

ODISHA REVIEW

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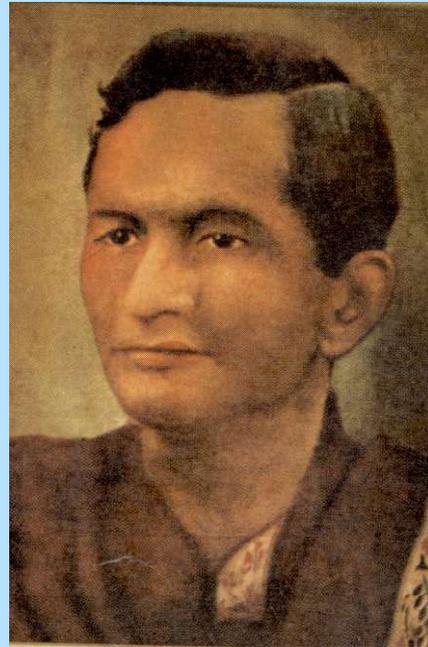
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Our Sincere Obeisance



Pathani Samanta

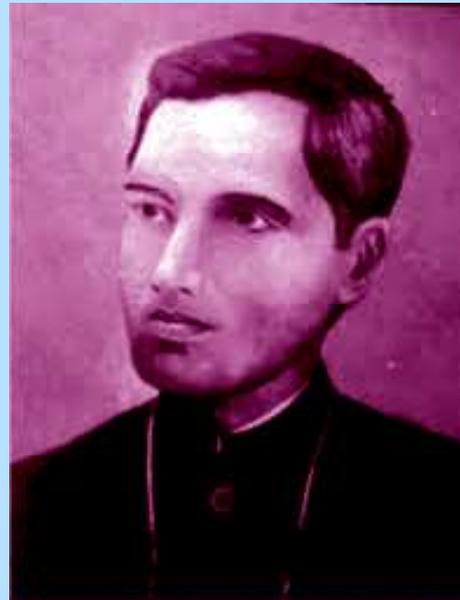


Kantakabi Laxmikanta Mohapatra

Our Sincere Obeisance



Maharaja Shriram Chandra Bhanja Deo



Pandit Nilamani Vidyaratna

‘Nagarjuna Besha’

Performed in Puri Jagannath Temple After 26 Years

Dr. Lenin Mohanty



The Lord of the Universe, Shri Jagannath along with his sibling deities adorn different ‘beshas’ at different times of the year. The Nagarjuna Besha is unique since it occurs once in several years. Amidst the COVID-19 pandemic, the Shri Jagannath Temple Administration (SJTA) in Puri performed 21st century’s first ‘Nagarjuna Besha’ of the deities. In the ‘Nagarjuna Besha’ the Lord Jagannath and Lord Balabhadra took on the form of warriors.

This time, the Nagarjuna Besha was observed after 26 years. ‘Nagarjuna Besha’, which was last observed on November 16, 1994, commemorates the killing of Sahasrarjuna

by Parsuram. It is observed in those years where the ‘panchaka’, the last five days of the holy month of Kartika, is observed for six days. This year, which saw an extra month after the month of Ashwina, ‘Nagarjuna Besha’ was held on November 27, the sixth day of ‘panchaka’. Before 1994, ‘Nagarjuna Besha’ had been observed on November 26, 1993, November 3, 1968, November 16, 1967, and November 26, 1966.

The Temple administration conducted a ceremony to mark the start of preparations for the festival. “Balaram Khuntia, a servitor-cum-artisan, was assigned the task of preparing the Nagarjuna costumes of Jagannath and Balabhadra. He began the work following the ‘besha anukula puja’.



Thermocol, cloth, zari and bamboo sticks were used to prepare the costumes. Around 10 other artisans were engaged to assist servitor Balaram Khuntia. They prepared various weapons, including knives and shields, for the deities. Deities wore elaborate headgear and hold arrows, bows, plough, wheel and mace. The costumes reached the temple office in a procession from the workplace near the servitor’s home.

Due to the restriction to curb the pandemic, devotees were not allowed to take part in the ritual this time. Earlier to “Nagarjuna Besha” of the Lord of the Universe and his siblings, the State Government conducted Rath Yatra by banning the congregation of devotees in view of the COVID outbreak.

After a gap of 26 years, the famous Nagarjuna Besha of the Trinity was performed in Sri Jagannath temple in absence of devotees. The temple doors opened at 2.45 am and the Besha (costumes and ornaments of the deities) prepared by servitors at Chakrakot

in Harchandi Sahi was consecrated by priests. Amid tight security, the Besha was brought in a procession of servitors with musicians playing gongs, cymbals and mrudangas to the temple. The procession reached the temple gate at 3.45 am.



In the sanctum sanctorum, priests performed the Mangal Arati followed by Mailam, Tadapalagi and Abakash. Thereafter, Gopal Bhog was offered. The servitors started to deck up the deities in Nagarjuna attire at 4.45 am. Simhari and Puspalak servitors began dressing the deities simultaneously and after four hours, the process was completed by 11 am. Apart from the Besha prepared by servitors, gold and other ornaments were used from the temple treasury.

