with Padmavati. But

as he did not agree for a competition with a woman the Seikh proposed to summon Jayadeva to the royal court. On his arrival Jayadeva asked Budhan Misra to make new leaves sprout up on the Pipal tree by his musical talent. But as Budhan Misra declined, Jayadeva sang in *Vasanta Raga* and new leaves sprouted forth. At the advice of the Seikh, Budhan Misra was given only some minor presents but no letter of commendation. The stories reveal many extraordinary tricks of the Seikh, his mission to construct mosques and preach Islam and his mediatorship in settling up difference in royal courts.

If we examine the truth in the above story, it will appear to be a fabricated one for the following reasons :-

A. Kapilesvara Deva, more popularly known as Kapilendra Deva, the Gajapati Emperor of the then Orissa, ruled from A.D. 1435-1467 that is after more than 250 years of the reign of Laksmana Sen. So the question arises as to how Gajapati Kapilesvara Deva granted the testimonial 'Sadachandra Gaja' to a musician of the 12th century A.D.

B. Laksmana Sen was an orthodox Hindu king who was opposed to Muslim rule and had to flee away in A.D. 1205 after he was defeated. It is not understood how he was believed to be a patron of Islam. There was a gap of only 13 years from the fall of Prithviraj Chauhan of Delhi in 1192 and the fall of Laxman Sen of Bengal in 1205. There is no record of any Islamic dictating terms in the Court of a Hindu King. Unless he was already a vassal prince under an Islam Emperor, Laxman Sen could never give a prominent place to a preacher of Islam in his kingdom and Durbar. Historically this possibility is far from the truth.

C. Nowhere it has been mentioned even in this book that Jayadeva had adorned the court of Laksmana Sen. Had the superiority of Padmavati



and her husband in music known to the king or the Seikh, there was hardly any necessity for Padmavati to prove her proficiency in the royal court. Again it is absurd to believe that Padmavati, a devoted lady of high culture and musical proficiency intruded upon the royal court in a challenging manner on her way from the river Ganges after a bath. Moreover, how could Laksmana Sen hold his court below a Pipal tree from where river Ganga was visible is not known.

D. Then another character Govardhana Acharya appears in the story as a travelling mendicant. Govardhan Acharya belonged to Niali in Cuttack district and was a poet scholar.

It can be emphatically said that the scripture *Sekasubhodaya* is not based on any truth. Dr. Sukumar Sen, while commenting on this story has said: "It indicates that Jayadeva did not originally belong to the court of Laksmana Sen and that he had first come there as an outsider." (*Sekasubhodaya* of Halayudha Misra – Edited by Dr. Sukumar Sen and published by Asiatic Society, Introduction p. vii)

The stone inscription :

In the *Birbhum Vivarana* by Harekrnsa Mukhopadhaya reference has been made to a stone inscription supporting the fact that Jayadeva was the court poet of Laksmana Sen as reported to have been seen by Sri Rupa and Sri Sanatana Gosvamis of Sridhama Nadia. The *sloka* reads as follows :

*"Govardhanascha Sarano Jayadeva Umapatih
Kavirajascha ratnani panchaite Laksmanasya cha"*

This means – Govardhana, Sarana, Jayadeva, Umapati and Kaviraja were the five gems in the court of Laksmana Sen.

Nowhere in their writings Sri Rupa and Sri Sanatan had mentioned about this stone inscription. Again Rupa and Sanatan lived after

more than 320 years of the reign of Laksmana Sen. After the conquest of the kingdom of Laksmana Sen by the Muslim Commander Muhammed-i-Bakhtyar, the city of Nadia was completely desolated. In the book *Tabaqat-i-Nasiri* there is mention of this in A.D. 1260.

"After Muhammed-i-Bakhtyar possessed himself of that territory (Rae Laksmania's) he left the city of Nudiah in desolation" ! On the foot notes of the page this has been mentioned "Muhammed-i-Bakhtyar destroyed Nudiah and leaving it in desolation passed onwards." (*Tabaqat-I-Nasiri*, translated by Raverty, p. 550)"

In such circumstances it is beyond one's comprehension as to how Rupa and Sanatana could come across the above stone inscription at the entrance of the royal palace of Laksmana Sen. None of the old scriptures mention about it. Moreover, history has nowhere recorded Nadia to be the capital of Laksmana Sen.

The court of king of Odisha and Jayadeva :

In A.D. 1563 Kesav Misra, the court poet of king Manik Chandra of the kingdom of Kotkangra, has quoted a *sloka* of Govardhana in his 'Alankara Sekhara'. From this it is learnt that Jayadeva was a crown of all other poets and scholars adorning the court of the king of Utkala. The *sloka* reads as follows :

*"Prak-pratyak prthivibhrtoh parisadi
prakhyata sankhyavata
Mahnaayadbhatatarka- karkasataya
vichhidya vidyamadam
Ye keapyutkalabhupate! tavasabha sambhavitah panditah
Patram Sri Jayadev panditkaviv stannuddhi vinyasyati"*

It means – "O king of Utkala, of all the scholars of your court who command great respect and admiration by crushing the pride of all other scholars in the courts of the kings of the east and the west who indulge in putting forth dry



and argumentative discourses, Jayadeva puts on the terminal of victory over them as the greatest poet.”

Besides the above *sloka*, Kesava Misra in his *Alankar Sekhara* has quoted from Govardhana one *sloka* from each of the *Sabdalkankara* (word-ornament) and *Arthalankara* (meaning ornament) sections and eight *slokas* describing the beauty of women, Govardhana, the writer in the *Alankara Sekhara* and Govardhana, the writer of the *Aryasaptasati* are one and the same person.

Poet Madhava Patnaik a contemporary of Sri Chaitanya and author of Chaitanya Vitas in his *Vaisnava Lilamrta* written in the 48th regnal year of Gajapati emperor Prataprudra Deva, corresponding to A.D. 1535, has mentioned about the birth place of Jayadeva, his stay at Puri and the composition of the *Gitagovinda* which is reproduced below :

<i>Vipra se Jayadeva nama</i>	<i>ksetrabaraku agamana</i>
<i>Kenduli sasana ta grama</i>	<i>prachi nadira tate puna</i>
<i>Niali Madhava samipe</i>	<i>bhagati kala nanarupe</i>
<i>Sastra purane vichaksana</i>	<i>kavitva marge tara mana</i>
<i>Gita se rachivi voila</i>	<i>ksetrivasaku mana dela</i>
<i>Srijaganathara samipe</i>	<i>suddha sattvika matibhave</i>
<i>Rachila srigitagovinda</i>	<i>labhila parama ananda</i>
X X	X X

<i>Gitagovinda nata seva</i>	<i>mandire pratyaha hoila</i>
<i>Raja se seva bhiaila</i>	<i>kenduli sadhi yogaila</i>
<i>Srigitagovinda rasa e</i>	<i>sri jagannathara priya e</i>
<i>Boli kalaka e bhiana</i>	<i>bhagate hele tosamana</i>

(Chapter – II pp, 8-10)

The above verses mean : Jayadeva, a resident of Kenduli Sasana on the bank of the river Prachi, not very far from Niali and Madhava, had come to Puri, the abode of Lord Jagannatha. He was a great scholar conversant with all other *Sastras* and *Puranas* and was poetically minded. His *Gitagovinda* was read and enlisted as *Nataseva* in the temple of Lord Jagannatha. The king had ordered for the *Gitagovinda Nataseva* and also arranged for *Kenduli Sadhi* to be used in the service of the Lord.

Prafulla Chandra Tripathy, Plot No.1181, Devaraj Vidyapitha Road, Govinda Prasad (Bomikhal), Po- Rasulgarh, Bhubaneswar.



Rutusambhara in Sri GeetagoVinda

Madhumita Mishra

In Indian literature history, “Sri GeetagoVinda” is a rare credibility, written by Sri Jayadev composed of simple Sanskrit language including vernacular idioms which are easily understood for common man. He is counted as pole star (Dhruba Tara) in the Indian literature sky who can be compared with Mahakabi (great poet) Kalidas.

The poet of 12th century A.D. born in a Brahmin family at Kendubilwa village which was surrounded by kendu and bilwa plants situated near the Prachi valley of Puri district. From childhood attracted by Lord Krishna he was always deeply merged in Bhagabat thinking. After marriage with Padmavati he started writing the immortal poetry Sri GeetagoVinda with her association. Everyday Padmavati performed dance before Lord Jagannath singing songs in chorus accompanied by Sri Jayadeva and merged in the thoughts of Shri Krishna. This poetry contains 12 *sargas*, 24 songs or *prabandhas* where *sringara*, *biraha* and *milana* of Sri Radha and Krishna are depicted in dance-drama style. He mentioned different flowers, fruits, trees and different seasons of nature and with it he also composed different Ragas and Talas for each *prabandha*.

In the beginning of poetry, he started with the glimpse of rainy season. In his first sarga or canto citing-

*“Meghai Medura Mambaram Banabhūba
shyamastamala Drumai
Narktam Bhirurayam Twameba Tadimam
Radhay Gruham prapaya”*

Means in the greenery forest, while Krishna is roaming with Nanda and Radha, at that time sky was filled with clouds and the silver drops of rains patter with the flashing of lightning and thunder. Watching these scenes Krishna became frightened and Nanda ordered Radha to drop him at home. Radha accompanied Krishna passes through the beautiful meadows of green Tamala trees and Yamuna river.

In his first two *prabandhas* he dedicated “Dasabatara” for Lord Vishnu and “Srita Kamala” for both Lord Vishnu and Goddess Laxmi. In third *prabandha* he described the spring season with Krishna and Gopis. He cited-

*“Lalita Labanga lata pari silana Komala Malaya Samiray
Madhukara Nikara Karambita Kokila Kunja Kutiray”*

Means in spring the lovely tender creeper Labanga Latas are tossing in the gentle, southern breeze while the humming bees and singing Kokilas enliven the Nikunja Mandira with their sweet mirth. This Rasamaya season tortures those who are separated from their lover. In the next piece he mentioned how the busy bees joyfully extract pollen from the blooming Bakula flowers.



The blooming Tamala flower leaves fragrance like scent of musk, the blooming red Palasa flowers like cupid's fingernail tear the heart of every young girl. The Naga Kasara flowers while blooming looked just like cupid's (Madana's) golden umbrella, yet those roses encircled by bees from his quiver. The grape fruit trees smile with their new buds by seeing the world's modesty disappearing. The lovely Ketaki flower's painted petals like teeth bite the young afflicted by romantic desire. The atmosphere is enlivened by the delicate fragrance of Madhavi and Malati. The Madhavi latas tenderly embrace the mango trees which ecstatically horripilate with flowering buds. Although this spring (Basanta) steals the Muni's mind, it also becomes the genuine friend of every young romantic. The beautiful spring follows after cupid glooms with different scents and colours. The poet merged himself while describing the Basanta Rasa of Krishna and Gopis.

In fourth Prabandha while describing the Srungara between Krishna and Gopis he elaborated the scenes of middle part of Spring and Summer, he cited-

"Chandana charchita Nila Kalebara Pitabasana Banamali"

Like Shree Jagannath's Chandana Yatra, the sandal paste coated in the bodies of Deities, the Gopis decorated Vanamali Krishna wearing yellow garments in his dark-complexioned body with Chandana (sandal) paste.

In fifth Prabandha while describing the Viraha of Radha remembering the beauties of Krishna he cited-

*"Chandraka Charu Mayura Srikhandaka
Mandala Balayita Kesam
Prachura Purandara Dhanu Janu ranjita
Medura Mudira Suvesam "*

That means-Krishna's curly hair decorated with peacock feathers in the curvature of a half-moon and the feathers with yellow coloured dress looked like a glittering cloud sheltering many rainbows in rainy season. In the same poem he describes the Chandana Tilaka on Krishna's forehead looked like moon-beams peaking through a cloud.

In eleventh Prabandha he cited-

"Ursi Murarai Rupanita Haray Ghanaeba Tarala Balakay"

says- The white flowers garlanded in the black body of Shree Krishna looks like white cranes while flying through the sky in the end of the Barsha (rainy season) and beginning of Autumn (Sharad) season.

In all the Prabandhas, he mentioned how the scent, colour and shapes of different flowers change according to different seasons gradually. The different flowers like Tamala, Bakula, Labanga, Madhabi, Palasa, Kasmira, Kamala, Kunda, Naga Kesara, Ketaki, Malati, Bandhuka, Ashoka, Blue lotus (Nila Kain), Hibiscus, Madhumalati, Kurubaka, Korantaka, Kadamba and Patali change their fragrance from season to season. The dark red coloured Palasa while blooming in spring, in the next season Nageswara of orange colour blooms. In the next stage the bright yellow colour Ketaki takes that place. And in summer white colour Malli, Madhabi and Malati bloom with fragrance. So according to season, the fragrances also change.

So Shree Geeta Govinda is the combination of Bhaba, Rasa, Bhakti, Sringara, Biraha, Ritu Sambhara and nature.

Madhumita Mishra, Sindhe Nagar, Pune-411021.



The Significance of the ‘May Day’ and India’s Response

Dr. Anil Kumar Mohapatra

‘Many meanings’¹ have been associated with the ‘First of May’ of which one that has received wide acceptance is that it reminds us of the importance of the ‘working class’ to our society. Therefore, in many countries, May 1st is observed as ‘May Day’ or ‘International Workers’ Day’. In many countries the day is an official government holiday marked by meetings and street demonstrations to highlight the cause of the working class. Its commemoration dates back to the mass strike and demonstration of immigrant workers in Chicago in the US on 1st May 1886 demanding a standard workday of eight hours which ended in hurling of a bomb at policeman present at the Haymarket Square and the subsequent wild shooting into the peaceful gathering by police on 4th of May that year and later the trial and indictment of eight innocent social revolutionaries and subsequent suicide of one, hanging of four and acquittal of three others. The day with peaceful demonstrations was regarded by the workers as their “Emancipation Day” which however, ended in their suppression and killing of their main leaders. Their enthusiasm and fearlessness despite the shock of that tragic incident 127 years back left a deeper bearing on the labour movements across the globe in the succeeding years and is still continuing until now. August Spies, who was hanged prophetically envisioned that and said,

“You may silence us now, but our memory will survive us”. Therefore, since 1886 not only the revolutionaries/martyrs like August Spies, Alfred Parsons, Schwab, Fielden, Adolph Fischer, George Engel, Lingg, and Neebe are remembered on the day but also the workers use the occasion to take up their issues with their concerned authorities and governments across the globe.

The Haymarket incident of 1886 had many symbolic messages. It was for the second time after the suppression of such a labour movement in 1877 by the Chicago police, the immigrant workers (mostly from Germany, from ‘Czech Republic and Slovakia’ then called Bohemia, from France and all different parts of Europe) in a huge number (which was more than 200000) marched through the streets of Chicago in protest against the long working hours i.e. a ten-to-twelve-hour day and the freezing of wages by their employers. They demanded for a shorten workday. It took place in a period when American industrial capitalism was booming and democratic norms such as freedom of speech were not rooted in the US. The alien workers then ventured to stage boycott, rally and protest against their employers on the soil of another state. They were all for resorting to direct action as they had little faith in the legislature. They believed to get their demands fulfilled through pressurizing them from



the streets. The media and thus the public were hostile to the strike and to any form of direct action. The workers surprisingly hoped to compel employers to concede to their demands. And, all these happened 127 years ago when such a way of protest was little heard of. The way the protest movement unfolded from first to fourth of May 1886 has really shaped the modern day labour movement in any country of the world. The revolutionaries who were hanged since then have been regarded as the “martyrs for the cause of industrial freedom”. One of the labour leaders Albert Parsons who was hanged following the 4th May Haymarket Square incident said before being hanged that he would fight for free speech even at the last breath. That heroism shown by the workers and revolutionaries has inspired workers across the globe till now. In contrast, the land where it took place did show little sympathy in the aftermath of such hysterical killing of revolutionaries without any evidence of their involvement in the conspiracy of throwing a bomb. Instead of any appreciation or sympathy for their cause one representative condemning-response rather came from a statement of James Russell Lowell who declared “the rascals are well hanged”².

However, today, there has been an increasing realization of their problems in almost all countries of the world irrespective of the different nature of these governments. The concerns of the labourers are well addressed by their concerned governments. Human rights demand for a humane treatment of the toiling millions. Their rights are now being protected through laws and acts everywhere. In recognition of this the International Labour Organization (ILO)³ was founded in 1919 which became the first specialized agency of the UN in 1946. The ILO is devoted to promote social justice and internationally recognized human and labour rights,

pursuing its founding mission that labour peace is essential to prosperity. Today, the ILO helps advance the creation of decent work and the economic and working conditions that give working people and business people a stake in lasting peace, prosperity and progress. Its tripartite structure provides a unique platform for promoting decent work for all women and men. Its main aims are to promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues.

In India, the first May Day celebration was organized in Madras (Chennai) by the Labour Kisan Party of Hindustan in 1923. Today, it is a nationwide bank and public holiday. It is a day for protests and rallies. Different labour organizations such as trade unions carry out processions to put forth their demands before the government. They demand to safeguard their interests vis-à-vis their employers which include the government as well.

Constitution of India adequately reflects its concern for the working class. Indian Constitution under Article 19(c) allows all citizens the right to form associations or unions. Article 23 prohibits forced labour. Article 38 asks the State to secure a social order for the promotion of welfare of the people particularly by striving to minimize the inequalities in income, and endeavour to eliminate inequalities in status, facilities and opportunities, not only amongst individuals but also amongst groups of people residing in different areas or engaged in different vocations. Article 39 directs the State to direct its policy towards securing - (a) that the citizens, men and women equally, have the right to an adequate means of livelihood;(b) that the ownership and control of the material resources of the community are so distributed as best to subserve the common good; (c) that the operation of the economic system does



not result in the concentration of wealth and means of production to the common detriment; (d) that there is equal pay for equal work for both men and women; (e) that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength. Article 41 directs the State to ensure Right to work to all who need. Article 42 asks the State to make provision for just and humane conditions of work and maternity relief. Similarly Article 43 directs the State that it shall endeavour to secure, by suitable legislation or economic organisation or in any other way, to all workers, agricultural, industrial or otherwise, work, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities. Article 43A provides that the State shall take steps, by suitable legislation or in any other way, to secure the participation of workers in the management of undertakings, establishments or other organisations engaged in any industry. Now MGNREGS is in operation since 2005 to provide 100 days of work in a year to each household in rural areas. It has been a partial fulfillment of the obligation of providing Right to Work. Labour Organizations like trade unions are large in number in India today and they are given representation on the concerned management.

Now we have a separate ministry i.e. the 'Ministry of Labour & Employment'⁴ to deal with the problems of the working class. It is one of the oldest and important Ministries of the Government of India. The main responsibility of the Ministry is to protect and safeguard the interests of workers in general and those who constitute the poor, deprived and disadvantage sections of the society, in particular, with due regard to creating a healthy work environment for higher production and productivity and to develop and coordinate

vocational skill training and employment services. Government's attention is also focused on promotion of welfare and providing social security to the labour force both in organized and unorganized sectors, in tandem with the process of liberalization. These objectives are sought to be achieved through enactment and implementation of various labour laws, which regulate the terms and conditions of service and employment of workers. The State Governments are also competent to enact legislations, as labour is a subject in the concurrent list under the Constitution of India.

We have now several laws relating to workers in operation. There are 44 labour related statutes enacted by the Central Government dealing with minimum wages, accidental and social security benefits, occupational safety and health, conditions of employment, disciplinary action, formation of trade unions, industrial relations, etc. There are some industrial laws like the Trade Unions Act, 1926, the Trade Unions (Amendments) Act, 2001, the Industrial Employment (Standing Orders) Act, 1946, the Industrial Employment (Standing Orders) Rules, 1946, the Industrial Disputes Act, 1947 and the Plantation Labour Act, 1951. There are some laws related to Working Hours, Conditions of Services and Employment such as the Dock Workers (Safety, Health & Welfare) Act, 1986, the Mines Act, 1952 and the Factories Act, 1948. The laws related to Child Labour are the Child Labour (Prohibition & Regulation) Act, 1986 and the Children (Pledging of Labour) Act, 1933. The law Related to Women Labour is the Equal Remuneration Act, 1976. There are several laws related to Social Security. These are the Employees' Compensation Act, 1923, the Employees' Compensation (Amendments) Act, 2000, the Employees' State Insurance Act, 1948, the Employees' Provident Fund & Miscellaneous



Provisions Act, 1952, the Employees' Provident Fund & Miscellaneous Provisions (Amendment) Act, 1996, the Payment of Gratuity Act, 1972, Employees Liability Act, 1938 and the Maternity Benefit Act, 1961 etc. There are also some laws related to Labour Welfare such as the Mica Mines Labour Welfare Fund Act, 1946, the Limestone & Dolomite Mines Labour Welfare Fund Act, 1972, the Beedi Workers Welfare Fund Act, 1976, the Beedi Workers Welfare Cess Act, 1976, the Beedi Worker's Welfare Cess Act Rules, 1977, the Iron Ore Mines, Manganese Ore Mines & Chrome Ore Mines Labour Welfare Fund Act, 1976, the Iron Ore Mines, Manganese Ore Mines & Chrome Ore Mines Labour Welfare Cess Act, 1976 and the Cine Workers Welfare Fund Act, 1981 etc. There are also some rules regarding Contract Labour such as the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979. There are also some laws relating to wages. These are the Payment of Wages Act, 1936, the Payment of Wages Rules, 1937, the Payment of Wages (Amendment) Act, 2005, the Minimum Wages Act, 1948, the Minimum Wages (Central) Rules, 1950 and the Working Journalist (Fixation of Rates of Wages) Act, 1958 etc. These laws provide protection to the labour class. Such as for example, the Factories Act is meant to provide protection to the workers from being exploited by the greedy business establishments and it also provides for the improvement of working conditions within the factory premises.

