

ODISHA REVIEW

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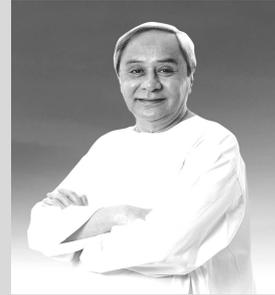
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The completion of World Class Infrastructure in 90 days which is a record in itself..... the highest number of participating athletes... the greatest medals tally that India has ever seen... but what touched me the most – was that every person in Odisha wanted to be in the Stadium to witness the history in the making... the enthusiasm of Lord Jagannath’s land was unparalleled. “The successful hosting of the mega event will help Odisha forge a special bond with Asia for ever.”



—Naveen Patnaik,
Chief Minister, Odisha



“Bhubaneswar, you have raised the bar”.

— Dahlan Al-Hamad,
President, Asian Athletic Association

"It is really world class. I am really happy to see this wonderful infrastructure. Our athletes took advantage of these facilities."

— Anuradha Biswal,
Veteran Athlete



I owe my gratitude to Hon'ble Chief Minister Shri Naveen Patnaik for the successful organisation of Asian Athletics Championships-2017 at Kalinga Stadium of Bhubaneswar within 90 days. I am also thankful to the people of Odisha, sports lovers as well as the administrators for their active co-operation in completion of such a mega event.

— Dr. Lenin Mohanty,
Editor, Odisha Review & Utkal Prasanga



Treading the difficult track is always full of big challenges. Accepting any challenge needs lots of guts and courage. Accomplishing the objective by overcoming the challenges speaks volume of deep commitment, sincere efforts and tireless hard work of the persons/ organisations who/which takes up the task.

That is exactly the job which the State Government did with clockwork precision by successfully hosting the 22nd Asian Athletics Championships at Kalinga Stadium, Bhubaneswar from 5th July to 9th July 2017. As we know usually 8 years time is given to a Nation to prepare for hosting Olympic Games whereas at least 2/4

mixed reactions. Many expressed their joy and were ecstatic and there were others who had apprehensions and doubts whether State Government will be able to deliver or falter. But nobody had then imagined that the event will be such a stupendous success beating all the past 21 editions in hospitality and organisational excellence in regard to reception, food, transport, stay, ceremonies and conduct of events.

Shri Naveen Patnaik, Chief Minister of Odisha took this challenge and asked his team of officers led by Chief Secretary A.P. Padhi, IAS and DC, Sri Balkrishnan, IAS to rise to the occasion and the State Government machineries

Miracle in 90 Days (22nd Asian Athletics Championships)

Ashok Mohanty

years time period is required to host an international sports event like Common Wealth Games, Asian Games and Asian Championships.

Ranchi, Jharkhand had been chosen as the venue for 22nd Asian Athletics Championships but the State declined to host this mega sports event, when barely 3 months were left for the scheduled event. The prestige and status of India was at a stake. At this crucial juncture Odisha State Government came to the rescue and offered its willingness to take up the uphill task of hosting the event in 90 days time. This news created a sort of ripples among the people of Odisha with

left no stones unturned and worked round the clock to make the event both successful and memorable. The entire Kalinga Stadium Complex was refurbished, two new synthetic tracks (one main stadium and one warm up) were laid, electronic score boards were installed along with flood light, new chairs were fixed in the galleries. International standard track and field equipments were procured and all arrangements were on place before the event.

Mr Adille Sumariwalla, President of A.F.I, Mr Cuddi Kotta Valson, Secretary A.F.I and members of I.A.A.F and A.F.I. technical



committee had several visits to the state and took up number of meetings with Sports Secretary Mr. Vishal Dev, I.A.S and other senior functionaries and were satisfied that state is ready in all respect to host the event.

“Come what may, make this event the best in all respect, provide the finest hospitality to our guest athletes and officials” was the direction of our Chief Minister to his officers and with minutest of details taken care of, the event became the biggest hit in its 43 years history.

Track and field known as mother of all sports is considered the glamour event of sports yet its spectator appeal normally pales before other vibrant sports events like football, basketball and cricket. With the exception of Olympic Games other international track and field events hardly attracts huge audience but surprisingly the 22nd Asian Athletics Championships at Kalinga Stadium witnessed jam packed galleries during all the 5 days of the event. As run up to the event the release of Mascot “OLLY” followed up with its travelling to all parts of State, grand reception accorded to it by thousands of school children and general public generated unprecedented enthusiasm and euphoria in the State and the sports fever continued to grip the temple city till the curtains were down on 9th July late night.

For Indian sports, Odisha proved to be the lucky host as it set many records which include:

- i) Preparing flawless and perfect stage for the event in record 90 days.
- ii) A splendid opening ceremony that depicted the rich cultural heritage of Odisha through music and dance, Shankar Mohadevan’s rendition of iconic Sambalpuri song “Rangabati” providing

an excellent backdrop to the grandeur and razzmatazz of the cultural extravaganza

What followed was serious business of conducting the sports events, which were completed with clinical precision except a ‘45 minutes suspension of the events due to incessant rain’ on the penultimate day on 8th July’2017 but that hardly affected the rhythm of the event. Indian athletes with the biggest contingent of 95 participants rose to the occasion and bagged highest ever 29 medals (12 gold, 5 silvers, 12 bronze) thus beating their previous best 22 medals in 12th Asian Athletics Championships at Jakrata in 1995 and now pushing super power China to the second spot, in their most successful campaign in the continental flagship event. The success story would be incomplete without the mention of our vastly talented Odia athletes Srabani Nanda, Dutee Chand, Purnima Hemrum, Jauna Murmu and Amiya Mallick. Barring unlucky Amia and Jauna the rest three of them brought glory, pride and honour for the state as well as the country by bagging 4 Bronze medals (Dutee – 100mts, 4 x 100mts relay, Srabani – 4 x 100mts relay, Purnima – Heptathlon). The presence of iconic athlete, double Olympic Gold Medallist and President, IAAF Lord Sebastian Coe along with Indian Track and Field legends P T Usha, Anju Bobby George, Jyotirmoyee Sikdar, Shaini Wilson including our home grown stars Rachita Mistry and Anuradha Biswal added special flavour to the event.

Despite the views aired from some quarter that second string team from China and Japan were there at Bhubaneswar, yet the full credit should go to Indian athletes for their outstanding show in the championship.



Highlights of the event:

- Double gold medals won by Gobinan Laxmanan (India) in 5000mts and 10000mts run
- Double gold medals won by Victoria Zybalkina (Kazakhstan) in 100mts and 200 mts (W)
- Gold medal and meet record by Niraj Chopra (India) in javelin (85.23mts) (Men)
- Gold medal and meet record by Li Lingwei (China) in javelin (63.06 mts) (Women)

ONLY TWO MEET RECORDS WERE ESTABLISHED

Setbacks

- Last edition's 800mts gold medallists and India's brightest hope Tintu Luka failed to win a medal.

- India's Archana Adhab loosing the Gold Medal because of a technical fault as she had allegedly given a push to the Srilankan runner in the finish line

- India's Men 4 x 100 mts Relay quartet a certain medal hope failing to qualify for final on account of faulty baton exchange.

As we all know the success of every endeavour depends upon good team work, in case of 22nd Asian Athletics Championships, excellent teamwork under the able stewardship of the Chief Minister has proved to be the secret behind the amazing success of the event. A good beginning has been made and now the sky is only the limit for Odisha.

A remarkable Sporting Spectacle Indeed.

Ashok Mohanty, Former Sports Administrator,
3, Gautam Nagar, Bhubaneswar.



ASIAN ATHLETICS CHAMPIONSHIPS – 2017

(WHEN THE ODISHA CHIEF MINISTER SHRI NAVEEN PATNAIK MADE INDIA PROUD)

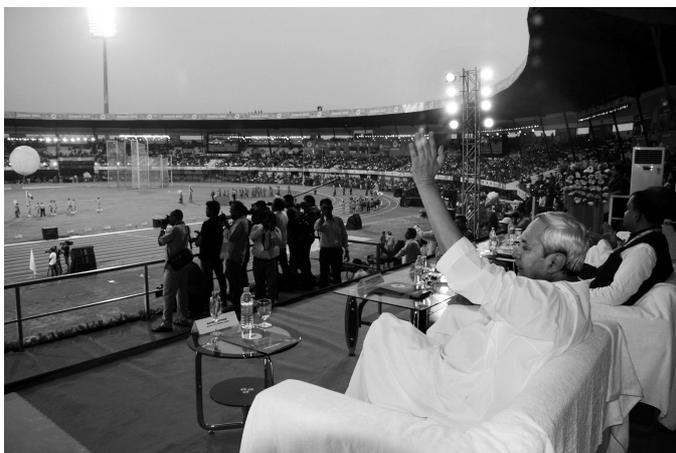
In the last two decades there has been a growth of 882% in Odisha's GSDP. If we compare it with Maharashtra with its GSDP growth rate at 681% and Gujarat at 760% Odisha's GSDP is far ahead than many other states.

As we compare the GDP growth of Odisha to that of the entire country in the last three years, while Odisha's GDP growth is at 8.1% the nation's growth is at 6.1%.

While we talk about rural roads in Odisha it is 41,031 kms in the last three years while in Gujarat it is 11,345 kms and in Jharkhand it is 15,727 kms. Odisha is far ahead again in the construction of rural roads. Not only about rural roads even while we focus about rural housing across India the figure touches 22 lakhs. Out of it in Odisha there has been construction of 10 lakh rural houses. To talk about Gujarat it is meager 25873 rural houses.



Now Odisha under the leadership of popular Chief Minister Shri Naveen Patnaik is marching ahead



with inclusive growth in every sector. Agricultural production has been widely acclaimed at national level and the income of farmers has been doubled. Industrial Sector being congenial has attracted many Corporate Houses for investment in Odisha. From birth till death the State Government is providing support to the needy and poorest of the poor. Social security net has been toughened.

The story of Asian Athletic Championship 2017 is no different. It is the biggest sporting



event to be held in Odisha since 1936. It is a pride for Odisha and Odia people that such a mega event was held in our State. The Championship were originally scheduled to be held at Ranchi, Jharkhand. After Jharkhand's inability to hosts this event Bhubaneswar was selected as the venue. Bhubaneswar is the third Indian city to host Asian Athletic Championship with Delhi in 1989 being its first and Pune in the year 2013 to be second Indian city. Only 90 days were left for Odisha to shoulder the



onerous responsibility of organizing such a mega sporting event. Hon'ble Chief Minister Shri Naveen Patnaik gladly accepted this proposal and was determined to make it a grand success.