Servitors and priests performed all the nities and rituals of the deities in absence of devotees. Only servitors were allowed to have darshan of the Besha. Hundreds of devotees had darshan of the Patitapaban image of Lord Jagannath from a distance.

Rituals also performed in Sabar Srikshetra :

“Nagarjuna Besha” rituals were observed at the Jagannath temple in Sabar Srikshetra, Koraput amid COVID-19 protocol. As per tradition, the priests decorated the Trinity on the temple premises and decked up Lord Jagannath and Lord Balabhadra in Bira Besha. All the rituals were performed in strict adherence to COVID norms and no devotees were allowed for darshan. However, the rituals were telecast online for devotees.



Government of Odisha

Rural Housing

2020-21

Date: 22-12-2020

Panchayati Raj & Drinking
Water Department

Houses completed since FY 2014-15	
Financial Year	Houses Completed
2014-15	3,52,421
2015-16	6,16,818
2016-17	1,63,983
2017-18	5,32,254
2018-19	5,10,486
2019-20	3,94,212
2020-21	2,64,400
Total	28,34,574

Schemes	Houses Completed since FY 2014-15	Houses completed during this FY
Biju Pucca Ghar	2,98,406	4,098
Pucca Ghar Yojana (Mining)	28,527	178
Nirman Shramik Pucca Ghar Yojana	21,250	3,654
Indira Awaas Yojana	10,61,950	-
PMAY - G	14,12,849	2,53,710
Matshyajibi Basagrauha Yojana	942	-
BPGY (Titili)	10,650	2,760
Total Houses Completed	28,34,574	2,64,400

Completion since Yesterday	1771
Per day rate of House completion	
Required Rate	4893
Current Rate	998

Houses Completed during the FY-2020-21

Sl. No.	District	Target		Achievement		Total				
		PMAY-G	BPGY, Titli, Mining, NSPGY	PMAY-G	BPGY, Titli, Mining NSPGY	Tar.	Ach.	%age	Completion since Yesterday	Incomp
1	2	3	4	5	6	7	8	9	10	11
1	SAMBALPUR	925	1448	475	1172	2,373	1,647	69.41	18	726
2	DHENKANAL	18469	210	11028	62	18,679	11,090	59.37	58	7589
3	SUNDARGARH	19813	716	11021	120	20,529	11,141	54.27	59	9388
4	JHARSUGUDA	3455	61	1858	28	3,516	1,886	53.64	7	1630
5	KANDHAMAL	3638	139	1867	39	3,777	1,906	50.46	10	1871
6	KORAPUT	15585	769	7549	288	16,354	7,837	47.92	34	8517
7	NABARANGAPUR	38503	1209	18011	538	39,712	18,549	46.71	57	21163
8	GAJAPATI	4379	3826	1596	2092	8,205	3,688	44.95	5	4517
9	MALKANGIRI	4170	386	1843	188	4,556	2,031	44.58	10	2525
10	BOLANGIR	57035	278	24841	83	57,313	24,924	43.49	223	32389
11	MAYURBHANJ	108807	2624	44175	628	1,11,431	44,803	40.21	293	66628
12	GANJAM	5819	1951	2022	937	7,770	2,959	38.08	29	4811
13	DEOGARH	2990	89	1112	34	3,079	1,146	37.22	8	1933
14	CUTTACK	10720	1356	3783	586	12,076	4,369	36.18	16	7707
15	ANGUL	16575	838	5589	430	17,413	6,019	34.57	43	11394
16	BOUDH	25679	309	8471	77	25,988	8,548	32.89	84	17440
17	JAGATSINGHAPUR	6026	312	1976	102	6,338	2,078	32.79	1	4260
18	KENDUJHAR	33472	1969	11055	377	35,441	11,432	32.26	69	24009
19	SONEPUR	25219	258	8122	68	25,477	8,190	32.15	59	17287
20	KALAHANDI	51325	543	15800	173	51,868	15,973	30.80	97	35895
21	RAYAGADA	14881	416	4415	171	15,297	4,586	29.98	17	10711
22	BHADRAK	41395	734	12452	175	42,129	12,627	29.97	51	29502
23	BARGARH	43753	685	13070	228	44,438	13,298	29.92	160	31140
24	PURI	13578	1001	3850	387	14,579	4,237	29.06	71	10342
25	JAIPUR	24399	1382	6710	700	25,781	7,410	28.74	78	18371
26	NAYAGARH	10394	477	2946	159	10,871	3,105	28.56	15	7766
27	NUAPADA	26672	560	7350	265	27,232	7,615	27.96	63	19617
28	KHORDHA	5511	504	1256	134	6,015	1,390	23.11	7	4625
29	BALESHWAR	68675	1108	14495	198	69,783	14,693	21.06	120	55090
30	KENDRAPARA	24776	909	4972	251	25,685	5,223	20.33	9	20462
Total		726638	27067	253710	10690	7,53,705	2,64,400	35.08	1771	489305