Attention also has been given to the workers in the unorganized sectors. As per the survey carried out by the National Sample Survey Organization in the year 2009-10, the total employment, in both organized and unorganized sectors in the country was of the order of 46.5 crore comprising around 2.8 crore in the organized sector and the balance 43.7 crore workers in the

unorganized sector. Out of 43.7 crore workers in the unorganized sector, there are 24.6 crore workers employed in agricultural sector, about 4.4 crore in construction work and remaining in manufacturing and service. In order to ensure welfare of workers in the unorganized sector which, inter-alia, include weavers, handloom workers, fishermen and fisherwomen, toddy tappers, leather workers, plantation labour, Beedi workers, the 'Unorganised Workers' Social Security Act, 2008' has been enacted. As per the provisions of the Act, a National Social Security Board has been constituted for recommending formulation of social security schemes viz. Life and disability cover, health and maternity benefits, old age protection and any other benefits as may be determined by the Government for unorganized workers. They are now given insurance coverage.

In Odisha there is also a department called the department of labour welfare and administration. It is formed to promote the following objectives: (i) Labour Welfare and Administration of Labour Laws, (ii) Inspection of Safety measures of Factories & Boilers and Administration of Factories and Boilers Acts & Rules, (iii) Social Security Schemes for Industrial Workers, like E.S.I., (iv) Employment and Vocational Guidance to the Youth, (v) Adjudication of Industrial Disputes and (vi) Child Labour Welfare.

Saying all these we have to admit that many things still remain to be done to ameliorate the conditions of the workers in the unorganized sectors of our country. Laws are many but the problem lies in their proper implementation. Much of controversy on MGNREGA still centres around injustice done to the poor who are engaged on short term basis. It is reported that the workers in the unorganized sectors are forced to work



longer with less wage and corrective measures in this regard are yet to be formulated. Workers are also partly to blame for their ordeals and miseries. Workers – in both organized and unorganized sectors – are yet to develop class consciousness. Being guided by a ‘false consciousness’, they are now divided into several groups and sub-groups which has resulted in their lack of unity and cohesiveness among them. Political affiliation is a serious obstacle to the joint fight of workers for their common maladies. Political parties drag them in different directions to promote their partisan interests at the cost of the genuine interests of the workers. The authorities thus find it easy to tackle labour issues by playing one against another. To conclude, however, one can not refute the fact that workers are the backbone of our country’s economy. A nation like ours can not genuinely progress and prosper making its working force unhappy. The economic development of the country will be effective and true only when the government and management realize the central importance of the workers in the economic sphere. Despite the increasing use of machine and technology the significance of labour or human hand is still there. Karl Marx therefore, emphatically held the view that ‘labour adds to the value of a good’. Therefore, it would be

unwise on the part of the government to dissatisfy its work-force by denying it its due. At the same time, it is sure that the workers are not going to get recognition and justice by sitting divided and silent. They need to unite as they have to lose nothing but their chains as Marx said.

Footnotes :

See Editor’s Remark on ‘Haymarket’.1986. *International Labour and Working-Class History*, No. 29, Spring, p.iii. In India it is celebrated as a spring fertility festival to honour goddess spring. It is also a day of political protests. It is otherwise observed as a saint’s feast day. For the states like Gujarat and Maharashtra it is observed as the Gujrat Day and Maharashtra Day respectively as the two states attained statehood on that day in 1960.

Carter, Everett. 1950. The Haymarket Affair in Literature. *American Quarterly*, Vol. 2, No. 3, p.271.

See ILO at <http://www.ilo.org/global/about-the-ilo/mission-and-objectives/lang—en/index.htm>

See the Ministry of Labour & Employment, <http://labour.nic.in/content/>

Dr. Anil Kumar Mohapatra, Assistant Professor, P.G. Department of Political Science, Utkal University, Bhubaneswar.



Jayadeva's Geetagovindam and Srimad Bhagavat Geeta : In Pursuit of Truth

Dr. K.C. Sarangi

True guide and philosopher, Sri Radha advises to concentrate on the Lotus feet of Lord Sri Krishna because the life, temporary as it is, will one day go away and this body of primordial elements will go again to be mixed with the said elements.

Bharat, according to *Srimad Bhagvatam* was named as 'Aja'. Bharat, the son of this soil, born in the lap of Rusava, (an incarnation of the Omnipotent Divine Father) administered his subjects in such an ideal and disciplined manner following the Vedic Principles, performing the yajnas like 'Agnihotra' and Soma etc. that he, not only became dearest to his subjects, but also won a place in the heart of "Bhavagrahi Sri Krishna", the Cosmic Father and the Mysterious Controller of the Universe. The greatest elegance of Bharata's character was that he had set his mind on the Lotus Feet of the Lord in an uninterrupted manner. No wonder, he cleansed his consciousness and gave a good governance to the country with pure thought, pure word and pure action. The 'Anadi Purusha-Madhava', who is always pure, sacred and the Embodiment of Truth was impressed with the manner and expertise with which the Emperor was running the administration. The entire world was subjected to the throne of Bharata and our country was named after him. Justifiably 'Aja' was substituted by Bharata.

Time elapsed. The Mahabharata Yuga prevailed on the earth. A 'geet' i.e song was sung in the great battlefield of the Mahabharata. It was neither a ceremonial occasion, nor a gala fuction but a 'dharmakshetra – kurukshetra' (*The Gita*, Chapter-I verse –I). The listener was a warrior. But on the spur of the moment, he was kneeling, tears rolling down from his eyes, '*ashrupurnakule kshanam*'; saddened in mind, '*visidantamindam*' (chapter 2, verse-1). The Divine Preceptor was gracious enough to unfurl before His dearest disciple, Arjuna, the science of the self and the true wisdom amidst all other relevant yogas for enabling the disciple not only to win the war but also to shower on him and the humanity through him, the path to the Divine, '*mayasaktamanah partha yogam yunjan madashrayah*'. (*The Gita*, Chapter-7. Verse-1)

Dwapar Yuga was replaced by the Kali Yuga. Amidst the brilliant geniuses, who were born on the soil of Utkal, the great citadel of divine culture in Bharat, as *Kapila Samhita* asserts, two great sons were enormously concerned about the suffering humanity and how to ensure emancipation for them from the ocean of death, birth, hate and rivalry. They were Sri Achyuta and Sri Jayadeva. Whereas Sri Achyuta was born and he performed in sixteenth century, it is believed by scholars that he was born in 1510 or 1511)



(Sharanapanjara P.10) and was the exponent of wisdom and accepted the service to humanity as his avowed goal, through astrology, ayurveda, spiritualism character-building, discipline and ethics Sri Jayadeva (born in 12th Century around 1100-1150 A.D, and contemporaneous to the emperor of Ganga Dynasty Kamarnavadeva) (*Geetgovinda*, Sadgrantha Niketan, P.10) was merged in the Premayoga as well as in his endeavour for the restoration of the glory of the previous incarnations of the Lord. A lot of speculations hover around Jayadeva's *Geetgovinda*. While admitting its effulgence in the realm of 'Prema Yoga', its relevance, is at times, scanned through skepticism. However the reality was something else. Through stainless devotion, (bhaktiavyavicaarini) elegance, dance colour, and colourful tradition and uttering the divine name, prevailed in the pages of this great masterpiece. It is pertinent to mention that even Sadguru, Sri Sankaracharya had to go through the process of transmigration of soul to answer the questions raised by Dwaya Bharati (Sharada). In ancient India *Shrungarashastra* was acknowledged as a branch of knowledge. Bhratrahari, who wrote *Shrungara Sataka* also wrote *Neeti Sataka*. It is also worth-mentioning that Arjuna, the great warrior of the battle of Mahabharata had to spend months in teaching the art of dancing to Uttara, the princess of the Emperor Birata. To approach *Geetgovinda*, therefore, the simplest and holiest approach is to read *Dutibodha Chautisha* of Sri Achyuta first. We may have a glance at the following extract where Sri Radha was speaking very politely to the Duti (a peer in her personal service) how to reach Sri Krishna, the Lord reigning supreme in her heart within the heart:

*olata mula kamalaku chahan
olati pavana paalati vaha
omkar uparaku laye kara*

*ude hoichhanti, tathimadhyara go
anubhava dware vara go*

(Sri Achyuta's '*Dutibodha Chautisha*',
Sharana Panjara P.83)

According to Sri Radha Lord Krishna is 'anama,' 'Parama Purusha' the highest and apex point of 'Sunya Aradhana', which later Sri Achyuta practiced himself.

*Srihari parama purusho tahin
Sripada anucaraku dishai
Sriradha bhakti ya hridayare thiva
Sri padmapada ambuja dishiva go
Sriangeleena karaai go (Ibid. P.89)*

Sri Radha was a princess. She was 'charusheelaa' i.e. of elegant character (*Geetgovinda* Sarga 10, Verse 53). She was reared by king Brushavanu. A learned princess, as she was, she was conscious that Lord Krishna was none other than the 'Ekashara Om' the Om Tat Sat the 'parama pada'. Sri Radha was shraddhasheela i.e. embodiment of affection. True Love of course, existed but added with that there was a total surrender of mind and intelligence, '*arpita manobuddhi*,' and devotion (bhakti) of sublime order. This vital link of Shraddha weds with Swavaidyapralima, then love unfurls. That love is infinite as the sky is, endless as the ocean is, pure as the nectar is. The speech, and the works all were delivered as they were done to perform a Yajna a 'brahmarpana' (*Gita*, Chapter.IV, verse-24. There was no feeling for the existence of body. 'I' ness and 'mineness', were totally detached. All earthly attractions ceased to operate. The consciousness is profoundly concentrated on the lotus feet of the Paramatma, the World Soul. She was simple Her love was indestructible. She was always careful to protect the saving talisman i.e. Sri Krishna in her heart *bhavadevanaya vishalamswahrudamarmani barma karoti* (Sarga-4, Verse-25). Such an exponent of sublime



love can rarely think of eroticism and if at all it exists, it exists in form of a total surrender and the total performance was purged in the fire of wisdom. 'yajnaayacaratah karma samagram praviliyate' (*The Gita* Chapter-IV. Verse-23). In a sacrifice neither woods exist, nor ghee exists all are burnt in the Brahmanic fire, 'brahmaiva' tena bantavyam prahmakamasamadhina (*Gita* Chapter-4 verse-24). According to Chandradutta, the great scholar of Mithila, Jayadeva who had lost his parents at the age of eleven, came to Srikshetra. He was a Vairagi (an ascetic), unattached and unaffected and a devotee *par excellence* 'vidyabhyasah ratah shantah purushottamapujakah' (*Bhaktamala* Sarga-39). The entire *Geetagevinda* is therefore a garland of woven through Mantra like verses dedicated to the lotus feet of Sri Madhava. Chandradutta writes:

Jagannathapuriprante deshe caiva ultkalabhidhe
vindubillwa iti kshato gramo brahmanasamkulah.
tatrotkale dwijo jato jayadeva iti shrutah
vidyabhyaasah ratah shaantah purusottamapujakah.

(*Bhaktamala Grantha*, Sarga-39)

Viewed from the angle of above description the poet Jayadeva, who according to Chandradutta, was engrossed in studies, quiet in nature, and a worshipper of Lord Sri Jagannatha, cannot compose ordinary verses. Besides, Prakriti-swarupini, the incarnation of Divine Mother, Sri Radha is the incarnation of viswajanani (mata lokasya). She is honoured by all and the symbol of fame (sarvaaradhya..... paramayasobhuti). On the contrary Lord Krishna, the 'Saguna Bhagawan' is not bound by illusion (maya). Rather, He is the controller of Maya (mayadhipati). Wise and enlightened persons like Sanaka, Sanata, Sananda, Sanatana and Janaka had the natural love for 'Saguna Bhagawan'. This love, has been revealed from time to time. (Swami Ramsukhdas *Bhagawan aur unki Bhakti* tr.

Deenabandhu Brahmachari P-24). The same Lord Sri Krishna is Utkala's Lord Jagannath. The great Odia scholar, Samanta Chandra Sekhar writes in his *Siddhanta Darpana*:

peetajandadidaitya vivabanakhara ruk
chandrakantotmang.
shrirasman sarvadomeshwara uditaratih
kelikantanga sambhut

(23rd Prakasha, Verse-25)

All divine beings merge in Lord Sri Jagannatha. In dress yellow coloured the Lord appears extremely beautiful. His colour is blue like the colour of ocean water. Divine Mother, Saraswati worships His two Lotus feet. Divine Mother Lakshmi, Lord Shiva and the Sun-god; all worship Him. He is the shelter wherefrom 'brahmananda' emanates. He is dexterous enough to wipe out the ignorance of His devotees. In a subtle form, He can keep the entire universe in a part of His body. Only the wise men are able to visualize His existence. This being, Sri Krishna Jagannatha, *Geetagevinda* i.e. an elegant composition of verses about Him, explains its own unique position among the creative wonders and spiritual literature of the world.

Srimad Bhagavad has established: that the Lord is Saarvabhouma. A true devotee does not want heaven, Brahmaloaka, undisputed control over the Bhumandala, an invincible empire in the world below (Patala) success in Yogas nor even emancipation (Moksha)

na nakaprustham na ca paaramestyam
na saarvabhoumam na rasaadhi patyam
na yogasiddhirapunarbhavam vaa
samanjasa twa virahaya kamkshe

(*Srimad Bhagavatam*, 6/11/25)

If Vritrasura can pray to the Lord with such total dedication by His grace, action and dedication of Sri Radha, on whom the divine grace showers ceaselessly, who is herself



‘Prakritiswarupini jnanaswarupini’ cannot be comprehended by human vision.

The three Lakshman-rekhas which the Divine Mother crossed in ‘Tretayayuga’ in the incarnation of Sita were dazzling in her eyes in Dwapar Yuga. When an ordinary ‘jiwatma’ is struggling from birth to birthlessness can the Prakriti herself lose sight of the same ? Wisdom is a sword ‘*jnanaasinatwanah chhitwa_inam samsayam*’ says the *Geeta*, (Chapter-IV verse-42). The Lord has also clarified earlier in the same chapter ‘sarvam karmaakhilam partha jnane parisamapyate (ibid verse-33) whatever may be the action they all end with wisdom. The ignorance plays, hide and seek, inside the heart. The doubts lurk in our mind due to illusion and attachment. They are all destroyed by the light of wisdom ‘*bhaswati jnanadeepita*’ or *jnanatapasa as preached in the Gita*. There was no doubt that an intimacy existed between Sri Krishna and Sri Radha. But it had never crossed the boundaries of pure love. It is consciousness communing with ‘super consciousness’. Otherwise a sacred flow of sublime love dazzling over the vast canvas of time would not have been ever possible. The Lord being the source of all wisdom and knowledge was conscious of what He has preached or has to preach His disciples earlier or later. He, Himself cannot dissuade from the words which He has made in the past or has a scheme to speak in the future. In the dawn of civilization, the Lord preached the Karmayoga of the *Geeta* to the Sun-God who in turn transmitted the same to Vyavasuta Manu. Ages after it was narrated to Arjuna. The Lord has held *geetajnanamupasritya trilokan palayamiam* (*Varaha Purana*); by taking recourse to the principles enjoined in the *Gita* He is controlling the universe. Besides, ‘*sambhavitasya ca akirti maranat atiricyate*’. (For a respectable person, death is preferable to

defame) was pronounced by Him in the *Gita* at a later period to raise Arjuna from illusion. In fact, the entire scheme of the *Geetagevinda* has a direct or indirect link with the *Gita* more particularly the verse 34 of Chapter IV:

*tadviddhi pranipaatena pariprasnena sevaya
upadekshanti te jnaanam jnaaninah tattwadarshinah.*

The Lord is advising Arjuna to approach, with great humility, the Spiritual Preceptor who knows the essence of wisdom and put appropriately formulated questions’ to get the correct answer. This leads to the elevation of the disciples. Both Sri Radha and Sri Jayadeva followed the above divine guidance. The chronicles not available in the public domain say that Sri Jayadeva was surcharged with the sacred objective to do some work for the Divine. He prayed to Lord ‘Niraakaara’ while sitting in a Yogic posture, close to a Bela – vriksha, (a sacred tree) in the dense wild thorny forests near the river Prachi, humbly asking what was his duty by which he would be able to serve the Divine and His creation better:

*prachi tata vipina kantaka vana pradesham
villwapadape yogasanam nirakaram prarthayet
jayadeva prajachhati
..... Kim sevaa kartavyam mama?*

(Chandrahaara Veethika)

No sincere prayer goes unanswered. The same was repeated in this case. There, indeed, was a response from the All-pervasive Cosmic Father: the Endless, the Infinite, the Supreme the ‘Atamarama’ whom Sri Achyuta has referred as ‘Sri Arupananda’ in his *Sharanapanjara*.

*mahasunyam nirakaram
adesham cha pradadatti
prak-shruti viluptasya punaruddharam ca kaarayet
mamaseva niyojayet nitya neelaadri mandape
Lasya, prema, bhaktim, nartanam
keertanam tatha
mamabhakta cha nrityanti*



mamasannidhya prapnonti
 Sri Jayadeva virachitam slokabrutu ca
 janmani: (ibid)

Sri Jayadeva was mandated by the Cosmic Glory to renovate the events and descriptions about His previous incarnations which have slipped off from the human memory, by that time. He was, further, instructed to compose such lyrical songs, which have the charismatic elegance of rhyme, rhythm, laughter, and glorious utterance of the Divine's names, singing which the Lord's devotees will dance in ecstasy and express eagerness to have His (the Lord's) holy company to obtain His immortal and blissful love. This directive from the Highest Spiritual Preceptor was made available to an humble devotee, 'Jayadeva' due to his self-less eagerness to serve the Divine and serve the people in their 'pathway to the Divine'.

Thus, when Sri *Bhagavatam* is the Lord Himself, *The Gita* is the science of self (*adhwaatmya vidyaa*), sung in form of a song by 'Sri Madhusudana-Sri Krishna', the greatest Spiritual Preceptor who has the enormous capacity of transmitting the honey of wisdom to His disciples on the spur of the moment; in case of *Geetagovinda*, it is a song, sung by a devotee about the 'Divine Love' between Sri Radha and Sri Krishna the 'ardhanarishawara', standing together in the Yogic posture representing the Cosmic Effulgence 'Om Tat Sat' or the "Ekakshara Om Sri Ananta". It is worthwhile to mention that Sri Krishna represents the Purusha, the symbol of Truth. Sri Radha represents Prakriti, the symbol of Love.

Geetagovinda is a true reflection of what Sri Aurobindo describes later as a poetic expression of the 'deepest spiritual reality' (*Future Poetry* P.19). Sri Aurobindo writes further that this is possible only when three highest

intensities of poetic speech and possibilities meet and become an insoluble one, a highest intensity of rhythmic movement, a highest intensity of interwoven verbal form and thought – substance, of style, and the highest intensity of the soul's vision of truth (ibid P.19). When all these three elements are co-existent as in the case of *Sri Geetagovinda*, it assumes the azure height of the 'Mantra' (ibid P.19). We are aware that the Lord himself took the pain of completing a stanza which Jayadeva was unable to compose. Is it not irresistible to conclude, therefore, that the entire Geeta – Govinda was written by the Lord or His divine inspiration seated inside the heart of Jayadeva, guiding the chosen medium all through. Otherwise, can any human intelligence create such a poetic possibility which is unrivalled in its sublime lyrical elegance, dancing splendor, conglomeration of rhythm and rhyme, devotion and love, colour and colourful tradition which make the devotees capable of getting the Lords' holy company. His devotees dance together in spreading Krishna – consciousness. They dance indeed as 'god–possessed' souls–elevated in ecstasy, *nrityantijuvatijanena samam sakhi virahijanasya durante* (*Geetagovinda*, Sarga –I, Pravandha-3). The Gopikas were dancing, oblivious of their mundane existence, surrounding Lord Sri Krishna. They were dancing in Krishna – consciousness. In other words neither Gopikas existed nor Sri Radha existed, it was only Sri Krishna, all around, the All-Pervasive One who manifested into many as per His own scheme.