The rich cultural heritage, including transition of ancient Kalinga to modern-day Odisha, was the theme of the inaugural ceremony of 22nd Asian Athletics Championships at Kalinga Stadium.

City Geared up for Asian Athletics Championships-2017

The city was all decked up to welcome the athletes of the 22nd Asian Athletics Championships that was held at Kalinga Stadium between July 6th and 9th. The inauguration ceremony was held on the evening of July 5. Nearly 1,000 athletes and delegates from as many as 45 countries from all over the Asia took part in this grand event held in Odisha for the first time.

After Ranchi withdrew, Odisha had very little time. Odisha took the challenge of 90 days and the preparations were done on a war-footing basis. New synthetic tracks were laid, state-of-the-art high mast lights were installed and many other arrangements were done instantly. The beautiful temple city of Bhubaneswar seemed like a new bride. Kalinga Stadium erected as a world class facility is prepared to host many other international events in the coming days.



Stadium Preparation

The existing relay track at the main stadium has been replaced with an international-standard synthetic track. Flood light stands have been erected. Separate tracks for events like long jump, high jump, etc. have been changed. The stadium has a sitting capacity of 15,000 people and many chairs that were damaged have been changed. The State Government has spent over Rs.43 crore for this event.



City Beautification

The city was decorated keeping the event in mind. Walls were glowing with interesting graffiti showcasing city life. Besides, the walls in front of the stadium were painted with photos of eminent athletes including Sachin Tendulkar, Milkha Singh, MS Dhoni, Sania Mirza and many others. The landscape in front of the stadium had also been decorated with ornamental plants. As the players were staying in various hotels in the city, the medians were painted and new trees were planted along these routes.



Commissioner, Bhubaneswar Municipal Corporation, said, “Street lights near the stadium and on other main roads have been repaired. There was a cleanliness drive besides the regular work. The beautification drive had been carried out to give the city an appealing look through wall paintings and plantation activities.”

Cultural Extravaganza

A grand cultural programme was held to mark the inauguration ceremony. According to the officer-in-charge of ceremonies of Asian Athletics Championships, more than 500 artistes had performed in the cultural extravaganza. “The opening ceremony held on 5th evening was a spectacular one. Odissi was the main attraction and showcased the culture and traditions of Odisha. Other traditional dance forms were also showcased in the ceremony.”



Odissi dancers, under the mentorship of noted Odissi exponent Padmashree Aruna Mohanty, showcased the history of Odisha. Over 400 dancers participated in this performance. Besides, the famous Sambalpuri song, Rangbati, was also sung on stage and authorities called its original singers to perform during the ceremony. Later, Bollywood singer and composer Shankar Mahadevan performed with his troupe. Students of KIIT and KISS – the school for tribal kids – also performed during the event which concluded with dazzling fireworks.



Traffic Diversion

Police of Bhubaneswar and Cuttack made several traffic diversions in the city keeping the event in mind. Traffic regulations went for a major overhaul for the opening ceremony as thousands of people expected to gather at the stadium.

Fireworks and Tradition Welcome Athletes

The 22nd Asian Athletics Championships officially started at Bhubaneswar's Kalinga Stadium on 5.7.2017 evening with a vibrant celebration of Odia culture through dance, music and mind-blowing fireworks. The chock-a-block stadium welcomed over 1000 athletes from 45 Asian countries. The 95-member Indian contingent received the loudest welcome as they marched on the stadium's newly-laid world-class synthetic track. While athlete Tintu Luka was the flag-bearer for the home squad, Odia sprinter Srabani Nanda took the championship oath on behalf of the athletes.



Grand Success After Last-Minute Preparations

Along with Chief Minister Shri Naveen Patnaik, several dignitaries from the athletic world were in attendance among the guests of the evening. IAAF Chief Sebastian Coe, the President of Asian Athletics Federation, Dahalan Al-Hamad, and other members of athletics bodies were all praise for the State Government as Odisha took the challenge of hosting the event at the last moment after Jharkhand Government showed its inability in March this year. Within 90 days, Kalinga Stadium got a thorough makeover with new turfs, floodlights, synthetic tracks other sporting supports. Athletes, participating in this event, will qualify for the London World Championship," said Coe while wishing them good luck during his speech.



And the Show Begins

The biggest attraction of the evening was the cultural programme that started with a spectacular performance by Prince — an Odissi dance group. Through their act, they showed the Kalinga War and the transformation of Emperor Ashoka from a ruthless warrior to religious and populist king. Odissi, Gotipua, Chhau and other local traditional dance forms were showcased with grandeur at the event.



Besides, a troupe from Thailand mesmerised the audience with its performance that depicted a story of Buddhism through rhythm and vibrant colours.

Meanwhile, a group of dancers — all hung from flying balloons — performed mind-blowing stunts that almost gave goosebumps to the crowd. Ollywood stars Archita Sahoo and Sabyasachi Mishra rocked the audience with their performance to several Odia songs on the stage. However, it was Bollywood singer and composer Shankar Mahadevan who stole the show with his rendition of



Sambalpuri song Rangabati. Before performing the song, he sought permission from the original singers and composers and touched their feet, getting a loud applaud for this gesture.

“It was really a beautiful evening. We have never seen anything bigger or more colourful in Bhubaneswar than this,” said Sridhi Das, a scholar who was present at the event.

Finally, the grand evening concluded with spectacular firework. The sporting events started from 6.7.2017.

Shankar’s Rangabati Tribute Earns Respect

It was a proud moment for the composer, writer and singers of the popular Sambalpuri song Rangabati when thousands of people cheered for them at the opening ceremony of the 22nd Asian Athletics Championships. In a wonderful gesture towards the folk artists, noted singer-composer Shankar Mahadevan called upon Jitendra Haripal, Krishna Patel, music director Prabhudutta Pradhan and lyricist Mitrabhanu Gauntia on stage and sought their permission before he sang the song.

“I am really happy that the organiser selected Rangabati song for this mega event. That athletes and officials from more than 40 countries as well as people from Odisha enjoyed the song in Shankar Mahadevan’s voice is indeed a great honour,” said Haripal, the original singer of the foot-tapping number. Earlier, they had put a condition that the song has to be presented in its original form without any changes. “The song is not just limited to Odisha but is famous all over Asia. The foot-tapping number was so mesmerising that it broke the language barriers and people from different countries enjoyed the song here at this mega event,” said Mahadevan before belting out the song. Prior to that Mahadevan sought the blessings of the original creators and asked them to forgive him if he makes any mistake in rendering the song. The popular Rangabati song was composed in the 70s and has since then been a rage.



Odisha Heritage, valour and art on display at inaugural show

The rich cultural heritage, including transition of ancient Kalinga to modern-day Odisha, was the theme of the inaugural ceremony of 22nd Asian Athletics Championships at Kalinga Stadium.

The stadium opened for entry from 4 pm to 5.45 pm when the spectators witnessed a glossary of audio-visual shows and live performances by local artistes. Short video clips on Odisha tourism, heritage and lifestyle were displayed on large LED screens during the ceremony for about two hours.

Hosts India topped the medals tally for the first time in 44 years

Hosts India topped the medals tally for the first time in 44 years as the Asian Athletics Championships concluded at the Kalinga Stadium on 9th July. The hosts finished with 29 medals which included 12 gold, 5 silver and 12 bronze.

India Tops Medals Tally

The curtain came down on the 22nd Asian Athletics Championships with a spectacular cultural show and magnificent fireworks at Kalinga Stadium.

Packed to its capacity, the stadium witnessed one of the biggest congregations of athletes from 44 countries across Asia. India topping the medal tally was the best thing for the audience. The stadium gave a standing ovation to the Indian athletics team that topped the medal tally with 29 medals in the Championships. "In the history of Asian Athletics Championships, India fared the best in Bhubaneswar." What could be more satisfying than this for all sports-lovers of the country, especially for the people of Bhubaneswar, said Sports Secretary, Vishal Dev.

The cultural programme began with a dance performance by Zenith Dance Group. It showcased the friendly relationship among the Asian countries. The over five minute long fireworks wowed the audience as it dazzled the stadium with bright and colourful lights. Short films capturing the best moments of the last five days left an lasting mark in the memory of the participants as well as the athletes.

Dutee has given us global recognition

Double bronze medal winner at the recently-concluded 22nd Asian Athletics Championships in Bhubaneswar Dutee Chand received a rapturous welcome when she returned to her roots, her village Chhaka Gopalpur in Jajpur district.

Blowing of conch shells, garlanding the athlete and her coach Nagapuri Ramesh, and showering her with flower petals at every possible juncture marked Dutee's triumphant return to her birth place.

Dutee visited a number of important places in the village including her own residence and the village Panchayat office. School children lined up the streets and also presented bouquets to the Odia sprinter at a number of places.

Watch Out

At the last Asian Athletics Championships hosted in India in 2013, India finished sixth with just two gold. But with automatic qualification for August's World Championships in London on offer for the winners, the Indians utilized the home support and put up an improved show at the 22nd Asian Athletics Championships.



Anuradha all praise for infrastructure

“It is really world class. I am really happy to see this wonderful infrastructure. Our athletes took advantage of these facilities. But at the same time I am worried about other parts of Odisha. I hope Odisha government will gradually take measures for the development of sports infrastructure in other parts of the state as well.

Now we are in a much better position. We have many good athletes now. But in our time they were only a few. Now the athletes are getting good coaching facilities, infrastructure, dieting, physiotherapy, sports science, sports psychology. Everything has improved a lot. In our time an athlete was prospering by only his individual effort. We are in a much better position now.”

Goodbye Bhubaneswar, over to Doha

After five days of mind boggling activities and free flowing of sweat and tears, curtains came down on the 22nd Asian Athletics Championships at the Kalinga Stadium. The closing ceremony was marked by a short but sweet cultural show and the jumbled marchpast where camaraderie was the order of the day.

Odisha Chief Minister Shri Naveen Patnaik declared the championships closed and handed over the baton for the next edition of the event in 2019 at Doha to Qatar Athletic Federation (QAF) Secretary Dahlan Al Hamad.

During the closing ceremony, Hon’ble Orissa High Court Chief Justice Shri Vineet Saran presented the runners-up trophy to China with 20 medals. Our Hon’ble Chief Minister Shri Naveen Patnaik, on the other hand, presented the winners’ trophy to India (29 medals).

Speaking on the occasion Shri Naveen Patnaik said, “The successful hosting of the mega event will help Odisha forge a special bond with Asia for ever.” He also thanked Asian Athletics Association and the AFI for giving Odisha the chance to host the prestigious events.