Houses completed during FY 2020-21

Sl. No.	District	Target			Houses completed						
					As per AwaasSoft			% age of completion	Per day House Completion Rate		
		Spill Over	Current FY	Total	Spill Over Houses	Current FY	Total		Required	Current	%age 11/10*100
1	2	3	4	5	6	7	8	9	10	11	12
1	SAMBALPUR	2319	54	2373	1612	35	1647	69.41	7	6	85.6
2	DHENKANAL	11522	7157	18679	6605	4485	11090	59.37	76	42	55.1
3	SUNDARGARH	19921	608	20529	11005	136	11141	54.27	94	42	44.8
4	JHARSUGUDA	3161	355	3516	1833	53	1886	53.64	16	7	43.7
5	KANDHAMAL	3639	138	3777	1821	85	1906	50.46	19	7	38.4
6	KORAPUT	13807	2547	16354	6932	905	7837	47.92	85	30	34.7
7	NABARANGAPUR	33253	6459	39712	17567	982	18549	46.71	212	70	33.1
8	GAJAPATI	8054	151	8205	3658	30	3688	44.95	45	14	30.8
9	MALKANGIRI	4556	0	4556	2031	0	2031	44.58	25	8	30.4
10	BOLANGIR	30796	26517	57313	15737	9187	24924	43.49	324	94	29.0
11	MAYURBHANJ	93158	18273	111431	39867	4936	44803	40.21	666	169	25.4
12	GANJAM	7129	641	7770	2954	5	2959	38.08	48	11	23.2
13	DEOGARH	2889	190	3079	1139	7	1146	37.22	19	4	22.4
14	CUTTACK	11551	525	12076	4366	3	4369	36.18	77	16	21.4
15	ANGUL	11651	5762	17413	4148	1871	6019	34.57	114	23	19.9
16	BOUDH	16161	9827	25988	5676	2872	8548	32.89	174	32	18.5
17	JAGATSINGHAPUR	5506	832	6338	2078	0	2078	32.79	43	8	18.4
18	KENDUJHAR	27744	7697	35441	10200	1232	11432	32.26	240	43	18.0
19	SONEPUR	18344	7133	25477	6674	1516	8190	32.15	173	31	17.9
20	KALAHANDI	34732	17136	51868	14210	1763	15973	30.80	359	60	16.8
21	RAYAGADA	9565	5732	15297	3518	1068	4586	29.98	107	17	16.2
22	BHADRAK	27518	14611	42129	9823	2804	12627	29.97	295	48	16.2
23	BARGARH	23925	20513	44438	9041	4257	13298	29.92	311	50	16.1
24	PURI	12452	2127	14579	3982	255	4237	29.06	103	16	15.5
25	JAJPUR	20662	5119	25781	6780	630	7410	28.74	184	28	15.2
26	NAYAGARH	8635	2236	10871	2792	313	3105	28.56	78	12	15.1
27	NUAPADA	17768	9464	27232	6644	971	7615	27.96	196	29	14.6
28	KHORDHA	5705	310	6015	1387	3	1390	23.11	46	5	11.3
29	BALESHWAR	39086	30697	69783	7293	7400	14693	21.06	551	55	10.1
30	KENDRAPARA	19924	5761	25685	4935	288	5223	20.33	205	20	9.6
Total		545133	208572	753705	216308	48092	264400	35.08	4,893	998	20.4

25th December Gruha Pravesh Target

Sl. No.	District	Target	Achievement	Progress since Yesterday	% age
1	2	3	4	5	6
1	MAYURBHANJ	17,740	6,424	293	36.2
2	BOLANGIR	5,588	4,834	223	86.5
3	BALESHWAR	5,260	3,096	120	58.9
4	BARGARH	3,562	2,661	160	74.7
5	KALAHANDI	7,645	2,204	97	28.8
6	BOUDH	5,092	1,929	84	37.9
7	KENDUJHAR	4,594	1,784	69	38.8
8	DHENKANAL	2,398	1,714	58	71.5
9	NABARANGAPUR	7,199	1,630	57	22.6
10	KORAPUT	3,917	1,623	34	41.4
11	JAJPUR	1,759	1,528	78	86.9
12	SONEPUR	4,116	1,248	59	30.3
13	BHADRAK	5,000	1,196	51	23.9
14	ANGUL	1,464	1,062	43	72.5
15	NUAPADA	3,342	1,039	63	31.1
16	SUNDARGARH	3,773	901	59	23.9
17	RAYAGADA	1,181	726	17	61.5
18	PURI	1,655	691	71	41.8
19	KENDRAPARA	2,870	690	9	24.0
20	SAMBALPUR	800	542	18	67.8
21	CUTTACK	1,755	402	16	22.9
22	NAYAGARH	1,137	360	15	31.7
23	GAJAPATI	1,153	319	5	27.7
24	GANJAM	1,000	305	29	30.5
25	MALKANGIRI	1,000	280	10	28.0
26	KANDHAMAL	1,000	237	10	23.7
27	JAGATSINGHAPUR	1,000	228	1	22.8
28	KHORDHA	1,000	138	7	13.8
29	JHARSUGUDA	1,000	136	7	13.6
30	DEOGARH	1,000	135	8	13.5
Total		1,00,000	40,062	1,771	40.1