This being the background, it may be appropriate to conclude that *Geetagovinda* belongs to that rare categories of immortal literatures where *The Gita* and *The Bhagavatam* adorn supremely in front and rear. It may be a unique privilege to give the deserving tribute to Sri Jayadeva, the glorious son of Utkal Janani devoted in heart and soul, to Lord Sri Krishna.



Being *Geetgovinda* may also be approached after being blessed with the power to tame the mind and make it concentrate on the Lotus feet of the Divine Father, as *Sri Bhagavatam* leads the devotee or spiritual seeker to. First know the Truth, and then one will be able to know what the divine love is. Before delving into the insight of Jayadeva one has to undergo the process of a dedicated reading of Vyasa's *Bhagavatam* and the Lord's dictum *The Gita* which is an Upanishad in itself.

On the other hand, *Geetgovinda* is the song about Sri Govinda. Govinda, by the very name itself, symbolizes a Personality who has controlled the mind and senses. (as Sri Sai interpretes in His discourse, on *Bhagajovindam*).

In *Geetgovindam* apart from observing the *leela* of the sublime love of the Lord and Prakruti (the Nature), we also find the beautiful description of Nature, the Spring Season '*sarasa vasanta samayavarnam*' (Sarga-1, Pravandha-3, varse-8), the Malli flower, the creeper Madhavika, Ketaki flowers, the sweet breeze and the exalted natural beauties of the forest and the scenic beauties of the river Yamuna. As if, while at Vrindavan, the Prakriti (Nature) is dancing with the Lord in an elegant juxtaposition of colour and colourful tradition, a forecast of the yet unexplored Dwaraka, where Indian Ocean mingles with Arabian Ocean; the blue mixes with the white. A silent observer finds even at present Dwarka how the sun sets in the Arabian sea, the Prakruti mingles with the Purusha. It will therefore be an irony if without going into the essence we casually deal with this literary and creative and lyrical marvel of world classics.

The fact runs that Jayadeva and all the great sages and poets like him had the glimpse of the divine through their own meditative insights. Whatever may be the style of description they

see alike since they see the Truth and Truth is same everywhere. It stands undisputed, therefore that the Cosmic Father, the Symbol of truth has inspired us from the time immemorial. What Poet Jayadeva really intends to depict is a colourful climate imparting a message to the devotees that they may earn immense Punya (sacred virtues) and destroy all sins if they can retain in their heart the 'Purna Brahma' Lord Sri Krishna. '*pranamata hride vinidhaya Harim, bhavajalasukruti dayasaram*'. The Lotus feet of the Lord, and constantly remembering about the same is capable to destroy the vices of Kaliyuga which *Geetgovinda* stands for '*hari charansmaranamrita nirmita kalikalmasajwarakhandane*' (Sarga 12, Verse 74).

Brahma Samhita describes Him as the source of all powers and the origin of all existence (5.1) The *Gita* proclaims that those who take shelter before His lotus feet even to get rid of old age and death and to achieve emancipation, they also do achieve the 'paramapada' i.e. the Eternal Bliss. Even at the fag end of life, if somebody knows the Lord, he also achieves the emancipation, the eternal bliss, peace and happiness.

*jaramarana mokshyaya maam ashritya yatanti ye,
te brahma tadviduh krutnamadhyaatwam
karma cha akhilam.
sadhivhutaadhi daivam mam sadhijajnam
ca ye viduh,
prayanakalepi ca mam te viduhyuktacetasa.*

(*The Gita* Chapter.7 verse-29-30)

For a Yuktachitta like Sri Radha, the Lord is an incomparable Saviour. *Geetgovinda* therefore, is description of a friendship-pure and playful. The Lord is the infinite 'mahamava' of beauty, brightness Nectar emanates from His words. Sublime splendor oozes out from His look. At the same time He is the ocean of wisdom. The great philosopher and sage 'Adi



Shankaracharya', has addressed Lord Krishna as his true Mother, which reveals, that the Lord is far above the gender analysis. Shankar writes:

*maayaahasteh arpayitwabharanakrute
mohamulodvabham mam
maatah krushnaavidhane chirasamayamudasina
bhavam gataasi
karunyaikaadhivase sakrudapi vadanam
nekshyase twam madeeyam
tatsarvajne na kartum pravavati bhavati
kim nu muulasya shantim.*

(Prabodha Sudhakara, 244)

O' Divine Mother, namely Krishna. You have entrusted the responsibility of a son like me born in 'Mula Nakshatra' to my 'Maya Mother' and since a very long time, you have been indifferent to me. O' my only Graceful Mother! You have not glanced at me even once. O' Omniscient Mother are you not capable of destroying the root of illusions.

What Shankar intends to clarify in *Prabodha Sudhakara* is that Lord Sri Krishna is capable of destroying all illusions by a fragment of His grace. He is the Divine Father, He is the Divine Mother. Thus Universal Divine Mother playing with the Divine Mother; Cosmic soul interacting with the divine soul, 'pure and noble' where does eroticism exist? The *Bhagavatam* has also supported the above concept and extends it further. In sublime love, there is no difference between the lover and the loved, the worship, worshipped and worshipper all become one, identical and merged. Sri Radha and all the Gopikas were conscious that their friend is the Universal Soul. Once surrendered entirely to Him, the body, senses, mind, intelligence (buddhi), life (prana) everything become that of His. He is the Yogakshema. The Gopikas therefore said to Lord Krishna:

*na khalu gopikanandano bhavaan akhiladehinam
antaratmadruk*

*vikhana sarthito viswaguptaye sakha
udeyivana satwatam kule*

(The *Bhagavatam*, 10-31-4)

O' friend ! You are not only the son of Yasoda. You are the Cosmic Soul Who has descended in this Yadava clan, responding to the prayer of Sri Brahma, with a view to protecting the Universe. The Lotus like face of Lord Sri Krishna was eternally new and the only attachment for Sri Radha and others, '*dine dine navpum novam namami nandasambhavam*' (Krushnastaka, 5). They were all devotees of high stature. As the Fire, though all pervasive, appears only after we strike the match, the Paramatma, in a similar manner though all pervasive is not visible to all. He manifests only when there is an utterance charged with devotion: '*ye bhajanti tu mam bhaktya, mayi tetesu caapyaham*' (Srimad *Bhagavad Gita*, Chapter-IX verse 29).

The Lord has further said in the *Gita* that a yogi is better than a sage, a wise man, and a worker. But among all yogis, the affectionate devotee who meditates upon Him, engrossed in heart and soul, he is the highest, (chapter 6 verse-47). Lord Krishna is 'Purnatattwa', 'Samagra Paramatma'. When the Preceptor is of this stature, the devotees for sure can climb any azure height. Sage Abhiram says, '*samarpana jara sthira, udaya asta nahin tara*. Whose surrender is stable, he or she has neither rise nor fall. Sri Radha's total surrender is unique in the canvas of time. Her magnanimity, her forgiveness, her tolerance, her sacrifice, are inexplicable. That is why Lord Sri Krishna, the Highest Power of the Universe declared: Sri Radha as His life, His glory and His asylum to cross the ocean of the world.

*twamasi mama bhusanam twamasi mama jeevanam
twamasi mama bhavajaladhiratnam*

(Sarga-10, verse-53)



The Controller of the Universe is addressing Sri Radha as His Saviour, as His life. This is enough to prove the greatness of the Divine Mother. *Geetagovinda* is, thus, a victory of sublime love over all attainments. Sri Jayadeva has earlier described:

*iha rasabhanane kritaharigunane
madhuripupadasevake
kalijugacaritam na vasatu duritam
kapinrupajayadevake.*

(Sarga-7, Pravadha 15, Verse-44)

Sri Jayadeva depicts that when mind utters the virtues of Sri Krishna, time and again, the vagaries of Kaliyuga pale into insignificance, which Sri Radha was always doing always '*dhyaayantee rahasi sthita kathamapi kshina kshanam praaniti*' (sarga-4, verse-28). Thinking about Sri Krishna, Radha was reduced in her health. She became thin. Heedless to all these, she was knowingly bearing the pangs of separation, constantly keep the forehead above the palm, '*tyajati na panitalena kapalam, valasashinamiva sayamlokam*' (Sarga-4 Verse-28). Is it not a wonderful expression of a real happening in the empire of true love. *Geetagovinda* thus is an epitome of that true love which is an immortal flow dealing with a subtler aspect (chittah), the consciousness. Approached in the right perspective, it may unfurl the mystery of consciousness. The first clue is to get rid of the ego. Ego is a hindrance in the path of true love. Sri Achyuta has rightly described in *Dutibodha chauksha* where Sri Radha says to her peer:

*hrudayaru vadapanaku tejina
saranapasa tu jai go
khelakara niti ta pade jai
kheluchhi hansa nitya vaandha tuhi
chhadi tora ghata palai jiva
chhara dehati tora narahiva go
chhandi raha taahaa pade go*

(Sharana Panjara, P.-90)

The life is temporary. Sri Radha therefore is advising to cast aside all ego and concentrate on the Lotus feet of the Lord. For Sri Radha, the entire universe was filled with Krishna – consciousness. She was observing Sri Krishna in all her feelings, body and speeches '*sarvabhutesu manovakmayaavritibhih*' (*Bhagavatam* 11.29.19). She is '*Shraddhamayee*'. Sri Radha is a surrendered devotee. She is Brahmabhutaa. She qualifies all respect the expectation of the Divine. She is endowed with all the qualities of '*sadhana bhakti*'. According to Swami Ramasukhadasji, devotion is of two types (a) *sadhana bhakti* (b) *sadhyabhakti*. *Sadhyabhakti* is attained by virtue of *sadhana bhakti* (*Bhagavan aur unki Bhakti*, (ibid-17). *Srimad Bhagavatam* prescribes nine types of *sadhana bhakti*; *sravanam*, *keertanam*, *vishnohsmaranam*, *padasevanam*, *archanam*, *vandanam*, *dasyam*, *sakshataatmanivedanam* (7.5.23). She has qualified all the *Navadhaktis* as afore-discussed, Lord Krishna's '*naveenajaladhararupa*' was the attraction of her entire concentration day in and day out. Jayadeva writes, '*kshanamapi virahah puraana sehe nayananimeelaankshinnaya jayaate*' (Sarga-5, Verse-28)

Radhika is a chosen devotee; a dearest disciple. No wonder, the Leelamaya - Sri Krishna desires to hear few words from her '*vadasudhaanidhigalitamamrutamiva rachaya vachanam anukulam*' (Sarga 12 verse-69). Sri Radha's words and the nectar emanating from them were dearest to the Lord. Purusha and Prakriti are not independent of each other. They are, instead heavily dependent on each other. They are not poles apart but poles asunder. Love, sacred love integrates the Prakriti and Parama Purusha. The posture in which Sri Radha remains immersed in Krishna-consciousness, is much above a yogic or



meditative trance. The pangs of separation she describes to her peers may mean a devotee losing the site of the Divine, while in meditation due to some disturbances caused by external factors? Eternal separation and eternal union are same in Krishna consciousness. This world (with all its worldly bodies and senses) is not capable to confer on us the eternal bliss which only Sri Krishna Satchitananda can perennially give to us. If the word 'kama' has been used in the *Geetagevinda*, it may be dharma-aviruddha kama' the Lord stands Himself for as described in the *Gita*? In his book, *Bhagawan and Bhagavat bhakti*, Sri Ramsukhdasji clarifies the position in the following words:

As long as you have accepted your relationship with this mundane world, whatever you get, you consider to be your own. But by the company of realized souls, you soon realize that this world is not yours. Only the Lord is yours. Thereafter a realization dawns upon you that whatever you have got, has been gifted by the Lord and has also come from the Lord. None else is your own. Only the Giver of all these, the Almighty is yours' (P.48)

Sri Radha was conscious of this. Sri Jayadeva was aware of this. The Gopikas knew this. None of them was therefore bound by his/her actions, as following the principles of 'Bhaktiyoga' they had dedicated all their actions before the Lotus feet of the Lord. They were 'god-possessed' indeed. They were perennially thinking of the Lord, 'nityasanjoga' which is an 'uncommon Yoga'. Thus they were all destined to be emancipated from this world, 'the ocean of birth and death'. The approach to *Geetagevinda* may therefore be explored from the angle of the Lord's advice in the *Gita*:

srutivipratipanna te yada sthasyati nischala,
samadhavachala buddhih tada yogamavapsyasi.

(Chapter 2 verse 53)

When after hearing many things, your intelligence that had been disturbed, gets the divine inspiration to concentrate on the lotus feet of the krupa-sudhakara – Sri Krishna, you are endowed with the detachment of a yogi. Thereafter you attend the perennial link with the 'Paramatma'. This was the advice of Lord Krishna to Arjuna. Sri Aurovindo writes in *Savitri*:

Only when Eternity takes time by hand,
Only when Infinite weds the Finite's thought
Can man be free and live with God !

Geetagevinda thus is a juxtaposition of infinity with finite. It is composed in the mundane world by Sri Jayadeva but in the celestial world by the joint endeavour of Sri Radha-Krishna, the 'ardhanariswar' the 'Sraddhaswarupini and Jnanaswarupa'. Lord Sri Krishna is 'Jagat parama' (the Universal Life Force) (sarga 7, verse 45). Who will not desire to be in His company? One can imagine the highest and sublime surrender when Sri Radha addresses the wind blowing south-wards, to make her able to see the 'nitya naveena' face of Lord Krishna, the symbol of the universal life-force. She has no desire thereafter. Even if she breathes her last, after this holy Darshan, she will not be unhappy. 'Sriharigatha' is just like nectar. No-wonder Sri Radha wants to see the Lotus like face of Lord Srihari so that she hears the nectar-like words spreading immortality all around. She has also praised the Cupid as 'ananda vardhana' and has requested him to simplify his approach:

manobhavaanandachandanaanila
prasida re dakshina muncha vamatam
ksharam jagatpraana vidhaya madhavam
puro mama pranaharo bhavisyati

(Sarga 7, Verse 45)

In the absence of Lord Krishna, the soothing moonlight appears unbearable to Sri



Radha, *visamivasudhaa rashimi* (ibid, verse 46) Earlier in Sarga 4, Jayadeva had explained the pangs of Sri Radha, due to separation from Sri Krishna – Madhava-Mudhusudan. Thus, Sri Radha is not only a beloved, she is a spiritual disciple who is unable to thrive without having a glance at the lotus feet of her Spiritual Preceptor. Sri Jayadeva has explained the anxieties of Sri Radha with poetic elegance. The home for her has appeared to be like dense forest, ‘avaaso vipinaayate’ (Sarga-4, Verse-25). This is ‘nitya-viraha’, which presupposes ‘nitya-milana’ (eternal bliss i.e. salvation). Sri Radha was filled with all Sraddha. Therefore she was the eyeball of Lord Krishna’s eyes. Her Lotus feet which defeats rather the beauty of kisalaya were the chief asylum of all the feelings of the Lord’s heart, ‘tavapadapallavavairi parabhavamidamanubhavatu suvesham (Sarga 12- verse 69). Sri Radha belongs to that rare category of devotees who have won Lord’s heart. For all these devotees, the Lord was ‘Samuddharta’, the Saviour not by mitigating the sense – desires, as alleged, but by rescuing them from this world of illusion which Prahlad tried for, which Dhruva tried, for which Tulshi Das tried for which Valmiki also tried for. From time immemorial, the journey goes on, sometimes it is through Bhaki Yoga, sometimes it is through Sublime love and sometimes it is through ‘karma yoga’ which Arjuna was enjoined upon to do. The objective in all the cases is to reach that Endless, Infinite, Immeasurable great Ocean of Beauty, sublime Sweetness, and nectar-like love, as described by the great scholarly sage Hanuman Prasad Podar (*Prarthana* P.37) ‘*parama karuniko na bhavatparah parama socyatamo na ca matparah, iti vichintya hare mayi pamare yaducitam jadunatha tathakuru*’. O’ Hari, there is none more Graceful than You are and there is no bigger destitute than I am. Taking this into

consideration, whatever You feel appropriate for a sinner like me, do the same kindly. (Quoted in *Prarthana*, ibid). This is always the approach of a true devotee. His devotion has no expectation. It is devotion for devotion sake.

Geetagovinda is the fulfillment of a creative endeavour undertaken as per the divine guidance. The ‘advaita’ wanted to be manifested into a dual existence. The ‘Omnipotent One’ wanted to become vahudha, monolingual wanted to be bilingual or multilingual. It was His desire. His desire is always blissful. His grace and disgrace all are blissful equally. Once again, the Merciful Lord wanted to establish the greatness of his devotees Sri Radha, the Gopikas and Sri Jayadeva. Mahapurusha Sri Jagannatha Das writes with due humility about the true intent of the Lord, ‘I am the servant of My devotees, My devotees are everything to Me. In *Srimad Bhagavatam*, the Lord has said to sage Durvasha:

*aham bhakta paradhina hyaswantra iva dwija
sadhuvihgrastahridaya bhaktaibhaktajnana priyah
.....
mayi nirabahahridayah sadhavah samadarshanah
vasikurvanti mani bhaktya satstriyahsatpatin yatha*

(*Srimad Bhagavat* 9-4-63 &66)

O’ Brahmin ! I am under the control of my devotees always. I am never independent. My devotees are very dear to me. They have an existence in my heart. As a chaste woman, by the unalloyed devotion do her husband, binds a virtuous husband with love, in the like manner, the sages and devotees, who are equal-minded, just in decisions, and equipoised and those who have linked their hearts with Me in the tie of Love, do get my blessings. *Geetagovinda* is the immortal flow of that endless blessings.

Dr. K.C. Sarangi, Additional Secretary, School & Mass Education Department, Government of Odisha, Bhubaneswar.



Odisha Power Sector Reform, Role of Regulatory Commission and Performance of Electricity Distribution Companies

*Ajoy Sahu
Shibalal Meher*

1. Introduction

The Electricity Sector in India was mainly operated by the State owned Public Sector until reforms were initiated in 1990s. Most of the Electricity Public Sector Undertakings (PSUs) were bankrupt and incurring huge losses. Consequently the respective State Governments were to dole out huge sums to subsidize losses through intervention. The efficient functioning of the PSUs was impeded by the political interference in the management leading to hindering their efforts to curb pilferage theft. This led to mounting transmission and distribution (T&D) losses eroding their financial health which reached a critical stage, where Govt. would no longer cover the losses of the State power Utilities. Electricity is a monopolized business owned by State PSUs and due to inefficiency of these PSUs consumers suffer. The only way forward is to privatise the sector and thereby attract much needed private capital. By privatising it is expected that private players would bring with them efficient management practices leading to curbing of theft and reduction of losses. Since Govt. could no longer carry on with the burden of subvention, capital investment from private players was intended. In order to gain private equality it is important that the investor should feel secured to invest his money and therefore a leveling playing

field is necessarily be provided for them to operate. In open market the opportunity and risk are common to all the players and market acts as a regulator through price of the commodity. In other words, no one can monopolise the business and one who is not able to sell its product at a competitive rate is thrown out of the market.

However, not all the products pass through the rigors of competition and market since by nature these are social goods. The goods are to be produced in a large quantity for public consumption and to produce these goods it requires huge capital investment which is beyond the means of players other than government. Electricity is one such good which is mostly monopolized by the Government agencies that produce, transmit and distribute it to the ultimate consumer.

Natural monopolies exist where there are important economics of scale in production, so that the market can only sustain one producer operating at optimum scale. Alternatively a natural monopoly might exist where there is appreciable economics of scope. Economics of scope occurs where the production function is “sub additive” that is to say two or more activities are more economically supplied by one firm than by competing firms. Natural monopoly tends to exist where there are expenses network investment and



sunk costs (e.g. pipelines, transmission systems and rail infrastructure) (Parker, 2001).

Natural Monopolies have traditionally been subjected to regulation because they pose risk to the society by accruing excess profits and costs at the expense of customers depend on their services (Agrell et al, 2000). Creating an efficient business environment in electricity distribution by regulation is a challenging task because of the nature of the industry. Vogelsong (2002) pointed out that capacity costs are the electricity distribution industry's paramount cost factor, while the services are non storable. The aim of regulation can be seen as to provide distribution companies with incentives to improve their investment and operating efficiencies and to ensure that customers also benefit from the efficiency gains (Jamashb and Pollit, 2000). In addition, regulation should be acceptable to regulated companies and maximize the overall social welfare by promoting efficient operation (Kopsakangas-Sovolainen, 2002).

This paper attempts to understand the role of the Regulator in Odisha after the reform and privatization of the Electricity sector, as to how this independent regulation has worked towards the performance of the privatized distribution utilities. The study is also made to unravel the constraints of regulation and regulatory environment.

2. Reform and its rationale

Reform is generally initiated for the Government owned utilities in order to address the problem of inefficiency, theft, pilferage, poor consumer services, lack of quality power and mounting losses. The major need for reform is due to factors such as:

- * Infrastructure providers are monopolies
- * Lack of competition
 - Operational inefficiency

- Poor quality of service
- Inefficient utilization of resources

- * Objective - to improve efficiency
- * Reduce financial burden on the Govt.