After the deliberations, a dance show by Mumbai-based Zenith Dance Group followed. They were joined by KISS students. Then exciting fireworks lit up the sky to regale the spectators. As the curtains were being pulled down on the 22nd Asian Athletics Championships at Kalinga Stadium with a



spectacular cultural show and magnificent fire works, the whole country seemed to shower praise on the Chief Minister of Odisha Shri Naveen Patnaik. This was the first time India surpassed neighbor China in the most successful Athletics campaign. One can not just forget the statement made by Asian Athletic Association President Dahlan Al-Hamad during his speech at closing ceremony, “Bhubaneswar, you have raised the bar”. The compliment was perhaps directed at the flawless organization of the event by Odisha Government.



FINAL MEDAL LIST

Rank	Nation	Gold	Silver	Bronze	Total
1	India	12	5	12	29
2	China	8	9	4	21
3	Kazakhstan	4	2	2	8
4	Iran	4	0	1	5
5	Vietnam	2	2	0	4
6	South Korea	2	1	1	4
7	Kuwait	2	1	0	3
8	Kyrgyzstan	2	0	1	3
9	Sri Lanka	1	4	0	5
10	Thailand	1	2	2	5
11	Philippines	1	1	1	3
12	Chinese Taipei	1	1	1	3
13	Tajikistan	1	0	0	1
14	Uzbekistan	1	0	0	1
15	Qatar	0	6	1	7
16	Japan	0	5	9	14
17	Hong Kong	0	2	1	3
18	United Arab Emirates	0	1	1	1
19	Malaysia	0	1	0	1
20	North Korea	0	1	0	1
21	Saudi Arabia	0	0	3	3
22	Syria	0	0	1	1
23	Oman	0	0	1	1
	Total	43	44	41	128



Hon'ble Chief Minister Shri Naveen Patnaik's Valedictory Address at the 22nd Asian Athletics Championships - 2017

We have all witnessed history in the making and may I start by saying

Thank you Asia.

Thank you Odisha.

Four days of packed stadium, deafening cheers and overwhelming support.

Four days of will power and grit, pouring medals amidst pouring rain.

And a life time of memories for both Asia and Odisha-a unique bond which will remain for all times.



This edition of the Asian Athletics Championships has been stupendous in more than one way.

The completion of World Class Infrastructure in 90 days which is a record in itself..... the highest number of participating athletes... the greatest medals tally that India has ever seen... but what touched me the most – was that every person in Odisha wanted to be in the Stadium to witness the history in the making... the enthusiasm of Lord Jagannath's land was unparalleled.

This unmatched enthusiasm of our people has paved the way to new beginnings, while the Championships culminates.

Ladies and gentlemen,

Odisha is the first state in the country and the only State Government in the World that have been honoured to have a direct tie up with IAAF for a high performance centre in Athletics.

We have managed to create a landmark event. We have managed to extend the event into a permanent facility that will nurture Indian athletics and Odisha athletics in particular. We have the infrastructure, the



talent, the enthusiasm of our people and the determination – Odisha is indeed India’s emerging Sports Capital.

As a humble tribute to the unmatched enthusiasm of the sports loving people of Odisha... let me take the opportunity to announce-Kalinga International Sport City will be set up in Bhubaneswar- making us eligible to bid for most international competitions including Commonwealth and Asian Games.

We will also have satellite stadiums with World Class Infrastructure in the other four Corporations of our State – Cuttack, Sambalpur, Berhampur and Rourkela.

Even as we say goodbye today – Odisha is gearing up for the Men’s Hockey League in December and the Men’s Hockey World Cup in 2018.

To our athletes, I thank each and every one of you. I hope your stay in Odisha has been memorable. Odisha the soul of incredible India looks forward to welcoming you with your family and friends.

To all the athletes who qualify for the World Championships in London – All the best.

May you continue to do your country proud. To all the Indian athletes who participated on home soil, Jay Hind. Bande Utkal Janani. A special thanks to the Athletics Federation of India and Ministry of Sports for having faith and confidence in us.

My special thanks to Olly who brought smiles on millions of faces all across Odisha.



Introduction: -

In adherence to our rich Indian tradition since the dawn of society, women have been treated with great esteem and reverence, though sometimes we do find undermining mentions of women. While understanding the History of India and Puranas, the facts brings to light that the inter-relationship between a man and a woman has always been in a state of flux and there has been a plethora of change in the position, rights, and status of women since the beginning of civilization. One relevant idea in understanding the structures of norms and values in Indian society is the dual nature of a female under Hindu Philosophy.

Historical Account of Women in Odisha: -

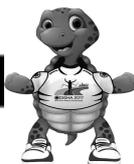
Going deep into history of Odisha, through the articles of historians, we can get information of these great ladies of substance. The history of Odisha shows that from the middle of 6th century AD to 8th century AD, the women were excelling in culture and arts. Even the women during the Sailodbhava dynasty ruled over southern part of Odisha. Royal women of these times were benevolent and could donate villages but did not play an active role in affairs of administration. During 736 AD to 945 AD during the rule of Bhaumakars, women enjoyed good position and power. The Bhaumakars follow the

Rejuvenating the Status of Women in Odisha : Issues and Challenges

Ankit Sourav Sahoo

Women are primarily considered fertile capable of bestowal of property. This dual character reflects in the female deities also, as there are dangerous, aggressive, malevolent goddesses like Kali and Durga; there are equally benevolent goddesses like Lakshmi and Saraswati. Odisha being a state of ancient pedigree and rich culture, having a classical language of its own, having a national recognition, has adhered to the traditions and practices of India. Being an economically struggling society, women empowerment has come to Odisha in a later stage as compared to other communities of the country.

custom of allowing their female members to succeed their deceased husbands. Six widowed queens and one unmarried princess of the Bhaumakar dynasty ruled as sovereign rulers which is unprecedented in Indian history. Even during 1038 to 1435 AD women commanded respect and had financial and social status. Sarala Das's Mahabharat in 15th century AD showed that, dowry payment, male child preference all were there in the society. Despite all these some women such as Sumitra Devi of Mayurbhanj ruled from 1803 AD to 1810 AD. Similarly Rani Sukadei of Banki showed her intelligence.



Growth of Global Consciousness: - The renaissance in Europe, the fall of Czar rule in Russia and the creation of United States of America paved way for creation of civil western societies where rights of women are recognised. Feminist activism in the west has had its impact on the developing countries like India. United Nations, the common policy making and implementing agency in the world, has taken many steps for the empowerment of women. Some measures are,

1. Establishment of the Commission on Status of Women in 1946 to promote women's political, economic and social rights.
2. Adoption of the Convention on Political Rights of Women including the Right to Vote by the General Assembly in 1952.
3. Adoption of the Convention on the Elimination of All Forms of Discrimination Against Women in 1979.
4. The Fourth World Conference on Women held at Beijing, 1995.
5. The Beijing Plus Five UN General Assembly Special Session, 2000.

Constitutional and Political Empowerment of Women in Odisha: -

The Odisha State government and the Central government have introduced a number of important measures to 'empower' women in India. For example, the National Commission for Women was set up by an Act of Parliament in 1990 to safeguard the rights and legal entitlements of women, a 33% reservation for women in local politics was passed in the 73rd Amendment to the Constitution of India in 1992, and the National Policy for the Empowerment of Women was

developed in 2001. India has also signed a number of international conventions that aim to ensure the rights of women, such as the Mexico Plan of Action (1975), the Nairobi Forward Looking Strategies (1985), CEDAW (1993), and the Beijing Declaration and Platform for Action (1995). While these commitments are commendable, they operate in parallel to existing traditional values and customs which often contradict the objectives of the State.

Achieving truly decentralised democracy in India has been a long and arduous process. While Gandhi strongly advocated for decentralised democracy, the creator of the Indian Constitution only included the role of village panchayats in the Directive Principles of State Policy. Article 40 of the Indian Constitution states "The State should take steps to organise village panchayats and endow them with such power and authority as may be necessary to enable them to function as units of self government". However, this statement does not come under the legally enforceable section of the Constitution. It was not until the passing of the 73rd Amendment to the Constitution of India in 1992 that Gandhi's vision of a devolved Government finally seemed a reality. A panchayat, which was originally viewed as an assembly of five persons, has now been redefined as the 'third tier' of administration after the Centre and the State government, and constitutes elected representatives at the village, block and district level. The 73rd Amendment to the Constitution of India Act, which came into effect in 1993, has drastically changed the Indian political process, with far reaching consequences for Indian federalism, decentralisation, gender equality, social justice, grassroots democracy and people's participation in planning for development. The Amendment led the way to a decentralised



Panchayati Raj Institution (PRI), providing more power and autonomy to local level institutions. In Odisha, the PRI is now comprised of three tiers of government. At the village level is the Gram Panchayat (GP), which is the first level of the elected body and covers a population of up to 5,000 citizens. A Sarpanch is the elected Chairperson of the GP, and the Naib Sarpanch is the elected assistant Chairperson. At the next level, the Block, is the Panchayat Samiti, which is the elected body covering between 10 — 20 panchayats. Finally, at the District level is the Zilla Parishad, which covers 4 - 10 Blocks and is the link with the state government. The Gram Sabha, which constitutes all eligible voters within a Gram Panchayat area serves as a principle mechanism for transparency and accountability, and is required to meet at least twice a year. As many villages in Odisha are small and in remote areas, a Palli Sabha has also been established. The Palli Sabha constitutes all eligible voters within a ward, usually up to 250 voters. The Palli Sabha is thus a further, lower level mechanism for citizens to hold their local representatives to account. A ward member is the elected chairperson of the ward. One of the fundamental features of the 73rd Amendment to the Constitution of India Act is reflected in Article 243D, which states that not less than one-third of the total number of seats to be filled by direct election in every panchayat shall be reserved for women. Furthermore, clause (4) of the Act states that not less than one third of the total number of offices of chairpersons in the Panchayats at each level shall be reserved for women. The Orissa Gram Panchayat Act, 1964 (amended in 1992), goes a step further and states that if the chairperson is male, the assistant chairperson must be female, and vice versa. In 1992, Odisha became the first state in the country to make provisions for the reservation of seats

for elective functionaries in the local institutions even before the enforcement of the 73rd Amendment to the Constitution of India. However, despite higher level commitments to devolve government, the on-the-ground realities often paint a different picture. The Act does not take into account the fact that the successful implementation of Panchayati Raj depends to an extent on parallel changes in other aspects of rural life, such as the caste system, gender inequality, and poverty and illiteracy levels.