Registration and Sanction Status under PMAY(G)							As on 22-12-2020		
Sl.No	District	Revised Target	Landless beneficiaries	Clear Cases for sanction	Registered	Sanctioned	%age of Sanction	Gap in Registration	Gap in Sanction
1	2	3	4	5=3-4	6	7	8=7/5*100	9=5-6	10=5-7
1	KHORDHA	5131	1760	3371	3581	3850	100	0	0
2	KENDUJHAR	46660	2073	44587	47648	47199	100	0	0
3	JAJPUR	27408	5291	22117	23817	23353	100	0	0
4	ANGUL	18653	4035	14618	16674	15353	100	0	0
5	BARGARH	50274	4880	45394	51575	46993	100	0	0
6	RAYAGADA	18721	3168	15553	16275	16010	100	0	0
7	GANJAM	10482	1319	9163	9590	9355	100	0	0
8	BOLANGIR	73034	1345	71689	73203	72932	100	0	0
9	NUAPADA	28776	122	28654	29202	28895	100	0	0
10	DHENKANAL	25383	325	25058	25240	25205	100	0	0
11	SAMBALPUR	6850	146	6704	6802	6734	100	0	0
12	BOUDH	28372	170	28202	28655	28309	100	0	0
13	GAJAPATI	3098	54	3044	3076	3054	100	0	0
14	KANDHAMAL	7675	29	7646	7649	7650	100	0	0
15	JHARSUGUDA	10971	182	10789	10868	10794	100	0	0
16	KORAPUT	24656	0	24656	24472	24664	100	184	0
17	PURI	13233	42	13191	13106	13192	100	85	0
18	DEOGARH	4943	466	4477	4909	4474	99.9	0	3
19	CUTTACK	13430	1499	11931	11412	11904	99.8	519	27
20	SUNDARGARH	38277	446	37831	37909	37743	99.8	0	88
21	NABARANGAPUR	45934	821	45113	45328	44949	99.6	0	164
22	KALAHANDI	58464	672	57792	58573	57565	99.6	0	227
23	SONEPUR	31742	2054	29688	31477	29543	99.5	0	145
24	JAGATSINGHAPUR	7829	1238	6591	6829	6558	99.5	0	33
25	MAYURBHANJ	122061	5419	116642	119369	115461	99.0	0	1181
26	NAYAGARH	14738	1487	13251	13625	12976	97.9	0	275
27	BHADRAK	50812	306	50506	49051	48960	96.9	1455	1546
28	BALESHWAR	74031	9023	65008	62809	62796	96.6	2199	2212
29	KENDRAPARA	27813	1308	26505	26711	25452	96.0	0	1053
30	MALKANGIRI	3768	11	3757	3562	3533	94.0	195	224
Total		8,93,219	49,691	8,43,528	8,62,997	8,45,456	100.2	4,637	7,178

Major Achievements of Odisha



1. 20 years back no one would have dreamt of a Medical College in Mayurbhanj or Koraput but that is a reality now.
2. From a State known for mishandling natural disasters leading to loss of thousands of lives, it has become a State that sets global benchmarks in disaster management.
3. From a State doing subsistence agriculture to being an agriculturally progressive State and winning the Krishi Karman Puraskar for four times.
4. It is the only State to have doubled farmers income in the last decade.
5. From a State which was food grain deficit and dependent on food grains from Punjab and Haryana to feed its own people, now is the country's third largest contributor to the PDS; thereby playing a major role in the food security of the country.

6. From a State which was known for its abysmal record in Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR), from being a State which was at the bottom of the country in IMR to having the sharpest decline in the IMR and becoming better than the national average is indeed a massive achievement.
7. From a State which was financially bankrupt and not able to pay salaries for its employees to becoming a State known for excellence in financial administration.
8. From a State known for corruption and nepotism, to becoming a State known for transparency and anti-corruption measures.
9. From a State known for acute-poverty to a State known for bringing about the highest poverty reduction in the country. With a decline of 24.61% points in poverty, it has brought 80 lakh people out of poverty in the last one decade.
10. From a State known for lack of connectivity to having one of the best road networks in the country and reaching the far flung areas of the State, Odisha has come a long distance.
11. From a State which had more than a million children out of school to less than 50,000 now which is also fast reducing. The drop out rate in Odisha from school which used to be 52% is now less than 5%.
12. A State not known much for industrialisation is now a State which has achieved one of the highest industrial growth rates in the country while keeping people as the primary focus.
13. Completion of more than a million houses.
14. About 10 lakh hectares of land irrigated.
15. Historic decision to provide loans to farmers at Zero per cent.
16. More than 70 lakh women through 6 lakh SHGs benefitted from Mission Shakti
17. More than 35 lakh mothers benefitted from MAMATA Yojana.
18. Interest free loans to Women SHGs.
19. Universal Health Assurance for all in Odisha.
20. Cancer treatment facilities at all District Headquarters Hospitals.
21. Four Medical Colleges already commissioned and seven in the various stages of completion.
22. About 200 Adarsh Vidyalayas constructed across the State.
23. Education loans at 1% for professional education helping students.