The reforms have sought to transform the state owned electricity sector into decentralized, market oriented industries with private sector participation, competition in generation and supply businesses and regulation of natural monopoly activities in order for the decentralized industry to function, the reform and regulatory design must establish appropriate structural, institutional and operational framework (Jamashbi, 2002). The need for reform therefore is not only to bring about operational efficiencies but Govt. also divest itself of regulating the sector and pass on the baton to the independent body, the Regulator. The regulator acts as a surrogate for the market by creating an environment closely resembling a market. It is therefore paramount that the regulator works in an independent environment in order to serve the interest of all in best possible way. The independent regulation serves to:

- Balance interest for various stake-holders
- Financial viability of industry
- Surrogate for the market
- Enforce rules of the game for all equitably thereby providing level playing field.
- Brings about certainty for private investors to come in.

The regulator has to work under certain guidelines inherent in their functioning. A regulator must maintain autonomy, promote accountability, encourage participation, foster transparency and should be predictable in decision making. The successful reforms can improve the efficiency of the sector and offer lower prices and better quality



of services. At the same time, flawed regulatory design can undermine the benefits of reform (Jammasbi, 2002).

3. Electricity Reform in Odisha

In Odisha the reform process of the sector was initiated in 1996 with notification of Odisha Electricity Reform Act, 1995 which came in force w.e.f. 01.4.1996. This legislation brought about structural changes to the sector with creation of a Regulatory body in the State and unbundling of the erstwhile OSEB into functional entities in generation, transmission and distribution. OSEB was the natural monopoly responsible for generation, transmission and distribution and its performance deteriorated over the years. OSEB's operational performance was the poorest among all state electricity boards (SEBs) in India. In early 1990s, thermal plant efficiency and availability were low and technical and commercial system losses exceeded 40 percent. The chronic lack of funds prevented OSEB from undertaking rehabilitation projects to reverse this situation.

During such time there were some additions to the generation capacity with the setting up of thermal plants. But both the Government of Odisha and OSEB recognized that these generation capacity additions, though a major achievement, will not in themselves be sufficient. They therefore initiated a comprehensive programme of reforms to address the fundamental problems with sector management and financing and to correct power system weaknesses. It was envisaged that successful completion of the reform programme would eliminate power cuts and supply restrictions by 2000, and Odisha could achieve sustained power development for its own needs and export, supported by its vast coal and significant hydroelectric resources (World Bank, 1996).

The OER Act, 1995 and objectives

The Odisha Electricity Reform Act, 1995 was the first act in the entire country which brought about following fundamental change to the sector with certain objectives such as:

- * Restructuring electricity industry
- * Rationalizing generation, transmission, distribution and supply
- * Providing avenues for private sector participation in the electricity industry
- * Development and management of electricity industry in the State in an efficient, economic and competitive manner
- * Establishment of independent Regulatory Commission (01.08.1996)

As envisaged in the OER Act 1995, the OSEB was unbundled and corporate entities were carved out in shape of GRIDCO (Grid Corporation of Odisha) - the transmission and distribution utility, OHPC (Odisha Hydro Power Corporation) - the hydro generator entity and Odisha Electricity Regulatory Commission (OERC) – The Independent Regulator.

The Electricity Act, 2003 and Objectives

Further, reform to the sector was brought about through the legislation by the Govt. of India in the shape of Electricity Act, 2003, which came into effect from 10.6.2003. The Electricity Act, 2003 envisaged objectives which had provisions for sweeping changes to the sector. Govt. of India also notified National Electricity Policy (NEP) and National Tariff Policy charting a path for the stakeholders by issuing guidelines to move forward. The Electricity Act has provisions which are path breaking in nature intended to make sector fair for all the stakeholders and most importantly easing barriers of entry for private players.



The objectives envisaged in the Electricity Act, 2003 are as follows:

- Consolidates the laws relating to generation, transmission, distribution, trading & supply
- Promoting competition
- Protecting interest of consumers & supply of electricity to all areas
- Rationalization of electricity tariff
- Transparent policies on subsidies
- Promotion of efficient & environmentally benign policies
- Non discriminatory open access
- Constitution of CERC & SERCs

Odisha Electricity Regulatory Commission (OERC)

The development of power sector in Odisha and entire country rapidly changed after 1995 and further Electricity Act, 2003 gave the reform necessary thrust to move it forward. In this backdrop the Odisha Regulator was the first of its kind in the country to be created in the electricity sector and was established on 1st August 1996. There was no similar experience available for the Commission elsewhere in the country which made the task of regulation of the electricity sector more difficult and challenging. The Regulator is mandated to perform following functions as per Section 86 of the Electricity Act, 2003:

- to promote co-generation and generation of electricity from renewable sources.
- to monitor quality of supply.
- to aid and advise in matters concerning generation, transmission, distribution and supply of electricity in the State.
- to issue licenses in accordance with the provisions of the Electricity Act, 2003.

- to regulate the working of licensees and to promote their working in an efficient, economical and equitable manner.
- to promote efficiency, economy and safety in the transmission, distribution and use of the electricity in the State.

This Electricity Act has envisaged that the proceedings of the Commission shall be Quasi-judicial Proceedings and therefore these have to go through following processes:

- Through open public hearing
- By issue of notice to aggrieved parties
- Admitting pleadings of parties
- Relying on affidavit/ evidence
- Affording opportunity for oral argument
- Reasoned order
- Scope for review
- Orders open for appeal to High Court/ Tribunal

OERC in terms of the powers envisaged in the Electricity Act 2003, is mandated to issue license to the distribution companies. The license is granted based on the geographically separated area of operation. In Odisha the distribution operation is separated into four geographical areas creating four separate companies. Besides, separate license has also been granted to one bulk supplier and Transmission Company. As mandated in the Act separate license can also be granted for Intra state trading. OERC has so far issued following licenses:

- Separate distribution license to four distribution companies- WESCO (Western Electricity Supply Company), NESCO (Northern Electricity Supply Company), SOUTHCO (Southern Electricity Supply Company) and CESU (Central Electricity Supply Utility).



- Bulk supply license to GRIDCO.
- Transmission license to Odisha Power Transmission Company Ltd.
- Intra-State Trading license to M/s. Global Energy Ltd.

OERC has done pioneering work and have frame regulations as required under Section 185 of the Electricity Act. Many of these regulations have been framed with constraints of having no such regulations available in the sector elsewhere in the country to look for. Commission has so far notified about 16 Regulations as required under the Electricity Act, 2003.

4. OERC and Tariff Determination

One of the major objectives of OERC is to set tariff. Tariff is a schedule of standard prices or charges for specified services. These are applicable to types of customers specified in the Regulation. OERC announces following annual tariff orders before the end of March every year.

- Retail Supply Tariff (RST) – Price of energy consumed by consumers from distribution companies.
- Bulk Supply Tariff (BST) - Price of energy purchased by distribution companies from GRIDCO.
- General tariff in respect of Odisha Hydro Power Corporation (OHPC) to be purchased by GRIDCO.
- Transmission tariff of Odisha Power Transmission Company Ltd. (OPTCL) for using its network by DISCOMs.
- State Load Despatch Centre (SLDC) charges from short and long term users.

OERC has been pronouncing tariff orders every year since 1996-97 when first tariff annual

order was notified. The latest tariff order notified now was for the financial year 2013-14.

Tariff setting is an elaborate process spanning three month entailing jobs of notifying ARR submitted by the Licensees in the newspaper for inviting objections to the proposals, conduct public hearing, consultation with State Advisory Committee, scrutinizing, analyzing and then pronouncement of order guided by the principles of Electricity Act, National Tariff Policy, National Electricity Policy, directions from Hon'ble High Court and ATE.

One of the major activities of OERC is to analyse the Annual Revenue Requirement (ARR) of the distribution companies and announce change in tariff for the ensuing year. As mandated in the Electricity Act, 2003 distribution companies are required to file their ARR annually by 30th November every year. Before announcing the tariff OERC scrutinises each item of expenditure and allows the same in consonance to the OERC Regulation on determination of tariff, Multi Year tariff principles and targets of distribution loss and collection efficiency set out in the Business Plan relevant for that year. The power purchase cost constitutes about 80% of the total cost which is to be determined very carefully basing on the projected demand and past trend. Other major components of the costs are employee expense, repair and maintenance expenses, interest on loan, depreciation and return on Equity. The revenue is computed based on the consumer mix, i.e. number of EHT, HT and LT consumers and the collection efficiency of the distribution company.

OERC determines tariff by balancing the interest of various stakeholders on parameters such as paying capacity of general consumers, industrial consumers, commercial consumers, consumers of life line, that the tariff covers



expenses of distribution companies, power purchase expenses of GRIDCO and generators and assured return on investment for making the business attractive for the investors. OERC thus has to walk on a tight rope in order to take care of the varying interest. The high cost of electricity affects competitiveness of the industrial consumers whereas the low voltage consumers expect electricity at an affordable price. The investors seek an assured return. On the other hand, due to lack of capital expenditure and inefficiency, system suffers from unacceptable level of high AT&C loss. Taking into all these considerations into account the tariff is designed. The tariff orders so far announced by OERC since its inception in 1996 are presented in Table 1.

Table 1: Tariff orders announced by OERC

Period	Tariff orders
1996-97 to 1998-99	Combined tariff order of RST & BST - include Bulk Supply Price (BSP) and Transmission charges and OHPC tariff.
1999-2000	Separate order of RST, BST and OHPC.
2005-06 to 2013-14	Separate order of RST, BSP for GRIDCO, Transmission Charges for OPTCL, SLDC charges and OHPC tariff.

Source: OERC tariff Orders

It would be pertinent to see how tariff of the Retail consumers have moved over the years. The State Government increased tariff twice just before launching of reforms in the years 1995-96 and 1996-97. OERC thereafter revised the tariff continuously for four years from 1997-98 to 2000-2001. However, no revision was made for next nine years from 2001-02 to 2009-10 with minor changes in tariff owing to granting some

concession to certain categories of the consumers. But tariff has been revised since 2010-11. A comparison of increase in tariff with increase in WPI is presented in Table 2. It is observed that in almost all the years (except the period when no tariff revision was made) the increase in tariff is more than the WPI. That means, initially till 2000-01 and then since 2010-11 the increase in tariff is more than inflation, which is due to high cost of electricity, on the one hand, and high AT&C loss, on the other.

Table 2: Tariff revision in pre and post reform period

Year	Increase in Average Tariff (%)	Increase in WPI (%)
1995-96	17.47% (State Govt.)	7.99
1996-97	17.00% (State Govt.)	4.61
1997-98	10.33%	4.40
1998-99	9.30%	5.95
1999-00	4.50%	3.27
2000-01	10.23%	7.16
2001-02	0.00%	3.60
2002-03	0.00	3.41
2003-04	0.00	5.46
2004-05	0.00	6.48
2005-06	-0.37	4.50
2006-07	0.00	6.60
2007-08	0.12	4.67
2008-09	-0.64	8.06
2009-10	0.00	3.81
2010-11	22.20	9.56
2011-12	19.74	8.93



2012-13 11.84

6.83
(up to Feb 13)

Source: Govt. of Odisha Gazette notification and OERC tariff Orders for Average Tariff, and RBI for WPI

OERC in spite of all the constraints over the years has done some worth mentioning works as regulator owing to the fact the reform of the electricity sector was introduced for the first time in Odisha :

- Pronouncement of Tariff Orders every year. Many states still do not announce annual tariff in spite of introduction of reforms in those states.
- Reducing cross subsidy over the years as envisaged in the National tariff policy. Cross subsidy is the indirect subsidy paid by Industrial consumers through higher tariff to compensate for low tariff applicable to domestic consumers. No direct subsidy is paid by the Govt. of Odisha since initiation of reforms to any category of consumers.
- Open access charges to facilitate open access to large consumers who want to supply energy to the consumers outside the distribution area by paying certain charges as fixed by the OERC.
- Tariff determination of renewable sources of energy and enforcing Renewable Purchase Obligation (RPO). RPO is the obligation of Bulk consumers (5 MW and above) to buy a certain percentage of energy from Renewable Sources of Energy.
- Monitoring of Ombudsman and Grievance Redressal Forum, established under the Electricity Act for their effective functioning for redressing grievances of the consumers.
- Consumer awareness through conducting seminars, workshops by publishing books, souvenirs, information leaflets etc.

- Website of OERC provides various data and information about the sector, case tracking of the cases and their status and serves as a portal for power sector in Odisha.

5. Performance of Distribution Companies (DISCOMs) after Reforms

a) Distribution loss, AT&C loss and Collection efficiency

It would be pertinent to analyse the performance of DISCOMs during the regulatory regime relating to important parameters of performance such as distribution loss, Aggregate Technical and Commercial (AT&C) loss and Collection efficiency. However while analysing such parameters it is to be borne in mind that non-performance cannot be only attributed to Regulatory ineffectiveness since there are other factors which determine how the distribution companies would fare. The support of other stakeholders such as Government, Consumers, Financial Institutions, and Management of the company impinges upon the performance of the distribution companies. Commission approves five year Business plan orders wherein targets for reducing distribution loss, AT&C loss and collection efficiency are notified. DISCOMs are required to adhere to such targets and Commission considers the actual performance on these targets while approving the Annual Revenue Requirement. Commission has also notified Multi Year tariff (MYT) which provides for principles under which the expenditures are to be allowed during the control period of five years. Table 3 shows the actual performance of the four distribution companies in the three parameters of distribution loss, AT&C loss and collection efficiency.



Table 3: Performance of distribution companies in terms of distribution loss, AT&C loss and collection efficiency

DISCOMs	Year	Distribution Loss (%)	Collection Efficiency (%)	AT&C Loss (%)
CESU	1999-00	44.89	69.72	61.58
	2011-12	38.3	97.14	39.97
	Difference	-6.59	27.42	-21.61
WESCO	1999-00	44.17	83.36	53.46
	2011-12	38.89	97.13	40.6
	Difference	-5.28	13.77	-12.86
NESCO	1999-00	43.35	79.37	55.04
	2011-12	34.28	100	33.91
	Difference	-9.07	20.63	-21.13
SOUTHCO	1999-00	41.84	78.75	54.2
	2011-12	46.42	97.8	47.6
	Difference	4.58	19.05	-6.6
ALL	1999-00	43.91	77.19	56.71
	2011-12	38.55	98.08	39.73
	Difference	-5.36	20.89	-16.98

Source: Annual Audited Accounts of CESU, WESCO, NESCO and SOUTHCO

In terms of individual performance, NESCO has done best by the distribution loss by 9.07 percentage points, the collection efficiency has increased by 20.63 percentage points and the AT&C loss has shown significant decline of 21.13 percentage points from the years 1999-00 to 2011-12. SOUTHCO, on the other hand, has shown most sluggish performance wherein the distribution loss has increased by 4.58 percentage points and the AT&C loss has shown dismal reduction of only 6.6 percentage points. One of the reasons attributable to the poor

performance of SOUTHCO is the predominance of domestic category in the distribution area. Though CESU has shown distribution loss reduction by 6.59 percentage points, it has shown significant AT&C loss reduction (21.16 percentage points) and increased collection efficiency (27.42 percentage points) since it started initially with very low rates. The overall scenario of all DISCOMs towards AT&C reduction and increase in collection efficiency is 16.98 and 20.89 percentage points achieved in 12 years.



b) Profit and Loss

Performance of DISCOMs can be best analysed through study of its annual audited accounts which throw light on critical information with regard to financial health like profit and losses. The financial statements do not show encouraging information as the total accumulated losses of the combined four companies is Rs.3286.17 crore as on 31st March 2011 (Table 4). The maximum cumulative loss is accrued by the CESU of Rs.1285.50 crore and annually it is adding an average loss of Rs.107 crore. The three Reliance managed companies, viz. WESCO, NESCO and SOUTHCO have accumulated loss of Rs.2000.67 crore.

such as transport, gas, electricity, insurance etc., where Govt. has failed to deliver efficiency, service and price competitiveness, resulting in inconvenience and higher cost to the consumers. The sector through reform is thrown open to the private players to bring about transparency, efficiency and competitiveness of price. OERC was created on 01.8.1996, thus had challenging task of regulating the sector de novo. OERC has done some appreciable work but there are pressing challenges as way ahead in terms of the performance of the privatized distribution utilities and consumer service.

Reduction of losses by the utilities continues to be one of the main challenges for the

Table 4: Profit/Loss of DISCOMs (Rs in crore)

DISCOMs	Year	Income	Expenditure	Profit (+) / Loss(-)	Cumulative Profit (+) /Loss(-)
CESU	1999-00	485.53	667.03	-181.5	-181.50
	2011-12	2155.44	2411.72	-256.28	-1542.64
WESCO	1999-00	422.72	484.02	-61.3	-61.30
	2011-12	2203.51	2258.28	-54.77	-581.43
NESCO	1999-00	310	406.65	-96.65	-96.65
	2011-12	1841.07	1936.49	-95.42	-826.40
SOUTHCO	1999-00	214.76	297.78	-83.02	-83.02
	2011-12	807.15	830.46	-23.31	-766.34
ALL	1999-00	1433.01	1855.48	-422.47	-422.47
	2011-12	7007.17	7429.77	-422.6	-3716.8

Source: Annual Audited Accounts of CESU, WESCO, NESCO and SOUTHCO

6. Conclusion

Reform is synonymous with Regulation since latter always follows the former. Reform is initiated generally in areas of public utility services

regulator. The licensees in Odisha have failed to reduce losses in spite of the fact that private investors are managing three out of the four distribution utilities for over a decade now. Regulator has to devise mechanism to incentivize



Licensee for any reduction and penalize for non reduction of losses. Govt. of Odisha has also to extend administrative support in controlling of theft, pilferage and collection of dues. The balance sheet and profit & loss account of the distribution companies show an alarming situation with eroded net worth.

After more than the decade of reforms the consumers are yet to enjoy the fruit of better consumer service. The Licensees have still miles to go to improve consumer services and the responsibility of the Regulator is to ensure that the Licensees adopt best management practices for consumer services. Flow of private capital into the fragile network is another area of importance of the reform programme. However, the concern remains that the private investor has not invested any money on upgradation of network since acquiring the shares of distribution business in 1999. Regulator should incentivize DISCOMs for introduction of technological innovation, IT intervention, superior equipments, automization, digitization of data and latest communication network for quick response to the interruptions and outages. The performance of the utilities should be measured through interruption and frequency. The ABT (Availability Based Tariff) mechanism should be monitored for enforcing grid discipline by DISCOMs. Regulator should promote franchisee to boost collection and billing activity.

We may thus conclude that a new beginning has been made in the sector through reforms but it has not brought in necessary improvement to the sector in terms of reduction of tariff, quality of power, improved consumer services, reduction of losses, billing and collection and no flow of private capital. Much needed to be done to put the sector on the right track by cooperation of all the stakeholders and effective regulation by the Regulator.

References :

- Agrell, P., P. Bogetoft and J. Tind (2000). "Multi-period DEA Incentive Regulation in Electricity Distribution", *Discussion Paper 2000-13*, Centre for Industrial Economics, University of Copenhagen.
- Govt of Odisha (2003). Report of High Power Committee for Electricity Sector.
- Govt. of Odisha (2001). Odisha at a Glance – 2011.
- Jamasb, T. (2002). "Reform and Regulation of the Electricity Sectors in Developing Countries," *Working Paper No. 08/DAE 0226*, Dept. of Applied Economics, University of Cambridge, August.
- Jamasb, T. and M. Pollit (2000). *Benchmarking and Regulation of Electricity Transmission and Distribution Utilities: Lessons from International Experience*, University of Cambridge.
- Kopsakangas-Savolainen, M. (2002). *A Study on the Deregulation of the Finnish Electricity Markets*, University of Oulu.
- OERC Website. www.orierc.org
- OERC. Compendium of Tariff Orders, Various years.
- Parker, David (2001). *Economic Regulation: A Preliminary Literature Review and Summary of Research Questions arising*, University of Aston, October.
- RBI. Wholesale Price Index (various years), Mumbai.
- Vogelsang, I. (2002). "Incentive Regulation and Competition in Public Utility Markets: A 20-Year Perspective", *Journal of Regulatory Economics*, 22:1.
- World Bank (1996). "Electricity reforms in Odisha", *Staff Appraisal Report*, The World Bank, Washington D.C.

Ajoy Sahu, Deputy Director, Odisha Electricity Regulatory Commission, Bhubaneswar-12 and Ph. D. Scholar Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar-13.

Shibalal Meher, Faculty, Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar - 13.