Odisha Entrepreneurship Development Policy (2014): -

Entrepreneurship also has the potential to promote inclusive growth through empowerment of women, disadvantaged sections as well as educated unemployed youth. A young potential entrepreneur cannot be allowed to get frustrated and move out with broken dream, while he may have the potential to bring about a positive change in the markets. Government believes that if capital is found to be easily accessible, a huge hurdle to start and grow an enterprise will be overcome. Therefore, the Government will mobilize national and state-level organization involved with empowering disadvantaged and underrepresented groups of population such as National Scheduled Caste Finance and Development Corporation (NSCFDC), National Minorities Development and Finance Corporation (NMDFC) and State Women Economic Development Corporations (WEDCs) etc. in providing credit to start-ups launched by individuals belonging to these segments of society. Economic empowerment is the first true step towards empowerment of citizens in any democracy. A large section of our society is still underrepresented and disadvantaged and their adequate representation on socio-economic platform hence is a priority



for the Government. Also, if we wish to achieve economic development in the true sense of the term, inclusive growth where growth trickles to the bottom of the pyramid is imperative. It is for this purpose that the Government wishes to pay extra attention to promote entrepreneurship among focus groups such as women, rural citizens, minorities and people. Self Help Groups (SHGs), especially Women SHGs shall be encouraged to take up entrepreneurial ventures in the areas of primary food processing, handicraft, Khadi and village industries etc. These SHGs shall also be provided with skill-upgradation training linked to production planning, costing, packaging, quality control, technology development, marketing support etc. The state shall provide skill training at prisons/destitute homes/orphanages/juvenile homes and make special efforts to promote entrepreneurship among women and youth among them, in sectors in which they have some competitive advantage like skills, raw material base, etc.

Empowerment through Education: -

Education is a powerful tool of social transformation. Hence, education for women has to be paid special attention. The Southern part of Odisha where the population of SC/ST people are more and the literacy rate among the women are very less so State Government has opened many tribal schools under department of ST/SC Development, ITDA and special schools for girls such as KGBV (Kasturba Gandhi Balika Vidyalaya). The Govt. of Odisha also started schemes like establishment of Model Public Schools in block level, supply of bicycles to the students of class 10 free of cost, upgradation of primary schools to upper primary and high schools, supply of four pairs of uniforms free of cost, training to teachers through Samarthya

Programme, appointment of Siksha Sahayakas etc. for the development of education. Self-defence programme for girls, supply of laptop to meritorious students, establishment of high schools, making the schools child friendly by Ama Vidyalaya Yojana, organization of personality development camps for girls, training of MTA members, organization of Meenamela are commendable steps of the Govt. of Odisha for empowerment of women. These schemes are very much helpful for motivating the girls in attending the schools. This helps in the path of women empowerment.

Social Empowerment: -

Social empowerment of women refers to the steps to be taken to improve the health status of women, reduce maternal mortality especially in the areas which do not have good medical facilities. So Government of Odisha has introduced -Mamata” Scheme, which is specially designed for the pregnant women. Moreover, schemes like -Kishori Balika Yojana” are also there for adult girls to provide them with a healthy life. But still a programme for checking the spread of sexually transmitted diseases like HIV / AIDS and infectious / communicable diseases like T.B. need to be launched. The Infant Mortality Rate (IMR) for females has remained lower than males throughout the last two decades. The urban rural gap is also of high concern and needs special attention. Maternal mortality in India accounts for the largest number in the world. The NFHS 3 survey reveals that the 62.7% of the ever married women in the age group of 15 to 49 years have anaemia which is one of the main causes of maternal mortality besides having low Body Mass Index (BMI). The Janani Suraksha Yojana (JSY) under the National Rural Health Mission (2005)



has been introduced to decrease MMR and IMR and increase institutional deliveries.

Conclusion: -

“Gender equality is more than a goal in itself. It is a precondition for meeting the challenge of reducing poverty, promoting sustainable development and building good governance.” (Koff Annan, Former Secretary General of UN) Illiteracy among women is declining, maternal mortality rates are beginning to fall, and more women are participating in the labour force than before. The utter failure on the policy-makers, legislation, the education system, the media and most other social institutions to take effective measures to break to the institutionalized subordination and inequality of women has delighted to study the aspect of Gender equality in the light of the Indian perspective. However there is a vast sea of legislative measures to uplift the status of women in Odisha; the major concern still remains the implementation. Various incentives and employment opportunities may be provided to improve the number of female students in schools and colleges so that the level of education may be improved. Only by education and increase

in consciousness, the upliftment and empowerment of women in Odisha is possible.

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Known for its sculptural splendour and elegant stone arch, the 10th century Mukteswar temple in the temple city of Bhubaneswar has one more attraction to offer. In its picturesque lawn, stands an ancient sun-dial that has been ticking away quietly under the Sun for over a century. However, most people ignore the sight assuming it to be nothing more than a stone heap. Lack of publicity has taken its toll on this tireless artifact of time. Cracks were clearly developed in the stone pedestal and the hour-lines (that record time) drawn on the stone platform were withered away due to the onslaught of time. Added to this, many tall trees and buildings located on the southern side of the device obstruct the sunlight

cast the shadow over the hour-lines. The slant edge of the triangle is pointed towards the Polestar in the North so that it remains parallel to the Earth's axis. As the Sun goes into its daily path across the sky, the shadow keeps on moving over the graduated dial recording time.

Like all other sundials, the Mukteswar dial indicates the Local Time i.e. the time corresponding to the place of observation. However, this can be readily converted to Indian Standard Time (as indicated by a Watch) by subtracting from it a time span of 14 minutes, as Indian Mean longitude is situated west of our meridian by 3.5 degrees and taking into

Times Cast a Shadow on this Sundial

Nikunja Bihari Sahu

during the winter (when the Sun's elevation in the sky is low) marring the record of time. Apathy on the part of the Government and ignorance of the locals have left the device in a dilapidated state. However, this silent time-keeper stands undaunted in testimony to our rich astronomical heritage.

Device

The device consists of a large circular dial made up of stone which is graduated with Roman numerals by drawing lines to represent the various hours of a day. Each hour is further divided to indicate a time span of 5 minutes. A triangular stone piece is mounted over the dial to

consideration that each degree of longitude difference accounts for a passage of 4 minutes of time.

Construction Period

Unfortunately, there is no mention anywhere about the designer and the construction period of the sundial. While the earliest use of sundials can be traced back to 4000 B.C. by the Egyptians, the legacy in India is traced to a much later period. The magnificent Sun temple of Konark (12th century A.D.) is built into the shape of a chariot with its wheels designed as sundials.



Photograph of Mukteswara Temple Sundial

However, it was Sawai Jai Singh, the King of Jaipur, who in the 18th century popularized the sundials by constructing a chain of colossal masonry observatories for astronomical purpose at five different places of India namely, Jaipur, Delhi, Mathura, Varanasi and Ujjain. In Odisha, most sundials were constructed in the early 20th century during the British colonial period. These were mostly built by the kings and kept at public places like temples, palaces, schools and *kacheries* to facilitate people keep track of time.

The Mukteswar temple sundial is one of the seven known historic sundials of Odisha located at Cuttack, Kendrapara, Konark,

Baramba, Khandapara and Madhupur (Jajpur district). The sundials enjoyed a period of monopoly till these were replaced by the mechanical clocks introduced by the British brought from England.

Conservation

As these monuments represent the best scientific and architectural skill of our ancestors utmost priority should be given for their conservation and upkeep. Any dislocation in the device should be repaired and the obscure hour-lines due to withering should be re-drawn. Instruction depicting the use of the sundial should be provided for the benefit of common people. Obstructions that hinder the sunlight to fall on the dial should be cleared or the device should be re-located within the same premises so as to ensure its continuous operation under the sunlight.

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The intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment is science. It is a systematic and logical approach to discovering how things in the universe work. The word science comes from the Latin word “scientia” meaning knowledge. It often describes any systematic field of study or the knowledge gained from it.¹

Science is in human mind since the very existence of human being. Its knowledge grows with the growth of the human wants. As human wants are unlimited, so also the inventions of science. It justifies the saying that “necessity is

The use of scientific knowledge for practical purposes is called technology. It is used to accomplish various tasks in our daily lives. We use it of work to extract materials, for communication, transportation, learning, manufacturing goods, creating artifacts, securing data, scaling business, and many more.²

SCIENCE AND TECHNOLOGY IN TRIBAL HOUSE

Kandhas generally live in Plank houses. They take two/three years to build the house and it lasted for twenty/ thirty years. The only repair it required is the addition of a layer of fresh straw/ grass/leaves on it every year. The planks they use

Tribal Science and Technology

A Case Study on Kandhamal District

Dr. Chittaranjan Mishra

the mother of invention”. It is also true that all the sects, communities and tribes of this world are leading their lives somehow scientifically. The sects or communities whose necessities and expectations are more, their scientific knowledge is more and whose necessity is limited, their scientific knowledge is also limited.

Odisha is the homeland of 62 tribal communities, particularly the Kandhamal district is one of the largely tribal populated districts of Odisha. Tribals are the indigenous people and they have some indigenous knowledge of science and technology in their daily lives.

for the walls of the houses are of 10’ to 12’ height, 2’ thick and 12’ to 14’ width. They fill the gaps between the planks with mud and apply mud plaster on the outer and inner plank walls.³ The invisible countless holes of the dry wooden planks create an air gap/vacuum inside the walls. It does not allow the heat and cold of the outer world to enter into the house and the heat and cold of the inner chamber to go out of the house. The dry wooden plank walls work like thermos flask. So the house feels like an air conditioned chamber and remains cool in summer and hot in winter seasons. It is very hygienic as all the things used



for the construction of the house are purely natural. The Kandhs are very independent in nature. They know the art of carpentry and house building. This knowledge of civil engineering shifted traditionally from one folk to another folk.

HOUSE DECORATION

Tribal decorate their mud walled huts with traditional artworks. They do so once in a year. They extract colours from natural sources like clay, mud, soil, barks of trees and coal to do up their houses. Colours from natural sources are hygienic and keep the houses cool. They trek long distances to collect them as it is difficult to get colourful soil, mud, or planks of trees due to rampant deforestation and erosion of soil. Before colouring their houses, they first repair the walls with mud. They then colour the walls and draw picturesque art works on them. After that they polish them with polished stones and bark of trees to give the houses a glossy look.

Aesthetically they paint their houses with different colours to draw the attention of the onlookers.