24. 43 lakh people covered under Madhu Babu Pension Yojana.
25. Nearly 19 lakh construction workers registered and about 400 crores worth of benefits distributed to more than 10 lakh workers.
26. Odisha continues to be the pioneering State in implementing the Forest Rights Act, having distributed about 4 lakh land titles under FRA.
27. The State having the largest number of tribal girls staying in hostels, totalling more than half a million – the highest in the country.
28. About 19 lakh SC and ST students provided scholarships amounting to more than 1000 Crores.
29. More than 8 lakh Kendu Leaf pluckers have been provided with insurance coverage. In a historic decision, about 130 Crores were distributed to 8 lakh Kendu Leaf Pluckers as 100% bonus.
30. 1400 sacred groves in tribal areas have been taken as a priority for conservation.
31. 500 crucial bridges have been completed under Biju Setu Yojana.
32. Construction of Biju Expressway connecting Western and KBK districts.
33. More than 25 lakh houses provided with electricity connection.
34. More than 7000 villages have been electrified and installation of 500 numbers of 33/11 KV sub stations are in progress.
35. More than 41,000 kms of rural roads have been constructed.
36. More than 1000 kms of Kutcha roads in urban areas have been converted to Pucca roads.
37. 20 lakh houses built under the Biju Pucca Ghar Yojana.
38. 1300 kms of new pipelines laid to provide drinking water benefitting 10 lakh people.
39. Odisha has attracted the highest investment totalling 18% of India's total investment and thereby becoming the State having the largest investment for the year.
40. World Bank has recognised Odisha as Leader in implementation of business reforms.
41. Nearly 9 lakh youth have been skilled under the Skilled in Odisha and about 1.5 lakh youth have been provided placement linked skill development.

The Glimpse of the Green

Dr. Debashis Patra

The dependency of man on nature ensures his development and survival. It is the prime source of our living. It's a source of our inspiration, our poetry, our exploration and everything in between. This current of life is the one that connects us to the divine. This submersion of the consciousness in the divine enables one to relate to the divine creations that encompasses all of us.

The environment and the experience that lies within it are primarily responsible for our cravings of exploration. It's the simplicity of one's mind that attaches one to the nature in a way that unshackles him, the mind then submits to infinite divinity. He now no longer looks at the trees, the young saplings in the same way as before, now they are an inseparable part of him, a part of his own life, his world.

Before the daybreak our vehicle was traversing down the twisty roads of the Eastern Ghats. A single glimpse made me realize I was surrounded by the hills that seemed like elevated mounds of lush greenery. The golden lights of the dawn on the lush greenery of the crops nearby made it seem like a field of Gold. The journey continued down the twisties towards Malkangiri, the key goal being Tribal research. The chirpings of the birds and the rippling sound of water down

the waterfalls was a music that calmed my soul. By the time we reached *Eralgundi*, a famous Koya village of Malkangiri, the sun was already shining overhead.

The village chief hearing that we travelled here all the way for tribal research made arrangements for our stay in that village. To assist us in tribal research stepped out an educated young guy named Nandu Kawasi, who would try his best to explain the tribal culture in most understandable way.

He explained about the uniqueness of the tribal culture. The uniqueness lies due to the closeness between the nature and the tribal. He described how auspicious; trees are considered to be in tribal culture. There rituals showed honour and reverence for the trees. They placed a Goddess (*Nisanimunda*) in each village under the tree signifying the trees were no less than a temple in this regard. And Why shouldn't the trees be any less than a temple? Trees provided them with clothes, food and housing materials, trees were akin to Gods for them. He explained how the Tree God (Daru Devata) and Tree Goddess (*Parna Sabari*) shared its roots with their culture of Tree Worship. The Tribal communities worshipped earth, water and the Sun. They

considered nature to be the all the source of all creation. Any tribal village you visit, you will find a wooden pillar being worshipped as a folk deity. It signifies tree worship.

Nandu Kawasi took us for a stroll through the woods, this section was described as “*Pabitra Vana*” or Sacred Groves. The sacred groves are something that is common to most tribal communities. It establishes their scientific and religious viewpoints. This part of the forest contained various trees like Neem, Bel, Amla, Teak, Sal, Mango, Jackfruit, Guava and others. The sacred groves were a key source of ingredients for tribal medicine. According to their belief the sacred grove is where the Tree Goddess resides. It was a popular belief among them that any harm to the sacred groves brings in misfortune entire village. The Sacred Groves are a symbol of faith and belief for them.