Involvement of SHGs in Watershed Management - An Impact Analysis

*Sandhyarani Sahoo,
Anup Dash*

Introduction

Air, water, earth, fire and space are considered to be the five basic elements of life according to the 'Veda'- the ancient Indian scripture. Soil and water, one of the most important natural resources in the earth are under intensive use and often misused. Watershed development is a noble concept to create conducive measures for higher agricultural productivity conserving the natural resources interlinking the environmental and developmental issues. Out of the total geographical area of the country (328 Million hectare), about 146 Mha is degraded due to improper conservation measures. Odisha extends over an area of 155.7 Mha accounting to about 4.87% of the total area of India. In Odisha, predominantly, agriculture plays a vital role in the state economy that shares 25.75% of Net Domestic Products. Out of the total geographical area the net sown area is 5.739 million ha and cultivable area is 6.993 million ha. The per capita availability of cultivated land was 0.39 ha in 1950- 51, which has been declined to 0.12 ha and expected to diminish to 0.08 ha by 2020. The economic growth of Odisha always pushed back by series of natural calamities like drought, flood along with cyclones. In this regard, Watershed development paves the path to

strengthen socio-economic status of the rural poor in a sustainable way.

About 82 per cent of the people in Odisha depend upon agriculture, predominantly rainfed agriculture, largely depends upon monsoon for its water resources. The per-capita water availability is reducing progressively owing to increase in population. The average per-capita water availability (both surface and ground) in the state was around 3359 cubic meter (cum) per year, which is estimated to reduce to 2218 cum in 2051 with the projected population growth.

To overcome the problem of land degradation, soil erosion, water availability etc. and to balance the ecosystem Watershed development receives serious attention by policy makers. This has implications for the development of all five types of assets defined in the Sustainable Livelihood (SL) framework viz., human capital, social capital, financial capital, natural capital and physical capital. An attempt has been made to analyse the impact of SHGs involvement in Watershed development in Nayagarh district of Odisha. The socio-economical impact of watershed upon the rural livelihoods was assessed in three Blocks of Nayagarh district comprising of 10 villages and 460 beneficiaries.



Micro-Watershed (MWS) Development in Odisha

Watershed management became a key-plank in the governments natural resource management programme. There are 4865 micro-watersheds implemented in Odisha with total area of 28, 09, 089 ha under different schemes as summarized in Table-1.

Table-1: Number of Micro Watershed implemented under different schemes

Scheme	Districts	Number of MWS	Area in ha
IWDP	23	1046	544330
DPAP	8	1319	667800
NWDPR	30	885	754713
EAS	13	596	328562
ACA	8	314	167616
RVP	7	29	9720
WORLP	4	290	147670
OTELP	4	136	63678
KBK	8	150	75000
Special Plan			
RKVY	7	100	50000
TOTAL	112	4865	2809089

Source: OWDM

In the current financial year another 65 projects were approved (610 MWS) for treatment of 3, 35,979 ha under the IWMP project. By the end of 14th Plan period total number of 12037 of micro-watersheds is to be taken up into action. For the implementation of these projects assuming the cost sharing of 90:10 between the Govt. of India and Govt. of Odisha with the funds involvement of ₹6499.98 crores including the state share of 722.22 crores. A huge

attempt towards natural resource management can touch the apex of its goal by effective participation of its community.

Effective Community Participation in Watershed Development

Watershed Development approaches have evolved from externally imposed biophysical interventions towards more participatory approaches encompassing a broader range of activities. The community involved in Watershed development must be educated for their livelihood security managing the natural resources. Social studies have shown that women involvement in agriculture is very high in rural areas. Effective Watershed management requires the active participation of women in Watershed management scheme, which is still far behind from the ground reality. The status of women as individuals has consistently been given low priority in all developmental plans. However, the ethical, historical and current studies provide logical evidence about the role of women in the development of all aspects such as scientific, cultural and socio-economic sectors. The policy makers of all developmental sectors are now considering the Self Help Groups (SHGs) as a focal point assuming it as the only significant institution of poor to provide an institutional avenue for economic self sufficiency.

The formation of SHGs has been made mandatory in all Watershed Development Programmes in the country. As a part of Watershed plus approach, 17024 Self Help Groups have been promoted enrolling about 209742 members (OWDM). Field experience has shown that convergence between allied departments like Agriculture, Horticulture, Livestock, Fisheries, Sericulture, Forest as well as rural development programmes of the DRDAs/



ZPs can be achieved effectively if there are mature SHG, UG (having a sustainable common fund) and there is a management body of these groups (Watershed committee) to provide a platform for convergence of schemes / activities which can be achieved under the Watershed programme.

Involvement of SHGs in Watershed Development

Now-a-days, SHGs are receiving increasing attention by policy makers in the Watershed Development Programme to contribute significantly to the economic growth

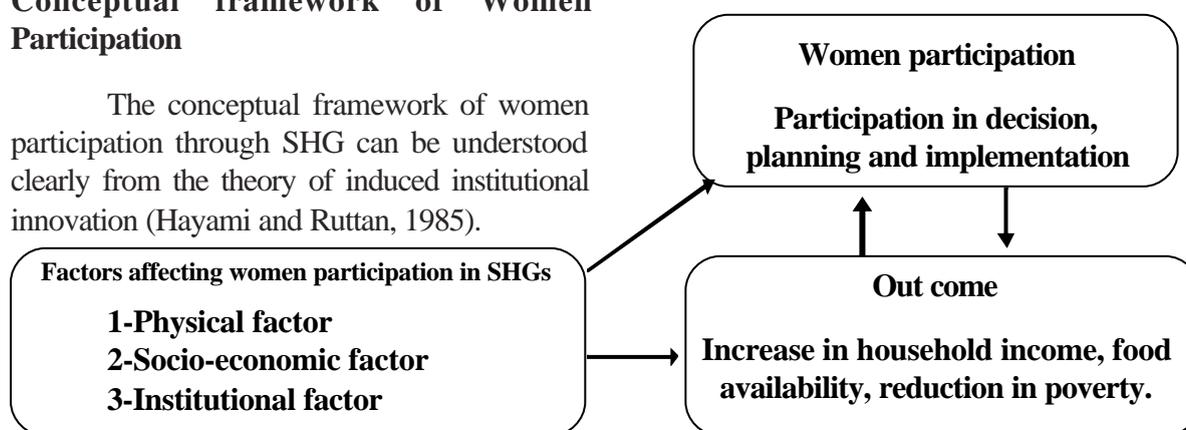
and poverty alleviation. Through this case study of the Watershed Management Programme in a economic poor district of Odisha, it could be understood the significance of the involvement of Self Help Groups in the whole process. To have a clear analysis, a sample of 30 SHGs and 20 UGs are taken from the study area, in which a SHG comprises 10 to 20 members and an UG comprises 10 to 30 members. The view of 3-4 women members from each SHG and 10-15 Members from UGs are taken randomly for the impact study. Samples of total 460 people were under supervision for the study. Extent of participation of the members of SHGs compared to the Non-SHGs has been reflected in Table-2.

Table-2: Participation of SHGs and Non-SHGs in Watershed Development Programme

Particulars	SHGs	Non-SHGs
Participation in identification of project	124 (53.91%)	35 (15.22%)
Participation in giving consent to the planned activity	102 (44.35%)	27 (11.74%)
Participation as labour in the project	165 (71.74%)	64 (27.82%)
Participation in decision making process	76 (33.04%)	14 (6.08%)
Participation in implementation of activities	71 (30.87%)	28 (12.71%)
Participation in monitoring of the project activities	32 (13.91%)	-
Only knowledge about the project	230 (100%)	96 (41.73%)
Total	230	230

Conceptual framework of Women Participation

The conceptual framework of women participation through SHG can be understood clearly from the theory of induced institutional innovation (Hayami and Ruttan, 1985).





In a Nutshell

- Peoples' awareness and participation in Watershed development is pre-dominant in case of members of SHGs compare to Non-SHG.
- Interaction with the group members and participation of the development programme will reduce the inequalities in social system.
- The project is able to eliminate the gender gap in agricultural sector as well as in socio-cultural status.
- Women are more aware of technical knowhow of their surroundings through participation in continuous group meeting.
- The level of participation is found to be very high among the members of SHGs as compared to those of non SHGs in each and every phase. By regular meetings they come across the group members and also with the Government officials and aware of the happenings occurring around them which leads their active and effective participation.
- The important indicators of improved livelihood like education, access to quality health services, reduction in medical expenses, providing safe and potable drinking water and a congenial environment etc. are increased noticeably.
- Different type of systemic constraints came to limelight during the interaction with the officials of PIA and the beneficiaries.
- Peoples' participation depend on attitude of the people, the environment they live in, attitude of the government functionaries, government approach, lack of capacities, lack of women's participation and favorable surroundings.

Future strategies

- The remaining marginal farmers, landless and women groups should be given special priority in the Watershed management through SHGs approach.

- The Watershed team members are to be proactive in sowing the seed of awareness among the vulnerable section in the grass root level.
- Scientific based training on agricultural input and livestock management should be organized by efficient resource persons/agencies.
- The exposure visit to other successful models of Watershed projects can improve the indigenous knowledge of group members.
- The group should be specially trained to manage their resources after the exit of the Government.
- Qualitative assessment and periodical feedback needed for review and implementation of remedial measures by project implementing agencies.
- Innovative income generating activities should be introduced for sustainability of the groups.

Creating space to women in Watershed development and placing the vulnerable group in action is a welcome step for sustainable development through SHGs. Togetherness, always brings strength which helps in bringing out the vulnerable women out of isolation and give them community identity and strength catalyzing their capacity for collective action to overcome the traditional patriarchal system and the suppressive social structure of women. Proper effective mobilization and involvement of SHGs in the development process can bring the resource poor (especially women) for poverty alleviation and actualization of economic growth.

Reference :

Hayami, Y and Ruttan. 1985. Agricultural Development: An International Perspective, Baltimore: John Hopkins University Press.

Sandhyarani Sahoo, C/o- Maheswar Sahoo, At/Po- Jagannath Prasad, District-Nayagarh.

Anup Dash, Department of Sociology, Utkal University, Vani Vihar, Bhubaneswar-751 004.



Conceptual Clarity on Special Category Status

Hemanta Kumar Nayak

Special category status for states was introduced in 1969 and was granted to 3 states namely, Assam, Nagaland and Jammu & Kashmir. The Special Category Status (SCS) essentially pertains to determine the allocation of central assistance for State Plans in India, which is based on a formula known as Gadgil formula, named after the person, D.R. Gadgil, who devised the formula. It was adopted for the distribution of plan assistance during 4th and 5th Five Year Plans.

Prior to fourth Five Year Plan, the allocation of Central Assistance to the State Plans was based on a schematic pattern with no definite formula for allocation. The Gadgil formula emerged from the demand for a transparent and objective formula-based horizontal sharing of resources between the States. During the tenure of the Fifth Finance Commission, the same formula was also adopted by the Finance Commission which then conferred special status to the above mentioned 3 states on the basis of harsh terrain, backwardness and social problems prevailing in these states. As per Gadgil formula a special category state would get preferential treatment in federal assistance and tax breaks. The special category states have been provided with significant excise duty concessions in order to help these states attract large number of industrial units to establish manufacturing facilities

within their territory. The main idea behind according special status to a state is to facilitate the growth and development of improvement in IMR, birth rate, population control, female literacy status, tax effort and fiscal mechanism and improving per capita income.

The existing formula was revised for the first time in 1960 to include 5 more states under special category. The newly included states were Arunachal Pradesh, Himachal Pradesh, Manipur, Meghalaya, Mizoram. This modified formula then became the basis for allocation in the 6th and 7th Five Year Plans. In 1991, the formula was revised and renamed Gadgil-Mukherjee formula adding the name of the then Deputy Chairman of the Planning Commission and was approved by the National Development Council (NDC). This formula has been in operation since the Eighth Plan Period.

While distributing the Central Assistance to State Plans, the main methodological features of the formula consist of the following (i) From the total Central Assistance, Funds are set apart for externally aided schemes.

(ii) From the balance specific amounts are allocated to the Special Area Programmes i.e. for the Hill Areas, Tribal Areas, Border Area, N.E.C. and other programmes.



(iii) From the balance, 30% is allocated to the Special Category States.

For the general category States, the following weightage on variables are assigned

- (i) Population : 55 percent
- (ii) Per Capita Income: 25 percent
- (iii) Fiscal efforts : 5 percent
- (iv) Special problems : 15 percent

The NDC has defined the special problems under seven heads, namely coastal areas, flood and drought prone areas, desert problems, special environmental issues, exceptionally sparsely and densely populated areas, problem of slums in urban areas, special financial difficulties for achieving minimum reasonable plan size. During the post 2000 period, the formula was once again reviewed and the component of 'performance' by the respective states was adopted. The weightage under the head was 7.5 percent. Within this, 2.5 percent of the allocation was based on tax efforts of the States, 2 percent for fiscal management of State level and 1 percent for understanding population control measures. Special attention was also paid to the improvement in female literacy and according 1 percent allocation was set aside taking female literacy into account. Timely completion of externally funded projects and land reforms undertaken accounted for the remainder of the 7.5 percent figure.

The main reason for categorising between general and special category states is the development of the states which face problems due to hilly terrains, international borders etc and has been deprived of robust industrial development and experience persisted problems

of low state finances. There is no objective criteria and weight for distribution among the special category states. The main considerations are the level of allotment in the previous years, resource positions of the States and also development needs etc. In such cases the formula for resource sharing does not apply.

Under the SCS, till 2004-05, 90 percent of the central assistance used to be treated as grant and remaining 10 percent was considered as interest free loan with rationalization of public expenditure based on growth enhancing sectoral allocation of resources. In general category states, the ratio used to be 30:70. Since 2005-06 and with the advent of 'big bang' Centrally Sponsored Scheme (CSS), the differential of central transfers happened in terms of certain conditionality. While the loan component has been reduced substantially for both general and special category States, the general states are required to provide for matching grants under such scheme guidelines. For example, under the Sarva Shiksha Abhiyan (SSA) for general category States, 65 percent of the total expenditure is borne by the Centre and the State is required to provide for the rest of the 35 percent, belying which its subsequent transfers get affected. However under SCS, the financial norm is 90:10. Similarly, under the Indira Awas Yojana (IAY) the Centre-State funding norm is 75:25 for general States but is 90:10 under SCS. For certain schemes such matching grants are generally not required at all under SCS. There exists no hard budget constraint for SCS states as the central transfer is high. Currently, there are 12 States falling under the category. However, there still remains a strong necessity of developing all these states at par with others.

The latest dispute is regarding the issue of conferring a special category status to the State of Bihar. The Bihar Government has been strongly



demanding the SCS as it argues that such status would enable increased Government expenditure and hence would be able to attract private investment via the Keynesian 'crowding in' mechanism, which is necessary to increase overall investment in the State. Currently the State Government expenditure is a major component of the total expenditure in the State and hence forms a major part of GSDP of Bihar. However, while speculations are high as to whether Bihar would be eligible for SCS. It has already been announced by the Planning Commission that allocation towards the Backward Regions Grant Fund (BRGF) would be raised for the State. In the meanwhile, the Inter Ministerial Group on redefining the Special Category State had rejected Bihar's plea to be considered as a Special State. The Group of Ministers cited that Bihar can get rid of present backwardness through proper utilization of its geographical and human resources assets. Following Bihar 5 other States namely Goa, Rajasthan, Jharkhand, Chhattisgarh and Odisha have also been demanding this status due to extreme poverty, economic backwardness, non-compatible terrains and also the presence of Naxalites within the State territories due to which no proper development has happened within the States. To quote the Odisha Chief Minister Mr. Naveen Patnaik on objective behind seeking the Special Category Status (SCS), "The first objective to seek more liberal funding from the

Central Government further strengthens our efforts for the accelerated development of Odisha. The second objective is to seek tax breaks that Special Category States are entitled to with a view to attract private investment in labour intensive sectors to create more job opportunities for the people of Odisha and to further expedite development of the State" (TOI, 5th April, 2013)

While the Centre has chosen to give a muted response to the demands with similar reactions from the NDC for a long time and speculations are high among stakeholders, the current Finance Minister while presenting, his Union Budget 2013-14 has hinted towards setting up a Committee to look into the matter of redefining "Special Category". Hope, Odisha's demand will be fruitful in the coming days either in the form of liberal funding or to seek tax breaks that special category states are entitled for the development of underdeveloped areas like KBK. I personally feel KBK deserves more attention than few areas of Bihar or Bundelkhand.

Hemanta Kumar Nayak, OIS, MIG-II-73/1, HB Colony, CS Pur, Bhubaneswar-751016, hemanta.bhubaneswar@gmail.com.



Right to Privacy in Sting Operations of Media

Om Prakash

The strength and importance of media in a democracy is well recognized. Article 19(1) (a) of the Indian Constitution, which gives freedom of speech and expression includes within its ambit, freedom of press. The existence of a free, independent and powerful media is the cornerstone of a democracy, especially of a highly mixed society like India. Media is not only a medium to express one's feelings, opinions and views, but it is also responsible and instrumental for building opinions and views on various topics of regional, national and international agenda. The pivotal role of the media is its ability to mobilize the thinking process of millions. The increased role of the media in today's globalized and tech-savvy world was aptly put in the words of Justice Learned Hand of the United States Supreme Court when he said, "The hand that rules the press, the radio, the screen and the far spread magazine, rules the country".

Democracy is the rule of the people, a system which has three strong pillars. But as Indian society today has become somewhat unstable on its 3 legs- the executive, the legislature and the judiciary, the guarantee of Article 19 (1)(a) has given rise to a fourth pillar known as media or press. It plays the vital role of a conscious keeper, a watchdog of the functionaries of society and attempts to attend to the wrongs in our system, by bringing them to the knowledge of all,

hoping for correction. It is indisputable that in many dimensions the unprecedented media revolution has resulted in great gains for the general public. Even the judicial wing of the state has benefited from the ethical and fearless journalism and taken suo-moto cognizance of the matters in various cases after relying on their reports and news highlighting grave violations of human rights. The criminal justice system in this country has many lacunae which are used by the rich and powerful to go scot-free. Figures speak for themselves in this case as does the conviction rate in our country which is abysmally low at 4 percent. In such circumstances the media plays a crucial role in not only mobilizing public opinion but bringing to light injustices which most likely would have gone unnoticed otherwise.

However, there are always two sides of a coin. With this increased role and importance attached to the media, the need for its accountability and professionalism in reportage can not be emphasized enough. In a civil society no right to freedom, howsoever invaluable it might be, can be considered absolute, unlimited, or unqualified in all circumstances. The freedom of the media, like any other freedom recognized under the Constitution has to be exercised within reasonable boundaries. With great power comes great responsibility. Similarly, the freedom under



Article 19(1) (a) is correlative with the duty not to violate any law.

Every institution is liable to be abused, and every liberty, if left unbridled, has the tendency to become a license which would lead to disorder and anarchy. This is the threshold on which we are standing today. Television channels in a bid to increase their Television Rating Point (TRP) ratings are resorting to sensationalized journalism with a view to earn a competitive edge over the others. Sting operations have now become the order of the day. They are a part of the hectic pace at which the media is evolving, carrying with every sting as much promise as risk. However, though technology cannot be thwarted but it has its limits. It can not be denied that it is of practical importance that a precarious balance between the fundamental right to expression and the right to one's privacy be maintained. The second practice which has become more of a daily occurrence now is that of media trials. Something which was started to show to the public at large the truth about cases has now become a practice interfering dangerously with the justice delivery system. Both are tools frequented by the media. And both highlight the enormous need of what is called 'responsible journalism'.

Sting operations vs. Right to privacy

Television channels have started a series of investigative attempts with hidden cameras and other espionage devices. The advent of miniaturized audio and video technology, specially the pinhole camera technology, enables one to clandestinely make a video/audio recording of a conversation and actions of individuals. Such equipment generally has four components— the miniaturized camera, often of a size of a 25 paisa coin or even smaller (pin top size), a miniature video recording device, a cord to transmit the signals and a battery cell. The use of the cord can be avoided through wireless transmissions.

In law enforcement, a sting operation is an operation designed to catch a person committing a crime by means of deception. A typical sting will have a law-enforcement officer or cooperative member of the public play a role as criminal partner or potential victim and go along with a suspect's actions to gather evidence of the suspect's wrongdoing. Now the moot question that arises is whether it is for the media to act as the "law enforcement agency".

The carrying out of a sting operation may be an expression of the right to free press but it carries with it an indomitable duty to respect the privacy of others. The individual who is the subject of a press or television 'item' has his or her personality, his or her reputation or career dashed to the ground after the media exposure. He too has a fundamental right to live with liberty, dignity and respect and a right to privacy guaranteed to him under Article 21 of the Indian Constitution.

The movement towards the recognition of "Right to Privacy" in India started with *Kharak Singh vs. State of Uttar Pradesh and Others*, wherein the apex court observed that it is true that our constitution does not expressly declare a "Right to Privacy" as fundamental right, but the said right is an essential ingredient of personal liberty. After an elaborate appraisal of this right in *Gobind v. State of Madhya Pradesh and Another*, it has been fully incorporated under the umbrella of right to life and personal liberty by the humanistic expansion of the Article 21 of the Constitution.