The design and the colour pattern of huts differ from tribe to tribe. The tribals translate their imagination into the artworks. They also draw different facets of nature, flora and fauna and local deities. Though the process is time consuming, the tribals stick to their tradition. The Saura tribe decorated with 'Idital' a special type of their painting on their inwalls. Tribals, specially Munda, Bhuyan, and Juanga of Keonjhar district painted their mud walls before rain season to welcome the rains.⁴

COW SHED/PIG STAY/GOAT STAY

The tribes built stays for their domestic animals on the backside of the dwelling house.

They make it with a special indigenous engineering plan. They prepare a plank/log platform at a height of 2 to 2 and ½ feet from the ground covering by log fence on three sides and a gate on the front and a thatched roof over it. They keep their domestic animals inside it at night. The main purpose of this construction is to out let the excreta of the domestic animal through the gaps of planks/logs to the ground. As a result the stay remains dry for a longer period and the domestic animals comfortably stay in the night. These are collected in the morning and keep in a particular place for future use as organic fertilizer for their kitchen garden.

The tribes of Kotagarh block, applies another technique in this construction. They built a platform of logs/planks at a height of five to six feet height with log staircases to climb it. This structure saves their domestic animals from the wild beasts.

GATE

They erect fence around the front and back space of the house and use it for kitchen garden. To save their garden from domestic and nomadic animals they make a special type of gate for their entry into and come out of it. They use two narrow planks of about 6" to 8" height on both the sides of the space for gate making 10 to 12 holes on these with a distance of 6'.⁵ They make hurdles by putting logs inside the holes of the planks. During day time the hurdle logs up to a height of 3 feet keep intact and the upper part remains open for human entry. As a result, the animals cannot able to enter into the garden by overcoming the hurdles.

SITTING BENCH

At the front of the house and perpendicular to the front veranda a bench like



contrivance of about 2.5" height is made by the Kondhs to sit on it for gossip in the leisure time. A wooden planks of 2' thick, 5" long and 8' to 10' broad fixes on two wooden stumps buried on the ground.⁶ It is very easy to build within a short period with the help of small quantity of things.

STRAW KEEPING

Kandhs preserve straws to feed their domestic animals after harvesting of crops. They apply a new technique for this purpose. They make a platform of logs with the support of four supporting wooden pillars at a height of 5 to 6 feet from the ground and placed another long log or bamboo of 8 to 10 feet height at the center of the platform. They gather straws around the middle log/bamboo. And use a log ladder to climb it for collection of straw at the time of the need. This system gives protection to their straws from the nomadic animals and from the force of the wind at the time of natural calamities.

ART OF WEAVING

Tribal women use a piece of cotton as their under garment (like modern sanitary napkin) since long past. It is called 'Topah' by their local language. It is very decoratively weave by using white and red cotton thread by local kui women. Long before the invention of modern sanitary napkin the tribal women used to use this topah since long past. This shows their sense of hygiene and sanitation.

Dangaria Kandh women use a special towel with beautiful handicraft work of embroidery. All the female folks of this tribe have the knowledge of this work. This towel is one of the racial identities of Dangariskandhas. They use different coloured threads to create magnificent design and decoration on the cloth by a needle.

TRIBAL ART AND CRAFT

The following tribal art and crafts are found in the district:

1. **DHOKRA:** These are made of brass or bronze metal, found in different animal forms like elephant, horse, dog, bullock, bull, fish, tribal man, woman with child, figures of their gods and goddesses (lingaa) and different articles like cart, masks of demons etc. These are found in Tikabali, Barakhama and Kurtamgarh. Dhokra is an alloy of nickel, brass and zinc. When mixed in a right proportion gives an antique look and augments well with the interiors. Dhokra means metal ware. Tribal artists use metal wares for this kind of artifacts so this art is famous as Dhokra art. They use a special technique for this art. First they make a clay model of the art and let it dry. Then they cover it with metal wares and let it burn in the fire. The metal wares join each other while burning and come as the shape of the clay model. In this way they make different animals, birds, tribal man and woman, different masks and different house decorating artifacts.⁷

They know the art of making brass metal ornaments, bamboo and cane artistic artifacts, mat making and making of some indigenous musical instruments like flute, drum, dhap, Khanjani etc.

2. **TATOO:** This is the technique by which the Kandha women beautify their body parts like faces, elbows and lower part of the legs before marriage. Now days, it is confined to the interior pockets only.

3. **KANDHA HOUSES:** Kandha houses are made of wooden planks. Some have decorative door frames in their houses. They polish their wall and verandah with a redish soil and draw tribal *jhoti* on their walls.



4. **TERRACOTTA:** Some artisans of Ratanga are doing terracotta works.

5. **ORNAMENTS:** Previously the ornaments of tribes of this district are made of pure silver, but now a days, these are available in German silver. The women folk wear Balas on their ankle while dancing. Kutia Kandha ladies have intense long for ornaments and wear gold or silver necklaces, ear rings, nose rings and hair ornaments.

6. **CANE AND BAMBOO CRAFTS:** Cane work is found in Tumudibandha Block and Bamboo crafts work is found throughout the District. These are used for self-employment of the tribes of Kandhamal. The tribes make many types of household articles, toys and other fashionable items from Cane and Bamboo.

7. **STONE CRAFT:** Artisans of Pusangia in Balliguda are making stone pots and beads for ornamentation.

8. **WOOD CRAFT:** The tribal people used to make mouse traps made of wood, make door and window frames for his own house and ploughshare to plough their land.

9. **LACQUER COMB:** Some artisans of G.Udayagiri area make comb of bamboo and Lac (extracts of *Lacca Tacaradia*). Tribal people use a special comb for their hair. It is use of lack and bamboo sticks. Dry thin bamboo sticks are carefully designed like the teeth of a comb and melted lack is poured at the top portion of the bamboo sticks and they let it cool and dry. Then the female folks use it to comb their hair. It is very hygienic as it is an organic product.⁸

10. **APPLIQUE WORKS:** Some Artisans of G.Udayagiri are doing this work.⁹

KARDI (WOODEN BELL)

Everyday tribal people use to take their domestic animals to the forest for grazing. Sometimes it became difficult for them to find out the animals at the time of return. So they make wooden bells by carving a wooden piece. Dry gambhari/bati/jackfruit wood is used for this purpose. They make it thin by carving its inner part, so that it will create high sound. They fix a little log at the middle of the wooden bell to create sound. With the help of a rope they hang it on the neck of their animal. It produces sounds, while the animal moves. By this technique they can able to find their animals in the dense forest and bring back to the home.¹⁰

ART OF PADDY HUSKING

There is a hole at the middle of the first room of the each Kandh house. This hole is a hole of a dry wooden log buried at the centre of the house for the purpose of husking of food grains with the help of a specially designed log called 'Kadu'(kutuni). This log is made of 'Sisu' or "piasala" wood. This is the duty of the Kandh male to make a hole by digging the log for this purpose. This hole is called 'seni'. All types of food grains make suitable for eating by husking with the help of 'seni' and 'kadu'. Husking is the special duty of the female folks. Husking with this traditional system is very hygienic for health as it does not destroy the fiber contents of the food grain.¹¹

NURSING KNOWLEDGE

The expectant mother of the Kandh family is given warm water to drink and warm food to eat regularly. Experienced and expert old women folk guides the expectant mother everywhere and in her every work. Some hours before the delivery the expert female folk gently massage some warm



Castrol oil on the abdomen of the pregnant woman downward to the birth canal and sometimes a little quantity of warm Castrol oil is poured or applied into the birth canal to make it lubricant for easy delivery.¹² This gentle massage reduces pain of the pregnant woman and she feels comfort as if a blessing helping hand is with her. After the birth of the child the baby is bathed by warm water admixture with turmeric and they apply warm oil mixed with turmeric paste in the birth canal to prevent it from infection.

TATTOOING

Tattooing or *tikanga* is a painful practice for beautification of the body parts of the Kandh women. The Kandh girls of 10 to 12 years old beautify their body parts like face, chest, thigh, external parts of the arm, frontal and backside of the elbow, backside of palm, round of the calf of the leg and on feet by tattoo marks.¹³ The professional tattoo workers use thorn of cactus plant to pin the mark on the skin. This natural nail does not create any infection on the skin. They prepare a black paste by using lamp black or kitchen pot black admixture with warm Castrol oil to bold the tattoo mark. After that they apply warm Castrol oil mixed with turmeric paste on the marked area to prevent it from any kind of infection and for quick heal of the wounds. The girls are given a little quantity of *mahua* wine to drink at the time of pinning on the skin to create design. This helps them to bear the pain of pinning on the skin. The turmeric, Castrol oil and the *mahua* wine works like some kind of medicine for this practice.

AGRICULTURE TECHNOLOGY

Tribal people are practicing shifting cultivation as one of their main occupation. They divided the hill or mountain into four divisions.

The lower part of the hill is called 'sarupangs', next upper part up to the middle portion is called 'Sarunede', next upper part and bellow the top of the hill is called 'sarutunge' and the upper part is called 'sarujaka'. They use up to the middle portion of the mountain for the purpose of shifting cultivation. The jungle of the upper part remains intact. They also never cut the big and gigantic trees of the mountain. They only cut the small trees that to in triangular shape. As a result the tree does not die and it grows again in the rainy season. The cutting of trees in a triangular shape does not allow the rain water stay on the top of the stump, which would cause harm to the tree.¹⁴ They burnt the branches and the leaves of the cutting trees on the same field which works as organic fertilizer to the field and helps the crops to grow. They prepared the field step wise which saves the rainwater and conserve the soil from erosion. They use to cultivate the Rabi crops which needs little water to grow and at the time of harvesting they left the crops of a portion of the field for forest animals to eat. After two to three years of use, they leave the land for some years. In this period the land again filled with trees by natural growth.

SEED CONSERVATION

Tribes preserve their seeds in a traditional way because their traditional food grains are not available in the open market. They regularly cultivate and consume the grains like 'kuari, kangu, jendaraka, kankinga, badakatinga, suan, ambadhan, basumatidhan, white kangu, mandia, til, tila, black gram, red gram, horse gram, cornflower, kuji mustard, judanga etc. They are very fond of eating different grams as their principal food. They use very natural indigenous method and technology to preserve these seeds for future use and for future production. They gathered a number of small and big earthen pots



to keep these seeds inside and closed with an earthen cover on it. Sometimes they apply ass and *nirgundi* or *begunia* (*Vitexnigundo* L. and English name is five leaved chaste.) dry leaves to these seeds to protect them from insects. By this process these seeds are saved from rat, ant and some other insects. They use *sunari* leave to ripen the fruits like banana, Lichi, papaya, aata, mango and kendu.