As we were returning to the village, we came across a peculiar set of trees, we enquired. Nandu Kawasi answered “These trees are Mahua Trees and the trees in the courtyard of each village house are Salapa Trees (a type of palm tree.)” “The Salapa and Mahua Trees played an important role in the tribal economy. These trees are treated akin to a ‘Salaried Son’ and special care was taken of these trees. You are considered to be financially sound if your courtyard has a Salapa tree. The Salapa trees bear flowers after 10-12 years of plantation. Before the blossoms, a cut is made on the tree shoots from where the Salapa sap is collected in an earthen pot. The Salapa sap/juice is consumed as a beverage. It provides one with 10-12 litres of sap per day, this continues for 4 months. A Salapa tree in its entire lifetime bores at least 10 blossom cycles. The sap collected can be sold at Rs 200 to Rs 300 per day. In its entire

lifetime, a Salapa tree provides salapa worth Rs 3 Lakh. Freshly fermented liquor made from the sap of the Salapa tree is often used during rituals.

During the spring season, Tribals collect Mahua flowers, these flowers are a source of food and beverages for them. The dried flowers are sold in local markets for some money. The fruits of the Mahua trees are called ‘*Tolo*’. The seeds of *Tolo* are ground to extract oil. The oil thus extracted are used in cooking, also the seeds and the oil are sold off to make some money.

Leaving these two trees aside, Jackfruit, Mango, Tamarind, Bamboo are also an integral part of the livelihood of the Tribals. Nandu Kawasi said, ‘Our existence depends upon these groves, without them it would be very difficult for us to be alive.’

A question that had been bothering me for quite a while, I was reluctant to ask but then I finally decided to ask it. ‘I understand your reverence for the trees, but can you explain me why do the tribals set fire to the trees in the forests?’

Nandu Kawasi answered without any hesitation. “We treat forests as our home. Nobody would be willing to lit up their own house and like to watch it burn. Our ancestors set fire to the trees in a small patch of land for *Podu* cultivation. Some people lit the fallen leaves on the ground which helped them to easily collect the fallen Mahua flowers. Due to inattentiveness the fire spreads through the forest. Now, things have changed a lot due to awareness and education, both hunting and lighting up fire in the forests have stopped. Our communities have well understood that the presence of forest is what ensures that their lives becomes easy and

livelihood remains intact. Forest products like Honey, lac etc. become easier to extract and rearing of animals also becomes much easier owing to the fact that the forests remain mostly fire free.” We clearly understood, how the lives of the tribal communities were entwined with nature and its resources.

The musical instruments of the tribals are generally made up of wood, bamboo, clay etc. These are more easily decomposable. They create their ornaments out of seeds, dried leaves, bark of the trees. This practice is environment friendly considering that metals and plastics aren't used here. The dye/colour used in case of tattooing is derived from the sap of Sal tree. Their attires are generally adorned with leaves, flowers and branches for folk dance. These activities clearly depict the closeness of the tribals with nature.

We then set out towards the outskirts of the village where the *Dangar* fields were located. The fields were embellished with paddy, *suani* and ragi crops. Nandu Kawasi said with great pride “It is in these lands that our ancestors cultivated paddy for the very first time on Earth. We refrain from using chemical fertilizers, instead we prefer the organic ones. It is one of the main reasons for the high demand of our agricultural products in urban areas.”

We travelled further. We collected data relating to their faiths, beliefs and culture.

I happened to remember how Munda tribes celebrated Spring festival (*Sarhul Parba*) when new leaves sprout on the trees. Santhals also celebrate *Baha parab* in which the Sal trees are worshipped. Bonda, Koya, Parja tribes celebrate festival of fruits like *Aam parab*, *Sim parab*, *Jana parab* etc. This suggests the intimate relationship shared by the tribals with the nature. Many of their folklores have nature as their central theme. This depicts their aesthetic sense towards nature.

Now it was time for our departure. I sincerely wished that we could have done more with a little more time. We spotted a funeral cortege on our way, we stopped the car and enquired about their funeral customs. My acquaintance in the car, said “I would clearly mention it in my will, that my body is to be buried or cremated using an electric crematorium. The trees saved from not using logs of wood for my funeral will give me great pleasure.” We looked at his face in astonishment, it seemed that the Glimpse of the nature through his own eyes awakened a new conscience in him. As we sped through the woods, the song of the trees continued enchanting us.