Today, it is being witnessed that the over-inquisitive media, which is a product of over-commercialization, is severely encroaching the individual's "Right to Privacy" by crossing the boundaries of its freedom. Yet another observation of the court which touched this aspect of violation of right to privacy of the individuals is found in the judgment of the Andhra Pradesh High Court in



Labour Liberation Front v. State of Andhra Pradesh. The Court observed as follows:

"Once an incident involving prominent person or institution takes place, the media is swinging into action and virtually leaving very little for the prosecution or the Courts to examine the matter. Recently, it has assumed dangerous proportions, to the extent of intruding into the very privacy of individuals. Gross abuse of technological advancements and the unhealthy competition in the field of journalism resulted in obliteration of norms or commitment to the noble profession. The freedom of speech and expression, which is the bedrock of journalism, is subjected to gross abuse. It must not be forgotten that only those who maintain restraint can exercise rights and freedoms effectively."

In *Mr. X v. Hospital Z* the Supreme Court held that the right to privacy may, apart from contract, also arise out of a particular specific relationship, which may be commercial, matrimonial or even political. Public disclosure of even true private facts may amount to an invasion of the right to privacy.

The following observations of the Supreme Court in *R. Rajagopal and Another v. State of Tamil Nadu and Others* are true reminiscence of the limits of freedom of press with respect to the right to privacy.

"A citizen has a right to safeguard the privacy of his own, his family, marriage, procreation, motherhood, child bearing and education among other matters. No one can publish anything concerning the above matters without his consent - whether truthful or otherwise and whether laudatory or critical. If he does so, he would be violating the right to privacy of the person concerned and would be liable in an action for damages. Position may, however, be different, if a person voluntarily thrusts himself into

controversy or voluntarily invites or raises a controversy."

U.S. law enforcement agencies use sting operations to target any entry point, which is being knowingly used to introduce proceeds of crime into the financial system. Sting operations have therefore been used against such entry points as car dealerships, restaurants, bookmakers, cheque-cashing services, pawnshops, and even churches. The justification for undercover operations generally has been expressed as follows:

"Covert investigative techniques are often the most efficient, effective and, in the case of the most virulent strains of criminality, such as organized and major drug related crime, the only practical way of obtaining evidence for the purposes of prosecuting and convicting those responsible."

However, former U.S. Chief Justice Earl Warren in *Sherman vs. United States* made an important observation stating that "a line must be drawn between a trap for the unwary innocent and a trap for the unwary criminal."

On the other hand, the authorities of the United Kingdom have set down a defined and set code for the commission of undercover operations.

The ability to do great good rarely comes without some power to do harm, and the free press is no exception to this general rule. The press should do what it can to minimize the abuse of power (self-scrutiny can help and so can competition), but we should also try to understand with clarity why and how press freedom can enrich human lives, enhance public justice, and even help to promote economic and social development. Technology is being used by the media to throw light upon "truths" which may never have been known to the public at large.



However, the use of technology in a rightful manner is what needs to be adequately emphasized upon and proper guidelines be framed for the same.

Media trial vs. Right to free and fair trial

Trial by media has created a “problem” because it involves a tug of war between two conflicting principles – free press and free trial, in both of which the public are vitally interested. The freedom of the press stems from the right of the public in a democracy to be involved on the issues of the day, which affect them. This is the justification for investigative and campaign journalism.

At the same time, the “Right to Fair Trial”, i.e., a trial uninfluenced by extraneous pressures is recognized as a basic tenet of justice in India. Provisions aimed at safeguarding this right are contained under the Contempt of Courts Act, 1971 and under Articles 129 and 215 (Contempt Jurisdiction-Power of Supreme Court and High Court to punish for Contempt of itself respectively) of the Constitution of India. Of particular concern to the media are restrictions which are imposed on the discussion or publication of matters relating to the merits of a case pending before a Court. A journalist may thus be liable for contempt of Court if he publishes anything which might prejudice a ‘fair trial’ or anything which impairs the impartiality of the Court to decide a cause on its merits, whether the proceedings before the Court be a criminal or civil proceeding.

A number of decisions of the U.S Supreme Court confirm the potential dangerous impact the media could have upon trials. In the case of Billie Sol Estes, the U.S. Supreme Court set aside the conviction of a Texas financier for denial of his constitutional rights of due process of law as during the pre-trial hearing extensive and obtrusive television coverage took place. The Court laid down a rule that televising of notorious

criminal trials is indeed prohibited by the “Due process of Law” clause of Amendment Fourteen.

In another case of Dr. Samuel H. Sheppard, the Court held that prejudicial publicity had denied him a fair trial. Referring to the televised trials of Michael Jackson and O.J. Simpson, Justice Michael Kirby stated:

"The judiciary which becomes caught up in such entertainment, by the public televising of its process, will struggle (sometimes successfully, sometimes not) to maintain the dignity and justice that is the accused's due. But these are not the media's concerns. Jurists should be in no doubt that the media's concerns are entertainment, money-making and, ultimately, the assertion of the media's power."

In England too, the House of Lords in the celebrated case of Attorney General vs. British Broadcasting Corporation (BBC) has agreed that media trials affect the judges despite the claim of judicial superiority over human frailty and it was observed that a man may not be able to put that which he has seen, heard or read entirely out of his mind and that he may be subconsciously affected by it. The Courts and Tribunals have been specially set up to deal with the cases and they have expertise to decide the matters according to the procedure established by the law. Media's trial is just like awarding sentence before giving the verdict at the first instance. The court held that it is important to understand that any other authority cannot usurp the functions of the courts in a civilized society.

Similarly there have been a plethora of cases in India on the point. The observations of the Delhi High Court in Bofors Case or Kartongen Kemi Och Forvaltning AB and Ors. vs. State through CBI are very much relevant, as the Court weighed in favour of the accused's right of fair trial while calculating the role of media in streamlining the criminal justice system:



"It is said and to great extent correctly that through media publicity those who know about the incident may come forward with information, it prevents perjury by placing witnesses under public gaze and it reduces crime through the public expression of disapproval for crime and last but not the least it promotes the public discussion of important issues. All this is done in the interest of freedom of communication and right of information little realizing that right to a fair trial is equally valuable." Such a right has been emphatically recognized by the European Court of Human Rights:

Again it cannot be excluded that the public becoming accustomed to the regular spectacle of pseudo trials in the news media might in the long run have nefarious consequences for the acceptance of the courts as the proper forum for the settlement of legal disputes.

The ever-increasing tendency to use media while the matter is sub-judice has been frowned down by the courts including the Supreme Court of India on the several occasions. In *State of Maharashtra vs. Rajendra Jawanmal Gandhi*, the Supreme Court observed:

"There is procedure established by law governing the conduct of trial of a person accused of an offence. A trial by press, electronic media or public agitation is very antithesis of rule of law. It can well lead to miscarriage of justice. A judge has to guard himself against any such pressure and is to be guided strictly by rules of law. If he finds the person guilty of an offence he is then to address himself to the question of sentence to be awarded to him in accordance with the provisions of law."

The position was most aptly summed up in the words of Justice H.R.Khanna: -

"Certain aspects of a case are so much highlighted by the press that the publicity gives rise to strong public emotions. The inevitable effect

of that is to prejudice the case of one party or the other for a fair trial. We must consider the question as to what extent are restraints necessary and have to be exercised by the press with a view to preserving the purity of judicial process. At the same time, we have to guard against another danger. A person cannot, as I said speaking for a Full Bench of the Delhi High Court in 1969, by starting some kind of judicial proceedings in respect of matter of vital public importance stifle all public discussions of that matter on pain of contempt of court. A line to balance the whole thing has to be drawn at some point. It also seems necessary in exercising the power of contempt of court or legislature vis-à-vis the press that no hyper-sensitivity is shown and due account is taken of the proper functioning of a free press in a democratic society. This is vital for ensuring the health of democracy. At the same time the press must also keep in view its responsibility and see that nothing is done as may bring the courts or the legislature into disrepute and make the people lose faith in these institutions."

The Hon'ble Supreme Court in the case of *Rajendra Sail Vs. Madhya Pradesh High Court Bar Association and Others*, observed that for rule of law and orderly society, a free responsible press and an independent judiciary are both indispensable and both have to be, therefore, protected. The aim and duty of both is to bring out the truth. And it is well known that the truth is often found in shades of grey. Therefore the role of both can not be but emphasized enough, especially in a "new India", where the public is becoming more aware and sensitive to its surroundings than ever before. The only way of orderly functioning is to maintain the delicate balance between the two. The country can not function without two of the pillars its people trust the most.

Om Prakash, Qrs. No:E/208, Unit-8, Bhubaneswar-751012



Newly Discovered Archaeological Sites in Coastal Odisha

Dr. Anam Behera

This paper is a preliminary report of the archaeological exploration, with primary focus was a survey of chalcolithic site in coastal region located mainly on the Daya valley of Puri – Khurdha districts of Odisha, besides a visit of a few sites in Ganjam and Cuttack Districts. During February-March 2013 a total number of 44 sites of chalcolithic and early historic were visited and documented. This study aims at presenting a holistic understanding of cultural pattern in the region, and to give general information about the archaeological sites in the region. The material remains collected during the survey such as pottery, terracotta, beads, bone and iron objects are also discussed in detail.

The study area lies between the Daya to the Mandakini River on the hill tract and nearby Agricultural field region. But some sites also found from the Prachi river valley to the Rushikulya valley belong to Cuttack and Ganjam district respectively. The credit for initiating archaeological work in this area goes to B.B. Lal (1944 Ancient India-5) as he excavated Sisupalgarha on the Daya valley near Bhubaneswar and push back Odishan history up to 4th century B.C early historic fort site. Thereafter in B.K. Sinha of Excavation Branch – IV of the Archaeological excavation at village Golabai Sasan in Puri district yielded Neolithic – Chalcolithic culture material evidence

even remains of Iron Age in upper level (Puratattva-21). Thereafter, in Excavation of Manikapatna by D.R. Pradhan yielded the material evidence belong to early medieval port having remains of maritime activities. Monika smith and Rabi Mohanty excavated both Sisupalgarh & Manikapatna for cross verification of earlier research. Then in 2012 Sadasib Pradhan excavated Narisho a prehistoric site and very recently in January 2013 the excavation at Harirajpur by K.K. Basa reveals a Skeleton of Chalcolithic period (the site was reported by present author in proceedings of Orissa History Congress, XXX Annual Session, 2009 page-19) the detail report of both the excavation yet to publish. Excavation of these sites have largely contributed to the understanding of the pre-urban, urban and post urban phase of development in this region with this Archaeological background . This present survey carried out from Patrapada in Bhubaneswar to Golobai Sasan in Khordha and Puri district along the Daya valley. Some sites in the Ganjam district and Prachi valley were also surveyed.

Methodology.

The present research conducted an extensive survey in the region of collection of archaeological remains and other evidence such



as pottery, terracotta, iron object, bone from the surface and exposed sections was done. The cultural sequence and date of the sites can be assigned on the basis of the comparison and analysis with the diagnostic pottery found in this region by previous researchers.

Result and Discussion

The exploration brought to light forty four sites, belonging to different cultural tradition, which range from the Neolithic –Chalcolithic to the late historic period. On the basis of nature of surface collection the sites can be divided as Neolithic – Chalcolithic, early Historic and Historic period. Earlier researcher (B.K. Sinha, Puratattava, Number 21: 1990-91:75-76) has highlighted the



archaeological significance of the region and clearly established of the Neo-Chalcolithic people were the first to inhabit this area. The present survey has not only added to the existing knowledge but also brought to light some interesting perspectives.

List of the explore sites

Name of site	District	Latitude - Longitude	Cultural
Retanga mound	Khordha	20°12'33.38" N 85°45'24.73"E	Iron
Kabatakili Badamundia	Khordha	20°10'49.17" N85°43'49.72"E	Chalcolithic
Selpur Mundia	Khordha	20°12'46.16" N85°45'00.74"E	Chalco.Early History
Dakshin munda suhaga Mundia	Khordha	20°12'31.91" N85°42'54.70"E	Chalco. Early history
Gangapada Mundia	Khordha	20°12'29.23" N85°40'59.70"E	Early History
Pitapali Mundia	Khordha	20°11'44.64" N85°40'00.65"E	Chalcolithic
Niranjanpur - I	Khordha	20°10'06.95" N85°45'23.74"E	Historic
Niranjanpur –II	Khordha	20°10'26.43" N85°45'38.54"E	Chalcolithic
Banta Dhipa	Khordha	20°03'77.36" N85°36'53.25"E	Chalcolithic
Baj Siahuda	Khordha	20°02'52.33" N85°35'15.05"E	Chalcolithic
Asura Dhiha	Khordha	20°02'44.75" N85°33'55.71"E	Chalcolithic
Padan Huda	Khordha	20°03'34.37" N85°33'56.80"E	Chalcolithic
Delangadhipa	Khordha	20°07'20.66" N85°39'40.87"E	Chalcolithic
Naharahuda	Puri	20°05'17.85" N85°39'31.78"E	Chalcolithic
Bantal Mundia	Puri	20°05'37.84" N85°38'29.54"E	Chalcolithic
Delanga Dhipa - I	Puri	20°03'59.76" N85°40'18.55"E	Historic
Delanga Dhipa – II	Puri	20°03'41.32" N85°40'24.30"E	Chalcolithic
Mound Ghoradia	Puri	20°03'55.06" N85°41'59.82"E	Historic
Odanapadar	Ganjam	19°27'52.18" N85°06'09.46"E	Early Historic



DuburaKuda-I	Ganjam	19°28'18.71" N85°08'00.89"E	Port site ear. Historic
Duburakuda-II	Ganjam	19°28'18.22" N85°08'28.76"E	Historic
Bardhukuda	Ganjam	19°26'13.53" N85°07'09.53"E	early Historic
Baladiakuda	Ganjam	19°25'25.06" N85°05'56.02"E	Chalcolithic
Baakuda	Ganjam	19°25'34.87" N85°05'50.33"E	Chalcolithic
Tentuliakuda	Ganjam	19°25'39.00" N85°05'45.93"E	Chalcolithic
Ahanikuda	Ganjam	19°25'47.85" N85°05'40.93"E	Chalcolithic
Diakuda	Ganjam	19°25'36.95" N85°05'01.48"E	Chalcolithic
Dolaparikuda	Ganjam	19°25'55.46" N85°04'46.98"E	Chalcolithic
Khajuri Bandha	Ganjam	19°25'42.89" N85°04'50.43"E	Chalcolithic
Phulbarikuda	Ganjam	19°26'00.08" N85°05'05.05"E	Chalcolithic
Jodikuda-I	Ganjam	19°26'08.06" N85°05'05.86"E	Chalcolithic
Jodikuda-II	Ganjam	19°26'07.86" N85°05'00.93"E	Chalcolithic
Gaudakuda	Ganjam	19°26'14.84" N85°05'12.16"E	Chalcolithic
Badakuda	Ganjam	19°25'00.45" N85°03'29.03"E	Chalcolithic
Mandiakuda	Ganjam	19°25'04.56" N85°03'30.88"E	Chalcolithic
Parikuda	Ganjam	19°24'42.83" N85°03'40.35"E	Chalcolithic
Mahanakuda	Ganjam	19°24'45.13" N85°03'42.16"E	Chalcolithic
Masanikuda	Ganjam	19°24'48.55" N85°03'46.03"E	Chalcolithic
Brahamankuda	Ganjam	19°23'58.10" N85°03'33.34"E	Chalcolithic
Bharati Huda	Cuttack	20°06'50.26" N86°05'01.84"E	early Historic
Kanchaupardiha	Puri	19°59'57.18" N85°49'16.03"E	Historic
Tentulipokharihuda	Puri	19°59'55.92" N85°49'06.65"E	Historic
Kartikapadadiha	Puri	19°59'49.66" N85°49'14.67"E	Historic
Utaryanisahidiha	Puri	19°59'41.77" N85°49'14.33"E	Historic

Ceramic sequence of the study Area

A large number of pottery specimens were collected during the survey specimens from Kabatakili, Selpur-Mundia, Banta Dhipa,



Ashuradiha, Narahuda, Bantala-mundia, Duburakuda, Bardhukuda, Baakuda, Dolaparikuda, PhulabariKuda,

and Gaudakuda were included in this study. The earliest set of ceramics is named as shreds of cord impressed were



characteristics of Neolithic cultures of eastern India. First reported Golabai (B.K. Sinha, Puratattava, 21: 75-76) and from the excavation at Harirajpur also yielded identical assemblage with similar context. In the present study area two



sites yielded
c o r d
impressed
pottery from
P a d a n a
Huda and
Naharahuda.

The
second type of proto-historic pottery belongs to
the Chalcolithic period generally referred to finding
from Golobai pottery of red burnished and
chocolate
c o l o r e d
ware. The
present study
area yielded
more than
twenty site
reveals these
pottery some
handmade



and slow well turn pottery also found from both
association of the pottery. The third assemblage
of some doubtful shred of block and red ware
also found from five sites. The fourth type of the
pottery having black slip was discovering from
Duburakuda. The fifth type pottery of Red ware
having neck rime found at Odanapadar. Besides
this the other pottery types were also found more
or less from different sites of this region these are
grew ware, black ware, etc.

Animal Bones

Few numbers of
fragments of
animal bones
were collected
from the
exploration.
Most of them



are found on the surface of the site. Interesting
marine species are found in the swampy land of
Chilika to the Northern most portion of the lake.

Terracotta Object

In the course of
exploration few
Terracotta remains
were collected
from the site like
Diha at
Uttarayanisahi,
Diha in
Kartikapada, Delangad Dhipa and Duburikuda
which include earthen beads, hopscotch, and
animal leg.



Iron Object

Few iron
objects also
collected
along with
iron slags
from the
Duburikuda.



The iron nail
were probably used for the making of boats and
some iron slags also collected from a mound at
Retanga.

Conclusions

The concentration of large number of
Chalcolithic sites between the Rushikulya valley
and Northern side of Chilika lake may have
played an important role in developing urban
center in that region. The site Duburikuda I and
II yielded remains of Marine creature, evidence
of glace may indicate maritime contact with other
regions. The site Barddukuda of Palur situated
few meter away from the Bay of Bengal itself



speaks its maritime activities of the sites but ninety per cent of the site was destroyed for the construction of new settlement and infrastructure development, on the basis of limited surface finding one cannot say anything about maritime trade of these three sites in Palur region unless we get more concrete evidence. The survey do not yield any precious stone object collected from the exploration.

During the survey it was noticed that most of the archaeological sites are under threat. These are either converted to the place of agricultural activities or the soil is removed for making roads and other domestic structures. Examples of Barddukuda and Duburakuda in Palur, Diakuda in Huma, Kabatakili Selpur Mundia, Sadheigarh, Ashuradiha, Sadheigarh, Padanahuda, Naharahuda, Bantala-Mundia, Baakuda, Phulabari Kuda and Dolaparikuda have rich archaeological potential and if excavated they can throw new light on the history a continuity of human civilization in the area near to the Sisupalgarha which is one of the well known prehistoric site of India. How can it be possible for Sisupalgarha being an urban centre same as in the case of Talapada a fortified settlement near Golabai ?

References :

1. Behera , A. "Archaeological mounds of the Daya Valley" *proceedings of Orissa History Congress*, XXX Annual Session, 2009 p.p.18-21
2. Lal, B.B. 1948 "Sisupalgarh : An Early Historical Fort in Eastern India", *Ancient India* 5, New Delhi, 1984. 62.105.
3. Mahanty, P.Mishra, J. and Pradhan, D "Manikapatna An Ancient and Medieval port on the coast of Orissa" *Archaeology of Orissa Vol-II*, edited by K.K. Basa and P.Mohanty, Delhi 2000, p.473-494
4. Sinha, B.K Golbai "A proto historic site on the coast of Orissa", *Archaeology of Orissa* vol.1 edited by K.K. Basa and P.Mahanty, Delhi 2000, P.322-348.
5. Sinha B.K "Excavation at Golbai Sasan, District Puri, Orissa" *Puratattava* 21 New Delhi. 1990-91, P.P.74-76.

Dr. Anam Behera, Lecturer in P.G Dept. of Ancient India History, Culture & Archaeology, Utkal University, Vani Vihar, Bhubaneswar.



Historical Curtain Raiser : Two Kingdom, One King in 261 B.C.

Chinmaya Roy

World knows: first two disciples of Goutam Buddha were two traders from Kalinga named as Tapassu and Bhallika. It's a matter of pride, to every person of Kalinga till to-day.

But, time has come the morbid truth has to deliver it's own sermon for changing the history, modifying geography and unveiling the black screen of false nation. As a result, from historic arena the ignorance, the suspicion and the mystery would be thrown out.

This article the bearing caption of four words (Two kingdom, one king) retains the optimum potency to churn out (so-called) formulae informative pattern of the historian and man of geography, religions, philosophy etc. remaining since length of centuries.

Right blissful time has come "Maitreya" would bless but the fragrance before his arrival, a little bit illumine before his appearance, the world of wisdom must be prepared.

While Goutam moved on this planet, he creates History, distributes logic and made legends. After Siddhi, under pure "BODHI TREE", for long forty-five years (firstly) he accelerates (so-called) mass-mobilisation (with Bhikshus, Arhats, Sramanas) for eradication of casteism, animal slaughter, for withdrawal of lower

sensibility and raising a new concept: "NIRVANA" also. Goutam provoked to raise the morbid morality so, pious, so sympathetic was he, as epitome of peace and non-violence.