'Dupi' village of Guma panchayat under Tumudibandh block created an exemplary work in this field. They collectively work for preservation of the traditional seeds in their village. They created a seed bank in a public building of their village and provide seeds to the needy cultivators of their community with a condition to return same quantity of grain or seed he taken from the bank after crop season. No money is allowed to receive against the seed.¹⁵

HYGIENIC FOOD PREPARATION

The organic products of different vegetables, fruits and spices by the tribes are very popular in the outer world. Their food preparation is very simple they do not deep fry the vegetables by oil and never apply heavy spices to it. So the vitamins and the minerals of the vegetables are not destroyed. Simply they use turmeric powder, salt, a little quantity of mustard, two to three green chilies and a few tollo or gara oil (oil of Mahua seed). They are very fond of consuming different leaves like Barada saga, Sajana saga, Muthi saga, Bali saga, Sunusunia saga, Pumpkin leave, potato leave etc. and the vegetables like green jackfruit, papaya, pumpkin and sajana Chhuin which are totally free for modern pesticides and fertilizers. All these are produced in their kitchen garden.

HOT AND COLD DRINKS

Tribal people carry water in a 'lautumba' (an organic pot) to drink at the time of need while working in their agricultural land or while collecting forest products. They use it because the water in this pot remains cool and safe for a longer period. It is more hygienic than that of the metal pots.¹⁶

They use to drink *mahua* wine as hot and sago palm juice and date palm juice as cold drinks. When the sago palm shows flower by its *chanra* (bunch of flower buds), Tribes cut it and collect the juice drain from it by hanging a pot under it. They also collect date palm juice by cutting a half of the neck of the date palm. These are very favorite drinks of the tribes. It contains vitamin B, thiamine, nicotinic acid, ascorbic acid, minerals, reducing and non-reducing sugar and amino acid. It is of good nutritive value and can be used as a fresh drink to meet vitamins and mineral requirements. It cures a number of diseases of the stomach. But most of the tribes add the root of "Padeli kali" which helps to create alcoholic content in the juice and use it as an alcoholic drink which causes great harm to the body and mind.

MAHUA WINE AND BAKA YANTRA (DISTILLATION PROCESS)

Distillation is a process of heating a liquid to form vapour, and then cooling the vapour to get back liquid.¹⁷

Mahua (*madhuca indica* or *madhualongifolia*), the butter nut tree is plentifully found in tribal regions. It is the member of the Sapotaceae family plant. Mahua wine is extracted from the Mahua flower through distillation process. The knowledge of this process is well known to the tribes. They make an indigenous Yantra (machine) called Bakayantra (crane like tool) for this purpose. They let the *mahua* flowers



decompose in an earthen pot by adding water to it, which produces alcohol in the mixture. Then they boil it to separate alcohol content from water. The boiling point of water is 100°C and the boiling point of alcohol is 78°C. Since the boiling points of alcohol and water are different, a mixture of alcohol and water can be separated by fractional distillation.¹⁸ When the temperature reaches 78°C, then the alcohol vapour passes in to the second pot through the bamboo pipe connecting to both the pots. They apply water to the second pot to make the alcohol vapour cool and it becomes liquid. They use it as hot drink in different functions and ceremonies to enhance the pleasure. Wine is one of the inseparable parts of their traditions and customs. From birth to death wine is used in their each rite, rituals, functions, ceremonies, traditions and customs.

The distilled juice of the flower is used to get rid of parasitical internal worms, tonsillitis and bronchial problems. They directly use it on the skin and the joints to avoid pain. They use it as nasal drops for sinusitis.

The Mahua flower is used as food, medicine, the seed is used for oil extraction and the fiber is used for soap and detergent making, fish food, and fertilizer. An extract of flower is used for heart disease and to treat extensive vaginal discharge. It is also believed to be good for eyes, T.B, asthma. It is used to increase the quantity of sperm and to be aphrodisiacs. It helps to promote lactation in breast feeding mothers. Mahua flower contains 65% to 70% sugar, protein 64%, moisture 20%, calcium 8%, phosphorus 2% and fat 0.5%, amino acid, organic acid, cellulose, albuminous, substances, ash, enzyme, yeast and water. Due to high sugar it provides adequate energy or oral administration. Mahua flowers are stimulant,

demulcent, laxative, anthelmintic and cough relieving, fever reducing, swelling reducing, pain relieving, anti-tumor and anti-estrogenic.¹⁹

ASTRONOMY

They have a little knowledge about astronomy. They only know the moon, the sun and the stars presence in the heavenly world. They called the sun as 'Belapenu' (God of the day time) and worship sun on every occasion. According to a Kutia Kandh short story, there is a belief that the sun has no child because there is no heavenly body is visible in the day time but the moon has countless children, which are visible in the night. They are the stars. They called moon as 'Danju' and to the stars as 'Sukanga'.²⁰

MATHEMATICS

Their mathematics knowledge is also limited. Some scholars have their view that tribes know counting up to 4 only but some others have their view up to 20. They use the word 'punja' against four numbers of a particular kind of things. And in some parts of Kandhamal district tribes used 'kodi' for twenty numbers of things. Food grains and fried dry rice (mudhi) are buying and selling by using an earthen pot called 'tambi'. And some vegetables and fruits are also buying and selling by using leave cup (dana).

TRIBAL MEDICINE

Tribal people adopted two types of treatment to cure the disease. One is 'Mantra chikischa' and another is 'herbal treatment'. Traditional people have a potential source of knowledge for herbal medical science in areas such as biodiversity. They know the medicinal value of thousands of trees, plants and veins available in their nearby forest and use them for different diseases.²¹



Science is always remaining part and parcel of the social process. An ethno scientific approach can reveal the richness of wealth and knowledge that the diverse communities of India have been holding close to their bosom against the endless waves of time. To promote these traditional technology both government and private sectors wholehearted effort is highly required.

Kalinga herbal fair is regularly organized by the Odisha State Medicinal Plant Board in association with forest department. Its main aim is to promote herbal plantation, create awareness about their medicinal values and to provide trade linkage and brand development.²²It will also be helpful for the tribal medicine man to promote their herbal medical knowledge.

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When he was a high school student in Rayagada, Harishchandra Buxipatra gathered his friends and performed *shuddhi kriya* (rituals observed on death of near and dear ones which includes tonsuring of head) on the death of Mahatma Gandhi. Progressive in his thoughts, he was a known organiser and social advocate. His organising capabilities were legendary. Reaching out to the tribals of his constituency or the student leaders of Colleges and Universities or to the central government for the merger of Sadheikala and Kharsuan with Odisha, Harish Babu was a bright star in the mass movements of the state.

A firebrand student leader – as President of Ravenshaw College Union he raised the merger



Harishchandra Buxipatra - the Prudent Reformer

Charudutta Panigrahi

issue of Sadheikala and Kharsuan as early as in 1956, as President of Parlakhemundi College he led the local job creation movement for Odia people and as President of M.S. Law College Union he advocated for increasing role of youth and students in the governance of the state, Harish Babu can be called the renaissance man for Campus Movement in Odisha. As a student leader he was a household name across the state and often people from various districts of Odisha would gather around him for help from the government departments and the Ministries. He gave student politics in Odisha the intellectual

quotient and a place at the high table of state governance.

He once said that, “the purpose of educational institutions is to impart knowledge and not promote ideologies of different political parties. However, the institutions should equip students in such a way that they are able to analyse and decide which political issue or party to support.”

A powerful student leader of the state, a jurist, a social advocate, a trade union leader, a writer, an ideologue, political *guru* to many front



ranking leaders of today, an articulate policy maker inside the House, astute Minister of diverse departments, Harish Babu belonged to the hallowed legion of social reformers who were also politicians.

As the Transport Minister of Odisha, he made policies which were not only business-friendly for the transport entrepreneurs but were also beneficial for the unions and the people at large. Because he was also a trade union leader who understood the relevance of nationalising bus permits, or setting up an urban fund for transportation, opening of new routes for better commercial reach of goods and services. In 1972, Buxipatra was the President of STS Employees Union, Jeypore and he also became the President of State Transport Employees Federation (STEF). The main function of the federation was to unite unregistered unions operating in various units and zones and to register them under one umbrella and fight for equal service conditions as government employees. The management of OSRTC recognised STEF and declared it as the sole bargaining body from 31.12.74. The solidarity of affiliated unions of the federation continued till 1981. During the period of emergency, Buxipatra was imprisoned. Harish Babu possessed the hardcore experience and the intellectual depth to take a middle path in policy formulations.

A matured policy maker, he was the union President of seven mega projects in undivided Koraput district including Kolab, HAL, Indravati and at the same time he never barred business investors to invest in Odisha. When he was the Industries Minister of Odisha he welcomed “development-centric investment” and always communicated to the communities about the investments and their expected outcomes in clear

terms. Based on hard facts and deep dive research, his dialogue was unequivocally determined and straight. Harish Babu’s style of leadership has demonstrated that one of the most significant duties of a mass leader is to educate all sectors and communities and avert social strife.

He belonged to the people but was never one to cosset keeping in view electoral gains. His rich and coveted experience in all walks of life and sectors made him a true and extremely effective arbitrator between community and the forces of development. Harish Babu was a colossus.

He exemplified “equanimity” in politics and maintained the fine balance between opposing views, contrarian ideologues, beliefs and standpoints. Harish Babu pioneered Forest Rights for the tribals but at the same time was always concerned about the slash-n-burn method of cultivation of the tribals. His knowledge to the tribal land holdings, way of life, economic issues and habitations including the names of the householders is lore for us. That was the extent of his reach and depth as a leader of the masses. At the same time, he never loathed the ‘bourgeois’ or the industry sector. All he dreamt and worked for was “equitable growth” of the state and not only his constituency i.e. Koraput which is one of the most resource-rich tribal districts of India. As a consequence of his matured leadership and statesmanship, there is hardly any lingering sore issues in community rehabilitation and resettlement.

As the representative of his people, he ensured just rehabilitation and deserving resettlements to all the displaced and allied households and their incomes and vocations have also been reassured and sustainable.



In contemporary Odisha, displacement of communities and industrialisation has been one of the most vexing challenges for the government. Harish Babu has shown the way – leadership and people connect with dissemination of a vision enable industrialisation an achievable dream.

His extraordinary boldness and upright stance in his thoughts and action for the cause of Odia people made him a leader with a distinct identity. Harish Babu could blend vision, intellect and integrity with real politick. That is what statesmen are made of.

Buxipatra had straddled Odisha politics for more than four decades with a quest for moral homilies along with the practicalities of electoral politics and his intellectual formation bore the imprint of an eclectic range of influences and experiences starting from his altruistic family origin to the revolutionary student movements to governance. From inception, it also included a

strong dose of anti-realpolitick. Many self-assessing contradictions to walk the middle path for the benefit of the underserved, wage earner, forest dweller communities of Odisha.