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Elephants in Odisha : The National Heritage Animal

Prof. Prafulla Kumar Mohanty

Elephants in History of Odisha

Our biodiversity is magnificent and mysterious because of abundance of variety and variability of enchanting and amazing animals and birds. The creatures of our nature are so amazing, it is really very difficult to explain and express their beauty, colour, nature, structure, feature and behaviour. Their adaptability, acceptability and accommodative power in the natural surrounding is spectacular. Therefore, people and children love to visit places where nature is silent with peaceful diversity, tranquillity and serenity. This is achieved and fulfilled owing to our animal diversity. Of the varieties of faunal varieties, some animals draw attention for ever which include tigers, elephants, rhinos, hippos, zebras, giraffes, kangaroos, koalas, ostriches, kiwis etc. In Indian scenario, elephants and tigers are extremely attractive as these are elegant and significant. The position, profile and status of elephants in Indian scenario and Odisha in particular is unique and distinctive.

Elephants are familiar and fascinating creatures for all of us as these are the largest living terrestrial animals on earth today. These gigantic animals are now existing in considerable number in Asia and Africa and their alarming decrease in

number may end to zero within some years from now. The number in the jungle is so limited, these animals are protected and secured in protected areas like zoos, sanctuaries, biological parks, biosphere reserves, national parks etc. Apart from the stated natural environment, let us see where are these colossal animals seen in non-living state.

Two to three decades ago, elephants were seen in circus where they were exhibiting several tricks and techniques including worshipping, obeying, playing, jumping, sitting on the chair etc. This was one of the main attractions of the circus. Apart from zoos or sanctuaries, circus was the only ground to witness the feature and behaviour of living elephants. If we go further back, we all can be able to visualize the paintings, sculptures, carvings of elephants on the wall of all Hindu temples including Jagannath, Lingaraj and Konark temples of Odisha. A pair of massive stones carved with elephants in one of the gates of Konark Sun temple is astonishing and glaring. Moreover, in temples the engaged elephants in various activities such as carrying logs and luggages, people, stones, cargoes, moving in procession, journey by kings on elephants, and moving to forests for hunting of animals are worth seeing and recording.



Fig-1. Nabagunjara : the chimeric animal showing the leg of elephant in left foreleg and the emblem of "Pranikee" : the journal of Zoological society of Odisha.

The description of elephant in "Nabagunjara" (Nine Form) is in fact, commendable. Nabagunjara is a chimeric animal (Fig.1) and a common motif of Odishan art and literature. This particular form is described by the poet Sarala Das in Odia version of the epic Mahabharata. Apparently, Lord Krishna appeared in the form of Nabagunjara consisting of (i) head of a cock, (ii) throat of a peacock, (iii) tail in the form of a serpent (snake), (iv) waist of a lion, (v) hump of a bull, (vi) a leg each of horse (hind leg of right side), (vii) tiger left leg of hind part), (viii) human (foreleg of right side) and (ix) elephant (left foreleg) to fool his friend Arjuna. The chimera holds a lotus (national flower of India) in human hand. Arjuna had never seen such a typical creature in his life and guessed that this could not be a real animal, but a form assumed by Lord Krishna and immediately bowed down at his feet. In the paintings and sculptures, however, the lotus is often replaced by a wheel (chakra) or the "stylized discuss" of Lord Krishna. Chimeric forms are encountered in mythology, literature both Sanskrit and Odia as well as art all

over the world. However, chimera are the animals uniquely observed in Odishan art, culture, sculpture and temples. This is also used as an emblem for the "Journal of the Zoological Society of Orissa", Utkal University, Bhubaneswar, Odisha, PRANIKEE by name.

In addition to these, the extraordinary role of elephants especially tameable Indian elephants in movies of four to five decades back is unimaginable. Such large wild animals can be tamed and can undertake peculiar heart-touching activities which are vibrating. This, in fact, speaks the intelligence and role of brain of such giant mammals. Realising the huge structure and weightage in the environment, elephants are considered as one of the gate keepers of many Hindu temples. One crystal clear example of the existence of elephants is the standing elephants (a pair) at Puri temple. Out of four gates, east gate (Lions' Gate), west gate (Tigers' Gate), south gate (Horses' Gate : one black and one white) and north gate (Elephants' Gate : one on each side, i.e., left and right side), a pair of standing elephants guard the crematorium gate of Lord Jagannath known as "Koili Baikuntha". This spells the feeling of ancient people towards religions and culture and placing as well as respecting the important animals of our nature.

Besides, the involvement of elephants during the procession of car festival was a mandatory event. In past, during the world famous car festival of Puri, elephants with well-decorated and well-dressed feature lead the cars in a ceremonial way. The elephants were kept in a large shed specifically meant for the elephants under the supervision and stewardship of Gajapati Maharaja of Puri. Even during Chandan festival also, elephants were leading the procession of

Gods and Goddesses of Puri temple. That was a serious ritual and mandatory tradition of festivals of Puri temple. Even decorated elephants of Kerala state is also India famous which is unique in national level.