For the attainment of "Buddhahood", Goutam explains the person has to lighter his own "dwipa"(thyself) – self glorification, self actualisation, truthful assimilation of uirtues and sublimation of ego, superego, by meditation, self –control and self-analysis. He commands to throw narrow sense of passion and negative will of blaming others and gossiping unnecessarily must be restrained off.

Goutam Tathagata, the torch, the torch-bearer of human values and behavioural morality invades hearts of Indian villages, cities, royal personnel (even prostitute) also. Side by side, he is depicted with gratitude, by the hands of painter, sculptor also. The impact of Buddhism was so deeper and so dense i.e, still engraved (as shadow) in Hindu ritualistic-Vidhana. As the zodiac sign of a newly-born is counted, analysed, it is engraved on the palm-leaf i.e., called as "Jataka." Series of hundreds of Jataka Kathas were created although centralising Goutama Buddha as the main focus. Those Kathas were of "3-D" (dimensional) approach with literary sense, philosophical density and moral viewpoint also. The medium of language



for these treasures was “Pali”- now the dead language but once flourished in Odra-Kalinga-Utkala.

At a turning point of History of our Kalinga, not for years, but for decades there is endless silence because it is never uttered “who was the king of Kalinga at war-time (in 261 B.C.) at the bank of “Daya” river. Although, it was never war but an invasion by Ashoka taking a chance to show his royal supremacy. He did mass killing ruthlessly even in night also.

Time is blessed; it’s the duty of research scholars to open up the truth where it is in obstacle with transition. It is wonderful havoc, as there was one king but two kingdoms, one it is Srilanka and

other at Kalinga. While Ashoka invaded, the king of Kalinga was at Srilanka (at his 2nd dynasty) thousands kilometres away in sea-route.

The adorable king, Devanampiya Tisha having a pet elephant – “Gunjara”, having coastguard of no. of elephants which were migrated from Kalinga in navigation. The resource person of Buddhism Akhil Kumar Sahoo bears focussing light on morbid aspect of History.

Mass salute to Devanampiya Tisha !!!

Chinmaya Roy, C/O- Gagan Ch. Roy, Sasan Padia, Bhubaneswar-751002.

Nua Arunima in Odisha

Hon’ble Chief Minister Shri Naveen Patnaik has recently launched Nua Arunima, a pre-school training and learning kit developed by the Department of Women & Child Development in Bhubaneswar.

Nua or new ‘Arunima’ is a pre-school activity based teaching-learning package that provides a framework for an age-appropriate curriculum that promotes play-based, experiential and child-friendly school readiness. The kit, prepared with technical collaboration from UNICEF will strengthen pre-school education, improve the foundational skills of children, promote higher attendance in schools and facilitate completion of schooling.

This tool, under Early Childhood Care and Education is implemented by the Department of Women & Child Development through the Integrated Child Development Scheme, with an increased focus on convergence across education, health and rural development sectors. It provides training material for Anganwadi workers to conduct the activities at Anganwadi Centres for 2 hours a day. It also provides an age appropriate learning material for pre-schoolers that focuses on physical and motor development, language, cognitive development, creativity and aesthetics and personality development of the child.

The kit contains a handbook for the Anganwadi workers, 2 age appropriate work books for children, 12 theme based training CDs for Anganwadi workers - one for each month and an audio CD with 37 action songs.

Nua Arunima is also adapted in 10 languages by OPEPA, School & Mass Education to promote mother tongue based pre-school education.



Elephant foot yam fruit as ornamental purpose

Fertigation in High Value Tuber Crops - A Review

*S. K. Jata, M. Nedunchezhiyan,
Tapas Ranjan Sahoo and Viswanath Sahoo*

ABSTRACT:

Tropical tuber crops play a significant role in the food and nutritional security to the human being. Tuber crops are classified as the third most important food crop for man after cereals and grain legumes. The major tropical tuber crops include cassava, elephant foot yam, sweet potato, yams and aroids. Sound water management has the potential to improve fertilizer/nutrient use efficiency. The introduction of well-tested, efficient fertilizer application through irrigation water or “fertigation” techniques could help turn vast areas of arid and semi-arid land in many parts of the world into farmland, as well as preventing water from being wasted in conventional irrigation systems. Drip irrigation has the greatest potential for the efficient use of water and fertilizers. The limited area of wetting under trickle irrigation reduces the active root zone and also the foraging area of plants to draw water and nutrients from the soil. For minimizing the cost of irrigation and fertilizers, adoption of drip irrigation with fertigation is essential which will maximize the nutrient uptake, while using minimum amount of water and fertilizer. Fertigation gives advantages such as higher use efficiency of water and fertilizer, minimum losses of N due to leaching, supplying nutrients directly to root zone in available forms, control of nutrient concentration in soil solution and saving in application cost. Thus, fertigation becomes prerogative for increasing the yield of most of the crops under drip irrigation. In this paper, the literatures pertaining to the different aspects of fertigation are reviewed.

Introduction

India has the largest irrigation network in the world; its irrigation efficiency has not been more than 40%. Bringing more area under irrigation will largely depend upon efficient use of water. In this context, micro-irrigation has most significant role to achieve not only higher productivity and water use efficiency but also to have sustainability with economic use and productivity. It is the process wherein fertilizer is applied through an efficient irrigation system like drip. In fertigation Nutrient use efficiency could be as high as 90% compared to 40 - 60 % in

conventional methods. The amount of fertilizer lost through leaching can be as low as 10% in fertigation where as it is 50 % in the traditional system. Adoption of micro-irrigation systems may help to increase the irrigated area, productivity of crops and water use efficiency (Sivanappan, 1985). Drip irrigation has proved its superiority over other methods owing to direct application of water in the root zone. Indiscriminate use of water through conventional irrigation system with only 60 % application efficiency is causing serious threat to available ground water resources. Drip irrigation can play a vital role in maximizing water use efficiency. Low nitrogen use efficiency in



conventional method of irrigations also a major reason for low productivity of crops. Drip irrigation is at present economically feasible in high value crops. The use efficiency of these key inputs is currently very low in India leading to a lot of problems such as low crop productivity, degradation of soil health and increased environmental pollution apart from the wastage of substantial quantity of these costly and scarce inputs, increasing the efficiency of water and fertilizer can itself go a long way in realizing the growing demand for food and other plant products consequent to rapidly escalating population (Koo, 1981). The shrinking land: man and water: man ratios, increasing fertilizer prices, haunting energy crisis, wide spread pollution and fast degradation of natural resource further emphasize the need for improved water and fertilizer use efficiency (Dass, 1985). Drip fertigation optimize the use of water and fertilizer enabling to harness high crop yield, simultaneously ensuring a healthy soil and environment. The drip fertigation technology encompasses the application of solid or liquid mineral fertilizers through drip irrigation systems thus supplying a nutrient containing irrigation water to crops. Crop growths and yields under drip irrigation can be lower than those achieved under conventional irrigation methods if fertilizer placement is not modified to meet the needs of drip irrigated crops (Miller *et al.*, 1976). Fertigation can be affected by using single or multiple nutrient fertilizers in their solid or liquid form. Some of the desirable characteristics of the fertilizer material for use in fertigation are full solubility, quick dissolution in water, fine grained product, high nutrient content in the saturated solution, compatibility with other fertilizers, absence of chemical interaction with irrigation water and minimum content of conditioning agents. Fertilizer applied to the soil have to be dose the water source (emitter) in order to be used

effectively by the crops. This implies the use of banded fertilizer application or the addition of fertilizer nutrient to the irrigation water.

Scope of fertigation in tuber crop

Fertigation permits application of a nutrient directly at the site of a high concentration of active roots and as needed by the crop. Scheduling fertilizer applications on the basis of need offers the possibility of reducing nutrient element losses associated with conventional application. Methods that depend on the soil as a reservoir of nutrients thereby increasing nutrient use efficiency. Fertilizer savings through fertigation can be to the tune of 25 - 50 % (Haynes, 1985). Under drip irrigation only a portion of the soil volume around each plant is wetted and thus traditional methods of fertilizer application is ineffective. The limited root zone and the reduced amount of mineralisation are the main reasons for the reduced nutrient availability to the plants with normal method of fertilizer application under drip irrigation (Magen, 1995). Fertigation is application of water soluble solids/liquid fertilizers through the drip irrigation on weekly/ monthly basis so as to reach each and every plant regularly and uniformly. It is the most effective and convenient means of maintaining optimum fertility level and water supply according to the specific requirement (Shirgure *et al.*, 2000). Fertilizers and pesticides applied through a drip irrigation system can improve efficiency, save labour and increase flexibility in scheduling of applications to fit crop needs (Rolston *et al.*, 1979). However, all chemicals must meet the following criteria for the successful maintenance of the drip irrigation system (Bucks and Nakayama, 1980). They must avoid corrosion or clogging of any component of the system, be safe for field use, not decrease crop yield, be soluble in water and not react with salt or other chemicals in the irrigation waters. A



correct rate and concentration of fertilizer is desired in fertigation system to avoid over fertilization and achieve the best results. It is to be specifically worked out for different cropping situations. Concentration of 100 mg/liter needs of most crops can be met with irrigation water.

Osmotic potential of soil solutions in fertigation

Optimization of levels of nutrient application through drip irrigation is closely related to osmotic potential usually expressed as electrical conductivity (EC) generated by the salts in the root medium solution. Increasing osmotic potential has a negative effect on plant growth and yield. Among the several N fertilizers given through irrigation water, only urea did not increase appreciably the EC of the soil solution. A nutrient concentration in irrigation water generated an EC of 1.8 d Sm⁻¹ after fruit set (Hagin *et al.*, 1990).

Frequency of fertigation

Fertigation of nutrients with very great dilution in each irrigation increased the fertilizer use efficiency far beyond the previously possible level (Menzel and Obe. 1990). The time of K application had less effect on elephant foot yam yield than the time of N application when both were applied through drip irrigation (Dangler and Locascio. 1990). However, since a higher N supply is known to encourage vegetative growth but stimulate the production of poor quality tuber, the N concentration in the fertilizer solution can be increased at vegetative stages of growth and restricted during the period of maturity (Levin *et al.*, 1980). Multiple applications of N fertilizers through drip irrigation improve the efficiency of fertilizer uptake by tuber crop like elephant foot yam over a single injection (Miller *et al.*, 1981). No difference in yield of strawbarriers was

recorded when N and K were applied either daily or at weekly intervals with the drip irrigation (Locascio *et al.*, 1977).

Fertigation of nitrogen

Nitrogen is the most commonly deficient and often applied through drip irrigation. Generally all the nitrogen fertilizers are suitable for drip fertigation since they cause little clogging and precipitation problems except NH₄SO₄ which may cause precipitation of CaSO₄ in hard calcium rich water. N source selection should be based on its possible reactions with the irrigation water and the soil. Prolonged use of NH₄ containing fertilizers through drip system can have detrimental effects on soil fertility in the wetted soil volume. This is because nitrification of the applied NH₄ soil acidification. Injection of anhydrous ammonia or aqua ammonia will cause the pH of the irrigation water to raise with the possibility those insoluble salts of Ca and Mg would precipitate. Urea is well suited for injection through drip irrigation since it is highly soluble and dissolves in non-ionic form and does not react with the substances in the water. Nitrate salts are characteristically soluble and are well suited for use in drip irrigation (Haynes, 1985). The optimum concentration of N for yam and elephant foot yam to be applied through trickle irrigation was found to be 240 mg/liter on a coarse textured soil (Yosef *et al.*, 1980) and 180 mg/liter on a sandy loam soil (Papadopoulos, 1987).

The initial distribution of N added to the soil from trickle emitters is likely to differ markedly depending upon the source of N applied. Nitrification is generally rather rapid in most agricultural soils. However, if the soil is kept relatively wet below the emitter, nitrification process requires oxygen. During irrigation, NH₄ concentration rose from 7.1 to 13.5 ppm in the



surface 6 cm depth of soil extending up to a distance varying from 30 to 65 cm from the outlet. Ammonium concentration decreased rapidly as the soil dried out and 8 hours after the irrigation. It had fallen from 13.5 to 8.5 ppm. As there was no change in the NO_3 concentration in this region during the 8 hour period, the NH_4 was being immobilized rather than nitrified (Bacon and Davey, 1982). During a fertigation cycle, applied NH_4 was concentrated in the surface 10 cm of soil immediately below the emitter and little lateral movement occurred. Urea is relatively mobile in soils and it is not strongly absorbed by soil colloids. It tends to be more evenly distributed within the wetted profile than dose applied. Fertigated urea and nitrate were more evenly distributed down the soil profile below the emitter and had moved laterally in the profile to 15 cm radius from the emitter (Haynes, 1990)., nitrogen use efficiency was increased by approximately two fold when the fertilizer N was injected into the drip irrigation network. The highly mobile NO_3 ion moves with the wetting front of the irrigation application and tends to accumulate at the periphery of the wetted soil volume and at the soil surface midway between emitter. The bulk of any form of N applied to the soil is likely to eventually be transformed to NO_3 -N (Haynes, 1985). Drip irrigation levels did not influence availability of soluble nutrients at the later stage of application of fertilizer as soluble nutrients are easily leached out by drip irrigation. Soil N changes with the frequency of irrigation and water application rate (Goldberg *et al.*, 1971).

Fertigation of phosphorus

It has not been generally recommended for application in drip irrigation system because of its tendency to cause clogging and its limited movement in the soil. If irrigation water is high in Ca and Mg, precipitates of insoluble calcium and

magnesium phosphates may result from the application of inorganic phosphates (Bucks *et al.*, 1982). But the addition of H_3PO_4 to the irrigation water maintained a low pH and prevented the precipitation of insoluble salts, thus allowing the introduction of P through drip irrigation systems. The recommended P concentration in irrigation water of glass house grown tomato was 1.0 mmol P/litre (Sonneveld and Wees, 1988). The resulting P concentration in the root environment was 0.5 mmol/litre indicating considerable precipitation of phosphates. The P_{20} S concentration in the standard nutrient solution for tomatoes should be raised from 1.0 to 1.25 mm with intended concentration in the root environment should be raised from 0.5 to 0.7 mm (Voogt and Sonneveld, 1989).

The extent of movement of P in the soil from the emitter depends upon the P adsorption capacity of the soil. However, the distance of P movement was found to be proportional to the application rate since movement resulted from saturation of adsorption sites on the soil near the point of application and subsequently mass flow with the soil water. P was delivered to greater soil volume when applied as H_3PO_4 acid through a drip irrigation system than triple super phosphate applied as a soil amendment beneath each emitter (Neill *et al.*, 1979). Drip irrigation caused both horizontal and vertical movement of native soil P near the outlet and P fertilizer applied 50 - 80 cm away from the outlet, remained near the soil surface and above the root zone (Bacon and Davey, 1982). Phosphorus when applied as urea phosphate moved in a calcareous loam soil to a depth of 30 cm. In tomato, considerable movement of P throughout the soil profile was possibly because of slower precipitation of calcium phosphate due to the lower pH of the irrigation water, possible presence of Mg and HCO_3 in



solution and predominant move of fertilizer solutions through soil microspores. Placement of small quantities of super phosphate near the trickle outlet is a satisfactory alternative to broadcasting (Bacon and Davey, 1989).

Fertigation of Potassium

Application of potassium fertilizers does not cause any precipitation as salts except in the case of K_2SO_4 with irrigation water containing high amount of calcium. Common K sources such as potassium sulphate, potassium chloride and potassium nitrate are readily soluble in water. These fertilizers move freely into the soil and some of the K ions are exchanged on the clay complex and are not readily leached away. Recommendations on rates of K application through drip irrigation for tomato go up to 350 mg K/litre (Sonneveld and Wees, 1988). Fertigation of K did not increase fruit production of peaches when initial soil K level was high (Bussi *et al.*, 1991).

Potassium is less mobile than nitrate but distribution in the wetted volume may be more uniform due to interaction with binding sites (Kafkafi and Yosef, 1980). There was some movement observed after the K ions became concentrated in the soil near the emitter (Uriu *et al.*, 1977). Like NH_4 , the K ion is adsorbed on the cation exchange sites on soil colloids so that the extent of movement is dependent upon the CEC of the soil and the rate at which K is applied. Most workers have detected considerable lateral and downward movement of trickle applied K (Goode *et al.*, 1978; Keng *et al.*, 1979; Kafkafi and Yosef, 1980). Lesser movement of K was attributed after fertigation due to large plant uptake of K (Goyal *et al.* 1989).

Micronutrients

Micronutrients such as iron, manganese, zinc and copper can be applied through irrigation

water as chelated form (Fe EDTA) without causing any precipitation problem.

Yield of crops

Successful cropping of Elephant foot yam was obtained with drip irrigation using fertigation on a highly calcareous desert soil where control of nutrient level was more difficult than sand dunes (Kafkafi and Yosef, 1980). A linear relationship existed between total N uptake by elephant foot yam and fertigation of N up to 200 kg/ha (Stark *et al.*, 1983). When NPK were applied through drip irrigation, higher elephant foot yam yield was obtained with 75 % of the recommended dose (Singh *et al.*, 1989). Marketable yield of tomato was higher when 50 % N was fertigated than fertigation of N at 75 to 100 % level (Dangler and Locascio, 1990). Application of N through fertigation performed better than soil application alone. When N was fertigated N saving to the tune of 20 % was observed compared to soil application alone in tomato (Haroon, 1991). Drip irrigation with 100 % N and K applications gave higher tuber yield of elephant foot yam (Salvador *et al.*, 1997). Highest yields of high quality tuber of elephant foot yam were obtained with 50 % trickle applied N + K grown on polyethylene mulched beds (James *et al.*, 1990). In elephant foot yam, fertigation 1/2 N and K and black poly mulch was found to be good with respect to yield and growth parameters like yield of 63.3 t/ha,

Fruit weight (64.5 g), number of fruits/plant (62), yield/plant (4 kg), number of branches/plant (7.7) and number of clusters/plant (12.3). The fruit dry matter content (41.2 %) was highest in the treatment 1/2 N and K fertigation through multi K + black poly mulch (Prabhakar *et al.*, 2001). Drip fertigation of 80 % recommended dose with water soluble fertilizer registered 22.3 and 31.0 % higher dry fruit yield over drip and



A big size elephant foot yam tuber taken by a farmer

furrow irrigation methods even with same level and method of normal fertilizer application (Muralidhar *et al.*, 1999). In tomato, there was considerable saving of fertilizers and water through fertigation using water soluble fertilizers (Jeyabal *et al.*, 2000). Application of 50 % N and full dose of P and K as basal and remaining 50 kg N through fertigation at 15 days interval throughout the crop period significantly improved the yield and quality of tomato grown on coirpith mixed potting media (Baskar, 1996). Compared to fertilization, fertilizer saving under fertigation was found to the extent of 50 Qlb with yield increase in tomato (Goyal *et al.*, 1985). Similarly utilization of N by tomato was more when applied through the drip irrigation system than when banded either in furrow irrigation or drip irrigation (Miller *et al.*, 1976; Miller *et al.*, 1981).