On this day we remember him as a reformer, a young turk, an activist and above all a public intellectual choosing politics to serve people from all quarters – community, industry, workers, farmers, tribals, students.

He has not only worked with all the leading politicians of the state and the country but more importantly has nurtured future leaders.

"Our chief want is someone who will inspire us to be what we know we could be."

Ralph Waldo Emerson

Harishchandra Buxipatra has inspired us to pledge to make polity honourable and people-centric in these trying times.



Introduction

The British domination over Odisha began in 1803 and it brought changes in the political, economic and social environment of the region. The British began to face health problem as the climate of Odisha was different from other parts of British India. At the initial stages the British tried their best to save from various epidemic diseases. They have been called the Indian epidemic based on the Indian climate, environment and its untidiness. During late 19th century the British took measures to prevent different kinds of diseases. Some of the diseases like Small Pox, Cholera, Malaria, Diarrhoea and Kalazar. Smallpox had

understanding and possible conquest of new disease but also extension of western cultural values to the rest of the world.¹

The English East India Company set up its first trading post in India in 1608. The early sailors and soldiers settled at Fort William. The Europeans suffered from virulent diseases like scurvy, dysentery and fever. The East India Company provided necessary medical aid to the company's servants. From the year 1612, when the company started its factories in India each factory was provided with a medical officer to look after the staff. There were three grades of medical men according to the importance of the

Disease and Medicine in the Colonial Odisha during 19th Century

Susanta Barik

endangered the lives of the native people as well as the Europeans. Many among the Europeans either died or left the state because of the epidemic diseases. The British were concerned to their health so much so that every naval dispatch which arrived in India was accompanied by the European doctors. Slowly, the British settled down in the different nook and corner of the state and began to look after the sick people. They have also given detail information about flora and fauna and cultural practices of the new territory. They gradually began to redefine the things which they saw in terms of their own territory and perception. Their work encompassed not only the

ship or the factory. The highest type trained Surgeon was available only at certain important localities. At the smaller factories, an apothecary was deemed a sufficient provision. Thirdly, there were the ordinary types of men available on small ships and at lesser factories, the 'surgeon mates' in whose hands were left the health of the sailors and factory officials.²

During Pre-Colonial period these epidemic diseases were there but their treatment was very much localised. The people were lacking communication as well as modern medical facilities. Generally people used the traditional medicine and opium performed the duty of



omnipotent drug. Besides there were native medical practitioners Kaviraj or Vaidya's who preferred to practice medicine according to the rules laid down in the Hindu religious books (Shashtras) with superstition often assuming an upper hand in many cases.³ It also appears that in the most part of the tribal Odisha the people used plants, herbs, different parts (of body) of birds and animals as medicine for disease cure. Hornbill is said to have a casting effects in a pregnant women for safe delivery. Bile of cow or any animal is a cure for many ailments. The drugs in the pharmacopoeia of the Kabiraj or native Medical Practitioner, are derived alike from vegetable, animal and mineral kingdoms. Vegetable Medicines are procured from the bark, root, leaves, flowers, fruits, seeds, juices, gum and wood of plants. Some of evidence are available that medicines were derived from the animal kingdom. They are prepared from skin, hair, nails, blood, flesh, bones, fat, marrow, bile, milk and dejections such as urine and dung. Medicines prepared from bones, skins, hair and nails are used as fumigation. Urine is always used given internally as a laxative and tonic in spleen and liver diseases, leprosy, jaundice and anasarca. Fat and Marrow are used as ointment and also given internally in cases of weakness. We also find many magical treatment for various diseases in tribal Odisha. In almost every tribal village there is a person who is believed to have the magical power of curing sickness and disease. Such a person heals the disease by drawing art with some stuff such as mess of hair, juice, chewed leaves, pebbles etc.⁴

Another interesting aspect was that there has been an age old belief among the tribes that some sickness, disease, wounds and accidents are caused by the evil spirit of the jungle and to

get cure from it, the malevolent spirit has to be propitiated. Following this belief the people offers some meat, rice beer, fowl or bird etc. to the spirit and this is said to cure the person. Such a belief in malevolent spirit is common not only among the tribal people of the world but also most of the rural areas of the world. However as a result of introduction of Christianity many of the superstition belief have weakened and some have disappeared among the educated one. But at the same time the belief in the evil spirit and ghost continue side by side.⁵

Although the system survived as the family tradition mainly in rural Odisha, it is also a fact that introduction of modern medicine and implementation of vaccination policy in Odisha by Europeans was a challenge for them. The Odishan People were ready to accept it as they were preoccupied with their traditional superstitious beliefs. Although from the late 19th century we see a change in the attitude of the colonial policy regarding prevention measures for epidemic diseases. It was in this period Pasteur and Koch and other made advances in bacteriology and installed confidence among British medical men in India that epidemic disease could be prevented by western scientific knowledge. It was during this period Kalazar first appeared in the kutia tribes in 1869. Odisha had already became a hunting ground for deadly epidemic diseases like Cholera, Small pox and Malaria fever.

Small Pox was a devastating misfortune. It was a highly contagious viral disease. It killed severely large numbers and seriously maimed survivors through severe scarring of the skin with pockmarks, blindness and infertility. The smallpox viruses or variola to use its scientific name exists in more than one form, some producing more



severe illness than others. The striking aspect of variola major was its well defined features: high fever, deep rashes oozing pustules and putrid smell and a large percentage of the victims tended to die from bleeding, cardiovascular collapse and secondary infections. Haemorrhagic small pox could bring rapid death from dramatic internal and external bleeding.

During 19th century small pox was one of the chief epidemic diseases in Odisha. Mortality rate with this disease was very high and it mainly affected the poor section of the society. Small pox was the annual visitation in coastal Odisha. The death rate per mile for the year between 1918 and 1927 was 96. In 1926, there was serious epidemic in Cuttack and death rate crossed 3.10. The profession of inoculation was practiced by hereditary Brahmanas and it spread all over Odisha. Their working hour of inoculation was from about the 1st November to the 1st March every year. Fees were paid according to the condition of the parents of those children are inoculated. The minimum charges were 2 annas for female and 4 annas for a male child, in addition to which parent's cloth, rice etc are given. The smallpox recovered from an attack of variola discrete about 21 days of Disease. Male children were generally inoculated on the forearm and female children on the upper arm. The *panas* selected a spot on the forehead between the eyebrows as the seat of inoculation.⁶

Small pox was widely identified with the Hindu Goddess Sitala whose awesome presence was manifested through the disease fever eruption. A benign outcome to possession by the goddess was sought through songs, prayers, devotional offerings and cooling potions. The small pox was sought to cure through the process of variolation. Inoculation were undertaken in the vaccination

act of 1870s and 1880s by making variolation illegal and vaccination compulsory. The native people saw vaccination ungodly and offensively polluting the caste system by the transmission of body fluids from one individual to other. The common belief was that Sitala was being defiled or assaulted to native distrust of vaccination and thus formed an important site of cultural resistance to colonial medical intervention.⁷

Another dreaded epidemic Malaria was defined as "malaria" bad air, air tainted by injurious creation from animal and vegetable matter, noxious inhalation of marshy district in other word "miasma". It was essentially an economic disease sapping the vigour and physique of the community. It lowers one's vitality thereby preparing the ground for other disease like tuberculosis etc. It is pointed out that malaria fever and to a greater extent cholera became a highly political disease which threatened the slender basis of the critical point of intervention between colonial state and indigenous society. Throughout the colonial rule, cholera leaked across all the preventive hurdles and caused epidemic havoc all over Odisha. As the British were unable to control the diseases they frequently resorted to blame the natural obstacles and opium eating habit of the native for the spread of the disease.⁸

Although the western medical discourse answer to malaria was quinine. This method was applied in Odisha and quinine was sold through the agency of post offices. However, this was totally inadequate to curb the menace of malaria and it had little impact on the indigenous system of malaria treatment. In the indigenous treatment for the fever, capsicum, borak, mace and papal ground and mixed together with lime juice and of which one rate weight (about two gram) was given three times a day with juice of green ginger. A



similar preparation, but mixed with goat urine was also prescribed in cases of fever.

In the case of kalazar, since its etymology was unknown prior to 1903, the western medical science had failed to prevent the disease. The indigenous practices had hegemonic challenge to deal with the western medicine in Odisha. In some cases, the kalazar disease was successfully treated by traditional doctors. Through the process of colonisation of Odisha, modern medicine compelled the indigenous practitioners to rethink about their own system. Institutionally the process was revived by the western scholars. However, the greatest obstacle for the survival and spread of indigenous medicine was strong dislike on their knowledge to the Kaviraj and Vaidyas to pass on their knowledge to the upcoming generations.⁹

Conclusion:

It is clear since the beginning of the British rule that the colonial medicine derived its authority from the state and not from the consent of the people. But the British desperately needed the peoples consent for the legitimating and longer survival of its newly founded empire. For this purpose, the colonial authority got help and support from the English educated elites of Odisha.¹⁰

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Introduction

Yoga is expansion of human capabilities. The practitioner of different branches of *yoga* can get many benefits and can achieve a lot of amazing *siddhis* (perfections) which are described in *Patanjali Yoga sūtra* and various texts of *Hatha Yoga*.

Benefits of practice of limbs of Yoga

By the practice of steps of *yoga*, all impurities are reduced and there is an illumination of knowledge. It culminates in the highest knowledge of discrimination between *Purusa* and *Prakriti*. (*Patanjali Yoga sūtra* II/28)

dhyana and 7) *Nirlipta* (non-involvement or liberation) achieved by *samadhi*. (*Gheranda Samhita* 1/9,11)

Signs of Success of Hatha Yoga

1) Slimness of the body, 2) cheerful face, 3) hearing of the mystical sound, 4) shining eyes, 5) sense of wellness, 6) control over the bindu, 7) increase in gastric fire and 8) purification of *nadīs*.

Āsanas alleviates diseases, *pranayama* removes the sins, and practice of *pratyahara* brings an end to mental ills of a *yogī*. (*Hatharatnavali* 1/59, 3/77)

Siddhis and Benefits Achieved by Practice of Hatha Yoga and Raja Yoga

Dr. Saroj Kumar Sahu

By practice of various *asanas*, *kumbhakas* and *mudras*, *kundalinī* is aroused and the *prana* dissolves into *sūnya* or *Brahmarandhra*. (*Hatha Yoga Pradipika* IV/10)

By mastering *yoga*, self-realization is achieved. (*Gheranda Samhita* 1/5)

Saptasadhana of Ghata achieved by Yoga

1) *Sodhana* (purification of body) achieved by *satkarma*, 2) *Dhridhata* (firmness) by *asana*, 3) *Sthirata* (steadiness) by *mudra*, 4) *Dhirata* (patience) by *pratyahara*, 5) *Laghava* (lightness) by *pranayama*, 6) *Pratyaksha Ātman* (self realization) by

Description

1) Benefits of practice of Yama

i) When the *yogī* perfects in the practice of *ahimsa* (non-violence), others around him give up enmity. ii) When the *yogī* perfects himself on *satya* (truthfulness) his speech becomes true. iii) When the *yogī* perfects in the practice of *asteya* (non-stealing), all the wealth of the world become available to him, iv) When the *yogī* perfects in the practice of *brahmacharya* (continence), he acquires immense strength (physical, mental and spiritual), v) When the *yogī* perfects in the practice of *aparigraha* (non-receiving), he gets the knowledge of the present birth.



(Patanjali Yoga sūtra II/ 35, 36, 37, 38, 39)

2) Benefits of practice of Niyama

i) When the *yogī* perfects in the practice of *saucha*, he develops dislike towards his own body and has no attachment for any other's body. The *yogī*'s mind becomes pure, joyful and concentrated. He develops a complete control over the *indriyas*. He becomes capable of self realization. ii) Supreme happiness got by *santosa* (contentment). iii) Supernormal capabilities of body and mind are achieved when the impurities of the body and mind are reduced by the practice of *tapa*. iv) By *svadhyaya*, the *yogī* can have interaction with god, *siddhas* and sages. He can receive divine help. v) By meditating on *Isvara* along with repetition of *Om*, the practitioner gains two fold results. He acquires internal consciousness and his obstacles on the way of *yoga* are also removed. By *Isvarapranidhana*, the *yogī* can attain *samadhi*.

(Patanjali Yoga sūtra I/29, II/ 40,41,42, 43, 44, 45)

3) Benefits of practice of Āsana

When *asana* is perfected, the *yogī* is not disturbed by the pairs of opposites like pleasure and pain, heat and cold etc. (Patanjali Yoga sūtra II/48)

Āsanās make one's body and mind steady, keep one healthy and light (flexible) of the limbs.

(Hatha Yoga Pradipika I/17)

Practice of *asana* alleviates diseases and contributes to *sthairya* (stability), *arogya* (health) and *angapataba* (efficient body). (Hatharatnavali 3/5)

4) Benefits of practice of Pranayama

By regular practice of *pranayama*, the obstructions of knowledge (caused by impurities of mind) are reduced. Then the mind becomes capable of practicing *dharana*.

(Patanjali Yoga sūtra II- 52,53)

When the *prana* (breath) is steady, the mind attains steadiness. By this steadiness of *prana* the *yogī* attains steadiness. By proper practice of *pranayama* all diseases are eradicated. All impurities of the *nadīs* are removed by *pranayama*. Even *Brahma* and other *Devas* regularly do *pranayama* to get rid of the fear of death. The practice of various *kumbhakās* one obtains different *siddhis* or wondrous perfections.

(Hatha Yoga Pradipika II-2,16,37,39, 47)

The group of *nadīs* is purified and *prana* easily pierces the opening of *susumna* and enters into it. Mind becomes steady as the *prana* moves into *susumna*. This poised state of mind is called *manonmani*. Proper practice of *pranayama* alleviates all the diseases. Whereas improper practice invites all the disorders.

(Hatharatnavali II/2, 3 & III/91)

Through the practice of *pranayama*, *khecharatva* (travel in space), elimination of disease and awakening of *kundalinī* is achieved. Bliss manifests in the mind and one becomes happy.

(Gheranda Samhita 5/57)

The practitioner surely destroys all his *karma*, whether acquired in this life or in the past through regulation of breath. The *yogī* destroys various virtues and vices accumulated in his past life. *Pranayama* makes the *yogī* free from sin; next destroys the bonds of all his good action.



The *yogî* achieves psychic powers and having crossed the ocean of virtue and vice, moves about freely through the three worlds.

The *yogî* acquires the following *siddhis* –1) *Bakya siddhi* (prophecy). 2) *Kamachari* (transporting himself everywhere at will). 3) *Dûradristi* (clairvoyance). 4) *Dûrasriti* (clairaudience). 5) *Shukshmadristi* (subtle sight). 6) *Parakayaprabesana* (power of entering another's body). 7) *Vinmutralepanesvarna* (turning base metals to gold by rubbing them with his excrements and urine). 8) *Adrussyakarana* (power of becoming invisible). 9) *Khecharatva* (moving in the air). (*Siva Samhita* III/49-52, 54)

5) Benefits of practice of *Pratyâhâra*

By the perfection of *pratyâhâra* the *yogî* develops supreme control over the *indriyas*.

(*Patanjalî Yoga sûtra* II- 55)

6) Benefits of practice of *Dhâranâ*

The wise *yogî* who continuously practices *dhâranâ* (concentration) never dies through hundred cycles of the great *Brahmâ*.

(*Siva Samhita* III/65)

7) Results of *Samadhi*

The *yogî* in *samadhi* is not swallowed up by the process of time (death). He is not influenced by good or bad *karma*, nor is he affected by anything done against him. He experiences neither smell, taste, form, touch, sound nor colour.

He does not cognize his self (ego) nor that of others. He is not affected by heat or cold, pain or pleasure, honour or dishonour. He can not be killed by any weapon; all the world can

not overpower him. He is beyond the powers of *mantras* and *yantras*.

(*Hatha Yoga Pradipika* IV/108, 109, 111, 113)

8) Benefits of practice of *Samyama* (*Dhyana, Dhâranâ & Samadhi* together) on different objects

i) If the *yogî* practices *samyama* on the three *parinamas* or *mutations* (*dharmâ, laksanâ, abasthâ*), he acquires the knowledge of past, present and future. ii) The *yogî* who practices *samyama* on the differentiation of a word, its meaning and its knowledge, he acquires the knowledge of all the living beings. iii) When the *yogî* observes the *samskara* he gets the knowledge of past life. iv) If he practices *samyama* on the *vrttis* of his own *citta*, he can acquire the knowledge of another person's *citta*. v) When the *yogî* practices *samyama* on the appearance of his own body, then he obstructs its ability to be seen. At this stage he becomes invisible. vi) Like this the *yogî* can concentrate on his own voice, smell, touchability and taste and stop the reception by another person's organs. vii) By practicing *samyama* on the two kinds of *karmas* (*sopakrama and nirûpakrama*) one gets the knowledge of death, it's time etc. This knowledge can also be gained by practicing *samyama* directed towards omens (*aristas*). viii) If the *yogî* practices *samyama* on *maitrî* (friendliness), *karuna* (compassion), *mudita* (delight) and *upeksha* (indifference), then these will be strengthened. ix) If the *yogî* practices *samyama* on *bala* (strength), he acquires the strength of elephant etc. x) The knowledge of all the *lokas* is acquired if the *yogî* practices *samyama* on the Sun. xi) The knowledge of structure and arrangement of stars is acquired when the *yogî* practices *samyama* on Moon. xii) The knowledge of movement of other stars is



acquired when the *yogī* practices *samyama* on the *Dhruba* star. xii) If the *yogī* practices *samyama* on the navel (*manipuracakra*), he acquires the knowledge of structure of the body. xiii) If the *yogī* practices *samyama* on the throat pit, he is not affected by hunger and thirst. xiv) If the *yogī* practices *samyama* on the *Kurmanadi*, his body becomes steady. xv) If the *yogī* practices *samyama* on the cranial light, he can see the *siddhas*. xv) If the *yogī* practices *samyama* on the heart, he gets complete knowledge of *citta*. xvi) When the *yogī* practices *samyama* on the *udanavayu*, he gets the power to walk on water, mud, thorny bush and similar objects and the power to levitate. xvii) By controlling the *samanavayu*, the body becomes effulgent and radiant. xviii) *By practice of samyama* on the relation between ear and space, one gains power to hear divine sounds. xix) *By practice of samyama* on the relation between body and space, and when there is complete absorption of the weightlessness of cotton, one gets the power to move in space with ease. xx) *By samyama* on the *vritti* of the Bodiless, the veil that covers the light is removed. xxi) *By practice of samyama* on the gross and subtle forms of the elements and their relative characteristics and their objectivity, there arises perfect mastery over the elements. Then comes the power like *anima* etc and also the perfection of the body which is no longer subject to the harm created by the elements. xxii) *By practice of samyama* on how the senses act, their characteristics and the ego-sense and their mutual relationship and their meaningfulness one gets mastery over the sense organs. Then the *yogī* can physically move with the speed of mind, can use the *indriyas* without the help of physical body and can conquer the *Prakriti*. xxiii) *By practice of samyama* on the knowledge that *Purusa* and *Prakriti* are different

from each other, one becomes master of all actions and knowledge. xiv) *By practice of samyama* on single moments and their sequence in time, one gets the distinguishing knowledge. Then he can distinguish between two similar characteristics objects, their species or location i.e. one becomes capable of distinguishing between reality and appearance.

(*Patanjali Yoga sūtra* III/ 5, 16-19, 21, 24, 25, 27-33, 35, 40-42-46, 48-50, 53, 54)

9) Benefits of practice of *Satkarma* (6 Purificatory processes)

Satkarma effect purification of the body. These six *karmas* completely cure obesity, phlegmatic disorders and remove impurities of a physical nature. (*Hatha Yoga Pradipika* II-23, 36)

10) Benefits of practice of *Astakarma* (8 Purificatory processes)

1) Practice of *pranayama* becomes successful, 2) all the six *chakras* are properly purified. 3) all the diseases are removed, 4) liberation is achieved, 5) physical wellness is gained.

(*Hatharatnavali* 1/62, 62)

11) Benefits of practice of *Mudra*

Practice of *mudras* destroys old age and death. *By practicing mudras, yogis* gain eight *siddhis*.

(*Hatha Yoga Pradipika* III/7,8)

12) Benefits of practice of *Nadanusandhana*

By constant practice of concentration on nada, all vices are destroyed. The mind and *prana* verily get absorbed in that pure state or *caitanya* (*Niranjana*). (*Hatha Yoga Pradipika* IV/105)



Conclusion

Āsanas, kumbhakas and mudras of hatha yoga should be practiced meticulously till one attains *raja yoga*. All the *hathayoga* practices are meant for attainment of *raja yoga (samadhi)*. Those perfected in *raja yoga* cheat death. (*Hatha Yoga Pradipika* I/67, IV/103)

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