Fertigation at 300 kg N/ha provided the highest tuber yield (38.3 q/ha) (Table 2). Drip fertigation at 180 kg N/ha recorded tuber yield (30.6 q/ha) at par with furrow irrigation fertilized at 300 kg N/ha (30.5 q/ha) which indicate 40 % nitrogen saving in elephant foot yam (Patel and Patel 2001). Potato crop fertilized by high frequency irrigation of fertigation techniques

absorbed more N than those conventionally fertilized (Phene *et al.*, 1979). In potato, four split nitrogen fertigation under drip irrigation resulted in higher WUE over furrow irrigation method (Keshvaiah and Kumaraswamy, 1993). High frequency application of N with drip irrigation improved the efficiency of fertilizer use by potato more than two fold over conventional fertilizer application method (Rolston *et al.*, 1979). shamouti sweet orange (Bielori *et al.*, 1984). valencia orange (Koo and Smjstrala, 1984), naval orange (Louse, 1990) and sunburst mandarin (Ferguson *et al.*, 1990). Fertigation with 80 % of recommended dose of N gave higher TSS (7.68° brix), juice (49.08 %), acidity (4.10) and fruit / tree (1493) than other levels of N fertigation to acid lime (Shirgure *et al.*, 1999). Scheduling irrigation through drip once in 2 days at 100 % of surface method of irrigation registered highest tuber yield of 58.7 t/ha which was significantly superior over surface irrigation scheduled at 0.6 IW/CPE ratio. However, fertigation of N at different levels failed to reveal marked variation on tuber yield of tapioca; the three levels of N tried produced comparable yields both under surface and drip irrigations. Higher rhizome yield arrowroot was recorded under drip irrigation at 80 % of surface irrigation; however the yield was comparable with 60 and 40 % of surface irrigation through drip which were significantly higher than 0.9 IW/CPE ratio. The three levels of N (100, 75 and 50 % of recommended level) @ 125, 93.75 and 62.5 kg/ha produced comparable yields which indicated saving of 50 % N ever recommended level when applied as fertigation in Arrowroot. In Coconut, fertigation with water soluble fertilizer at 80 % recommended fertilizer improved trunk girth (6 %), number of fronds (18 %), fruit bunches (21.5 %), nut yield and economized 20 % fertilizer over control. In oil palm, fertigation with water soluble fertilizer (80



%) improved the trunk girth (18 %), number of fronds (22 %) and yield (83 %) with a saving in fertilizer and water by 20 and 33 % over control (Gnanamurthy and Manickasundram, 2001). In paprika, fertigation with urea and multi K at 100 % recommended NK level gave higher dry fruit yield of 63.8 q ha⁻¹ which was 31.5 % higher over yield obtained with soil application of 100 % NK and surface irrigation (48.5 q ha⁻¹ (Jeyabal *et al.*, 2000). Nutrient uptake the highest uptake of N was observed with more frequent drip irrigation in tomato (Yosef, 1977). In tomato, N uptake increases with increase in N application rate up to the optimum level (Yosef and Sagive, 1982). Significantly higher total N uptake by different parts of tomato plant was recorded under drip irrigation over conventional irrigation (Balfna *et al.*, 1993). The N application rate was having linear relationship with N uptake in drip irrigation system. Nitrogen uptake was markedly influenced by frequency as well as time of irrigation (Stark *et al.*, 1983). In trickle irrigated tomato, P uptake was not influenced by quantity of water applied (Yosef, 1977). The highest P uptake was recorded in most drip irrigation with more quantum of water (Yosef *et al.*, 1980). A significantly higher P content was measured in trickle irrigated tomato over surface irrigation method (Rauchkolb *et al.*, 1978). Goyal *et al.* (1984) found significant influence of trickle irrigation on K uptake in tomato. On contrary no significant difference was observed in K uptake with the water application rate through trickle irrigation in tomato (Kafkafi and Yosef, 1980). Drip fertigation of 80 kg recommended dose with water soluble fertilizer registered 29.2, 27.2 and 27.0 q ha⁻¹ higher N, P₂O₅ and K₂O uptake over soil application of fertilizer with drip irrigation and 40.8, 44.8 and 43.7 % higher N, P₂O₅ and K₂O uptake respectively over furrow irrigation (Haynes, 1988). Soil properties High concentrations of

mineral nutrients applied by drip irrigation may lead to localized salinity problems or changes in soil pH in the wetted zone. Changes in pH might not only affect root uptake but could significantly influence the solubility of mineral elements within the irrigated soil volume possibly leading to deficiencies or toxic levels of certain elements. Fertigation with ammonium nitrate @ 33 kg ha⁻¹ on 11 occasions over a 2 year period caused a decrease in soil pH from 6.2 to 3.7 in the zone wetted by emitters (Edwards *et al.*, 1982). Decrease in soil pH was greater in fertigation of N as urea than broadcast application whereas level of soluble salts below the trickle emitters was increased due to the fertigation of N as compared to broadcast application but within non-injurious level to plants (Haynes, 1988). Generally, increased level of N through fertigation resulted in increased soluble salt concentration in soil below the drip emitters (Papadopoulous, 1987). Fertigation with both ammonium sulphate and urea caused acidification in the wetted soil volume. Acidification was confined to the surface 20 cm of soil in the ammonium sulphate while it was up to a depth of 40 cm in urea due to its greater mobility. Increasing the drip discharge rates reduced the downward movement of urea and encouraged its lateral spread in the wetted soil. As a consequence, acidification was confined to the surface 20 cm soil (Haynes, 1990).

Soil moisture availability

Slow and frequent watering eliminated wide fluctuation of soil moisture under drip irrigation resulting in better growth and yield (Sivanappan, 1998). The soil water content a portion of plant root zone remains fairly constant because irrigation water can be applied slowly and frequently at a pre determined rate (Bucks *et al.*, 1984). Water content in drip irrigation is always nearer to field capacity in root zone but



unsaturated hence gravitational force is minimum (Black 1976). Water retention curve was constant which shade constant water retention in soil under drip irrigation (Yosef and Shelkoslaml, 1976). According to Hendnck and Wierenga, (1990) variability in Soil water tension was related to the method of Irrigation (trickle and flood).

Water use efficiency

The highest WUE of 362 l/kg/ha cm under drip irrigation whereas it was 118.8 kg/ha cm in furrow irrigation in brinjal (Sivanappanand Padmakumari, 1980). In okra, Kadam *et al.* (1993) also recorded higher WUE (374kg/ha cm) under drip irrigation than furrow irrigation (214 kg/ha em). Decreasing the fertilizer level by 20 % than the recommended level especially under fertigation conditions may not affect the yield level in chilli because of *improved* fertilizer use efficiency. Between furrow and drip irrigations, drip irrigation produced significantly higher dry chilli yield with 42 % higher water use efficiency over furrow method (Veeranna *et al.*, 2001)

Non-uniform nutrient distribution

The effect of uneven nutrient distribution under drip fertigation viz., accumulation of P close to the emitter (Goldberg *et al.*, 1971) and rapid *movement* of N03 to the periphery of wetted volume is not great as plant can adopt to this spatial variability of nutrients through the rate of nutrient uptake' per unit weight or length of roots in the nutrient enriched area (Dasberg *et al.*, 1981). Localized root proliferation can occur in the zones of soil high in nutrients (Haynes, 1985). Under arid soil conditions, the whole root system may develop in the trickle irrigated zone since there is little water available beyond the soil volume (Yosef, 1977; Levin *et al.*, 1979; Levin *et al.*, 1980).

Economics

Drip irrigation to tuber crop not only offers water economy, but also provides a high yield of the produce which in turn gives higher net return than traditional furrow irrigation (Chauvan and Shukla, 1990). The B: C (benefit: cost) ratio of drip irrigation system for tuber crop was found to be 4.5 while it was 2.96 for conventional method (Gutal *et al.*, 1989). The B: C ratio was much higher in tuber crop under drip irrigation when the water so *saved* was assumed to be utilized to cover additional area of the same crop than conventional irrigation (Hugar, 1996). Higher discounted B: C ratio of 5.89 was obtained in tuber crop due to drip irrigation than surface irrigation (2.44). The higher profit/rupee invested was realized with 150 g of N and K fertigation in 1:2 ratio (Chandrakumar *et al.*, 2001).

Table 1. Solubility of different fertilizers

Fertilizers	Solubility (g/liters)
Urea	1100
Ammonium nitrate	1190
Ammonium sulphate	710 -
Potassium nitrate	130 - 320
Potassium chloride	280 - 340
Potassium sulphate	70 - 110
Phosphate	580 - 690
Urea phosphate	350 - 500
Magnesium sulphate	710

Gnanamurthy, P. and Manickasundram, P. (2001)



A foliage view of elephant foot yam jinger with Drip fertigation

Conclusion

There is little information about fertigation management in tuber crop. So, it is quite clear from the foregoing literature that it is not only efficient in tuber crop, It also very efficient to vegetable, fruit and forest tree crops. Fertigation had many advantages like higher WUE(water use efficiency) and FUE(fertilizer use efficiency), minimum losses of N, optimization use of the nutrient balance by supplying nutrients directly to root zone, control of nutrient concentration in soil solution and saves application cost. It increases the yield and economics of most of the high value tuber crops under drip irrigation. High initial investment and comparatively low technical skill of average Indian farmers are some of the major constraints limiting the large scale adoption as drip fertigation technology in the country. However, increasing water scarcity and value crops and green houses to ensure higher escalating fertilizer prices may lead to greater efficiency of the two most critical inputs in crop adoption of the technology especially in high production. We should be conscious about that 'per drop more crop.'

References :

- Bacon, P.E. and Davey, B.G. (1982). *Soil Sci. Soc. Am. J.*, 46: 987-993.
- Bacon, P.E. and Davey, B.G. (1989). *Fert. Res.*, 19: 156-167.
- Bucks, D.A. and Nakayama, FS. (1980). *In : Proc. Agri-Turi. Irrig. ConL., California*, pp 166-180.
- Bucks, D.A. *et al.* (1982). *Adv. Irrig.*, 1: 219-298.
- Bucks, D.A. *et al.* (1984). *Irrig. Rev.*, 1: 219-295.
- Bussi, C. *et al.* (1991). *J. Hort. Sci.*, 66: 487-493.
- Chandrakumar. S.S. *et al.* (2001). *South Indian Hort.*, 49: 92-94:
- Chauvan, H:S. and Shukla, K.N. (1990). *In:Proc XI International Congress in Use of Plastics in Colapietra, M.* (1987). *Rikvista dividitcolturae di Enologia*, 40: 223-239.
- Dangler, J.M. and Locasscio, S.J. (1990). *J. Am. Soc. Hort. Sci.*, 115: 585-589.
- Dass, H.C. (1989). *In: proc. Citrus Shows Cum - Seminar, R.F Research station, Abhor, January 6-7*, pp 12-16.
- Edwards, J.H. *et al.* (1982). *J. Am. Soc. Hort. Sci.*, 107: 1142-1148.
- Ferguson, J.J. *et al.* (1990). *Hort. Sci.*, 103: 8-9.
- Gnanamurthy, P. and Manickasundram, P. (2001). *In: Advances in Integrated Nutrient Management System for Sustainable Crop Productivity and Soil Fertility, October 4.24, 2001, Tamil Nadu Agricultural University, Coimbatore*, pp 110-116.
- Goldberg, D. *et al.* (1971). *J. Am. Soc. Hort. Sci.*, 96: 645-648.
- Goode, J.E. *et al.* (1978). *J. Hort. Sci.*, 53: 307-316.
- Goyal, M.R. *et al.* (1984). *J. Agric. Univ. PR.*, 67: 486-493.
- Goyal, M.R. *et al.* (1985). *In: Proc. 3rd International Congress on Drip Irrigation, November 18-21, Fresh No., California, USA.*
- Goyal, M.R. *et al.* (1989). *In: Proc. 1st Congress on Irrigation in Puerto Rico, Ponce, March 8*, pp 11-114.
- Gutal, G.a. *et al.* (1989). *In: Cost Economics of Drip Irrigation System for Tomato Crop. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi*, pp 171-176.
- Hagin, J. *et al.* (1990). *Fert. Res.*, 26: 53-60.



- Haroon, M.A.R. (1991). Ph.D. Thesis, Tamil Nadu Agricultural University, Coimbatore.
- Haynes, R.J. (1985). *Fert. Res.*, 6: 235-255.
- Haynes, R.J. (1988) *Scientia Hort.*, 35: 189-198.
- Haynes, R.J. (1990). *Fert. Res.*, 23: 105-112.
- Hugar, L.B. (1996). *In: Proc. All India Seminar on Modern Irrigation Techniques*, Bangalore, June 26-27, pp 293-297.
- Kadam, R. *et al.* (1993). *J. Water Magmt.*, 1: 53-54.
- Kafkafi, U. and Yosef, B.B. (1980). *Agron. J.*, 72: 893-8-7.
- Kafkafi, U. and Yosef, B.B. (1980). *Agron. J.*, 72: 893-897.
- Keng, J.C.w. *et al.* (1979). *Agron., J.*, 71: 971-980.
- Levin, I. *et al.* (1979). *Pl. Soil*, 52: 31-40.
- Levin, I. *et al.* (1980). *Acta Hart.*, 92: 255-264.
- Locascio, S.J. *et al.* (1977). *J. Am. Soc. Hart. Sci.*, 102: 456-468
- Louse, F. (1990). Nitrogen Fertigation of Citrus Summary of Citrus Research. Citrus Res. Centre and Agricultural Station, University of California, Riverside, pp 20-22.
- Magen, H. (1995). *Fertil. News*, 40: 97-98.
- Menzel, S.W.O. and Obe, AO. (1990). *In: Proc. XI International Congress on Use of Plastics in Agriculture*, New Delhi, pp B 3-11.
- Miller, R.J. *et al.* (1976). *Calif. Agric.*, 30: 16-18.
- Miller, R.J. *et al.* (1981). *Agron. J.*, 73: 265-270.
- Muralidhar, AP. *et al.* (1999). *In: Proc. of National Seminar on Problems and Prospects of Micro-irrigation-A Critical Appraisal*, November 19-20, Bangalore, pp 74-78.
- Nakayama and Bucks (1986). *Management Principles and Fertilization in Trickle Irrigation*, Elsevier Applied Science Publishers, Amsterdam, pp 317.
- Neill, MK *et al.* (1979). *Soil Sci. Soc. Am. J.*, 43: 283-286.
- Papadopoulos, I. (1987). *Common. Soil., Sci. Plant Anal.*, 18: 897-907.
- Patel, J.C and Patel, BK (2001). *J. Indian Potato Assoc.*, 28: 296-295.
- Phene, C.J. *et al.* (1979). *Am. Potato J.*, 56: 51-59.
- Prabhakar, M. *et al.* (2001). *South Indian Hart.*, 46: 98-100.
- Rauchkolb, R.S. *et al.* (1978). *Soil Sci. Soc. Am. J.*, 40: 68-72.
- Rolston, D.E. *et al.* (1979). *Univ. Calif. Bull.*, 1893: 1-14.
- Shirgure, P.S. *et al.* (1999), *Indian J. Soil Cons.*, 27: 45-49.
- Shirgure, P.S. *et al.* (2000). *In: Proc. of National Seminar on Hi-tech Horticulture*, IIHR, Bangalore, June 26-28, pp 73.
- Shirgure, P.S. *et al.* (2001). *South Indian Hart.*, 49: 95-97.
- Singh, S.D. *et al.* (1989). *Can. J. Plant Sci.*, 69: 991-999.
- Sivanappan, RK (1985). *In: Drip irrigation in Action*, vol. II, ASAE, Michigan, pp 736-740.
- Sivanappan, R.K. (1998). *In: Proc. Workshop on Micro irrigation and Sprinkler Irrigation Systems*, April 28-30, New Delhi, pp 11-17.
- Sivanappan, R.K. and Padmakumari, O. (1980). *Drip irrigation*. Tamil Nadu Agricultural University, Coimbatore, PP 70.
- Sonneveld, C. and Wees, AV (1988). *Proefstation voor Tuinbours onder Glas Te Naaldwijk*, 42: 31.
- Stark, J.e. *et al.* (1983). *Agron. J.*, 75: 672-676.
- Uriu, K. *et al.* (1977). *In: Proc 7th International. Congress on Use of Plastics in Agriculture*, New Delhi, pp 211-214.
- Veeranna, HK *et al.* (2001). *South Indian Hart.*, 49: 101-103.
- Voogt, W. and Sonneveld, C. (1989). *Groenten in Fruit*, 45: 37.
- Yosef, B.B. (1977). *Agron. J.*, 69: 486-491.
- Yosef, B.B. and Sagive, B.B. (1982). *Agron. J.*, 74: 633-638.
- Yosef, B.B. and Sheikhsolami, M.R. (1976). *Soil Soc. Am. J.*, 40: 575-582.
- Yosef, B.B. *et al.* (1980). *Agron. J.*, 72 : 815-852.
-
- Sushanta Kumar Jata, Farm Supdt. Regional Centre of Central Tuber Crops Research Institute, Bhubaneswar, Odisha - 751019.
- Dr. M. Nedunchezhiyan, Principal Scientist (Agronomy) Regional Centre of Central Tuber Crops Research Institute, Bhubaneswar, Odisha -751 019.
- Tapas Ranjan Sahoo, Agriculture Field Officer, IFFCO, Asika, Berhampur, Odisha.
- Viswanath Sahoo, SMS, KVK, Bhadrak.



Sesamum in Odisha and Its Disease Pest Management

N. Ranasingh

T. Samal

About Sesamum

Total annual Oilseed area is about 7.71 lakh hectares (11.36% to the total food grain area of Odisha). Out of that, annual Sesame area is about 260.62 thousand ha. (33.81% of the total oilseed area of Odisha) and tops the list in acreage in the State. The crop is cultivated in all the 30 districts of the State. It is grown in Kharif rainfed (June & August sowing), Pre-Rabi residual moisture (September & October) & summer irrigated (Jan-March). The area under Kharif is about 196.80 thousand ha., mostly in plateau region; and in Rabi/summer, the area is about 63.82 thousand ha. mostly in coastal delta track. Major districts under Sesame are: Angul, Malkangiri, Sundargarh, Sambalpur, Dhenkanal and Bolangir.

Production

The annual oilseed production to the total food grain is 7.2 %. The Sesamum production is 15.74 % to the total oilseed production of the State and 2nd highest in order. The high productivity season is summer irrigated and the season is limited to coastal region of the State.

Productivity

The lead productivity districts are Bhadrak, Gajapati, Balasore, Kalahandi, and Jagatsinghpur. The productivity is reduced mainly

due to major fungal diseases like wilt caused by *Macrophomina* sp. and *Fusarium* sp., leaf spot disease caused by *Alternaria* sp. and *Cercospora* sp. as well as Phyllody and insect attack by capsule borer and hawk moth. Besides major disease and pest attack productivity also reduced due to regular vagaries of monsoon every year. Followings are some of the major plant protection measures which will reduce the disease and pest load and pushes the yield about 20% more than the average yield.

1. Deep summer ploughing.
2. Destruction of highly infected crop residue.
3. Use Varieties like Prachi, Nirmala and Kalika which are resistance to thrips and wilt.
4. Use Varieties like Nirmala, Uma and Prachi which are resistance to Phyllody.
5. Early sown Kharif crop escapes capsule damage by capsule borer to a great extent than late sown crop in Odisha climate.
6. Provide good drainage facilities.
7. Do crop rotation or change the field after every two to three years.
8. Irrigate the crop every two weeks interval to avoid stress condition during Summer season.



9. Seed treatment with Imidacloprid (7.5/kg) and foliar spray of profenophos 50 EC 2 ml/l was most effective in reducing phyllody as well as capsule borer incidence.
10. The highly infected phyllody plants should be uprooted and burn it.
11. Antigastra (Capsule borer) infestation can be minimized on intercropping with (sesame + green gram 3:3, sesame + black gram 3:3). The production of sesame + cluster bean in intercropping is most remunerative.
12. Soil application of neem cake @ 250 kg/ha + Seed Treatment with (Thiram 0.2%) + Carbendazim 0.1%) + spray of mancozeb 0.25% + Profenofos 50 EC @ 2ml/lit. of water at 30 and 45 Days after sowing recorded least incidence of *Alternaria* and *Cercospora* leaf spot and capsule borer attack.
13. Spraying of quintal 0.1% (Carbendazim + Iprodione) or Iprodione (rovral) 0.2% two times (30 and 45 Days) was effective against *Alternaria* and *Cercospora*.

PHOTOGRAPH SHOWING PESTAND DISEASE INCIDENCE IN SESAMUM CROP



A. Wilting due to *Macromorphomina phaseolina*



B. Phyllody of Sesamum by Hopper



C. Hawk damage in Sesamum



D. Capsule borer in Sesamum

N. Ranasingh, Junior Pathologist, All India Coordinated Research Project on Sesame, OUAT, Bhubaneswar.

T. Samal, Junior Entomologist, All India Coordinated Research Project on Sesame, OUAT, BBSR



The Picnic Dress of Shri Jagannath

Mahimohan Tripathy

The rituals observed in the Puri Shri Jagannath temple may be classified under three heads: a) the daily rituals, b) the special or periodical rituals, c) the festive rituals (festivals). The festive rituals include the birthday (Janmastami of Shrikrishna, which is celebrated on the 8th day of the dark fortnight of Bhadraba (August-September). On the next day, Nandotchava is celebrated. Thereafter for some days certain Leelas (divine sports) of Lord Krishna, like *Banabhoji*, *Kolibika*, *Bakaasura* and *Arghaasura badha* are celebrated. On the 13th day of this dark fortnight, Shri Jagannath and Shri Balabhadra dress like Shrikrishna and Balaram.

The Banabhoji Besha (picnic dress) of the deities, Jagannath and Balabhadra is done on the 10th day of the dark fortnight of Bhadraba. The deities dress like cowherd boys going for a picnic. They hold *sara* (milk cream) in a silver *pingana* (a pot) placed in a hanging rope shelf in one hand and a *naudi* (stick/staff in the other hand. One striking feature of this *besha* is that the deities are adorned with chains of pedas (a sweetmeat made from milk and sugar). In this dress of the deities, the evening Puja (food offering) is done in the temple.

The Banabhoji Besha was introduced during the reign of King Prataprudra Dev of the Surya dynasty in Odisha during the 16th century



AD. In some other opinion, it was started during the reign of King Kamarnava Deva (1147-1156 AD) of the Ganga dynasty.

On the same day of the Banabhoji Besha, three other Leelas of Shrikrishna are celebrated in the temple; those are Kolibika (sale of berries), killing of the demons, Bakaasura and Arghaasura.

Mahimohan Tripathy, MIG-A/2, Brit Colony, Nayapalli, Bhubaneswar-12.