The art of elephants during every Thursday of the month of Margasira (Odia month) to celebrate and observe the worship of Goddess Laxmi is very common in rural Odisha and Urban Odisha as well. Lord Ganesha is worshipped in the whole country during Ganesh Puja whose head is transplanted portion of elephant. Therefore, people in general like and worship elephants as Lord Ganesha. Ganesha symbolizes the biological process of transplantation which is now quite possible in medical science by transplanting kidney, heart, liver, cornea etc. Elephants are also worshipped during "Biswakarma Puja" being observed in September each year. Moreover, in Kumar Utsab (Kumar Purnima), Gajalaxmi Puja (worshipping of Goddess Laxmi with elephant) is also extraordinary in Odisha. So both in Gajalaxmi (Laxmi with elephant) and Biswakarma Puja elephant is a common animal available with Biswakarma and Laxmi (The Goddess of money or paddy).

Elephant is often considered sacred and symbolizes royalty in Thailand and Burma, where it is also considered a symbol of good luck. In Buddhist iconography, the elephant is associated with Queen Maya of Sakya, the mother of Gautam Buddha. Elephants are both revered in religion and respected for their prowess in war. Ever since the "Stone Age", when elephants were represented by ancient petroglyphs and cave art, they have been portrayed in various forms of art, including pictures, sculptures, music, film and even architecture. As per history, scalp of elephant was

worn by Demetrius-I of Bactria (205-171 BC), founder of the Indo-Greek Kingdom, as a symbol of his conquest.

Elephants in art, secular society, culture, philosophy and architecture

Over a period of time, elephant form has been applied in various art, craft, and architecture with hidden meaning. With respect to this, Saharanpur the commercial district of Uttar Pradesh rose to prominence during Mughal period. Under the patronage of different monarchs, it developed a unique style of wood carving primarily undertaken on Shisham wood borrowing elements from Mughal art and architecture, a characteristic of Indo-Islamic-Persian style. Saharan woodcraft became a part of cultural heritage and protected by Geographical Indications (GI) tag. In Saharanpur woodcraft, elephant as a decorative element has been lavishly implemented with the abundance of floral and geometrical decorations on wood and stone carving as well as wall paintings.

Elephants in religion

Elephants are revered in Buddhism and are one of the seven precious treasures of the universal monarch. Like a snow mountain, the elephant embodies dignity, majesty and power. In much of Buddhist and Hindu iconography, deities ride on elephants and are considered honoured vehicles for transmitting spiritual teachings. All elephant images are symbols of protection, good fortune, and wisdom, however, white elephants are especially auspicious. It is said that the Buddha's mother dreamt of a white elephant before she gave birth to him. Lakshmi, the Hindu goddess of abundance, is often depicted with four elephants. Elephants are also connected

to gray rain clouds to bring bountiful harvests. In feng shui, elephants represent strength, protection, wisdom, and good luck.

Elephants are the symbol of Thailand. Elephants abound in Thai art and popular culture. These are seen in carvings, paintings, textiles, stories – even on bottles of the beloved local beer, Chang. The national symbol of Thailand, elephants are admired for their strength, endurance and intelligence. They have long had a role in Thai society; elephants were used in warfare centuries ago, and they also hauled logs and farm produce. A white elephant was even on Thailand's national flag from 1855 to 1916 and on the King's personal flag before then. White elephant flags still fly on Thai Navy ships. A white elephant symbolizes the king. Rare and considered sacred, white elephants (which are a pinkish-grey actually) were given to the king, whose status was determined by how many white elephants he owned.

The connection between Thai kings and elephants has made it into global culture in the form of the term "White Elephant." If a king was angry with a courtier, he gave him a white elephant as a gift. Since the animals were forbidden to work, couldn't be given away, and their maintenance was expensive, the man would be ruined. The phrase became a synonym for something useless.

"Erawan" is the Thai name for the three-headed white elephant in Hindu myth who guards Indra, the god of rain, thunder and lightning. A huge, 250 ton three-headed elephant sculpture stands in front of the Erawan Museum in suburban Bangkok, which houses Asian antiquities from Thai ceramics to Chinese furnishings. Erawan

National Park in west Thailand is also named for the mythical elephant. Thai movies also feature elephants, even recently in movie Tom-Yum-Goong in 2005. Few things are as ubiquitous to Thai culture as elephants.

In Christianity, elephant symbolism denotes temperance, chastity and patience. They are depicted in many ancient art works and are thought to represent Adam and Eve in their male and female forms. In Chinese culture, the elephant is believed to be a symbol of good luck, longevity and happiness. African mythology depicts the elephant as the wise chief who can objectively settle the disputes of other animals, which has resulted in its symbolic meanings of strength, power and wisdom.

According to a world animal protection report, India is considered the "birth place of taming elephants for the use of humans". In the State of Kerala, elephants are highly adorned with ornate jewellery during festivals namely "Anayadi Gajamela" (Asia's largest elephant pageantry) and "Thrissur Pooram." For Keralites, elephants are a part of their culture and identity.

Elephants in art

From stone age rock-art to modern age street-art, the elephant has remained a popular subject for artists. Prehistoric North Africans depicted the elephant in Paleolithic age rock art. The example is the Libyan Tadrart Acacus, a UNESCO World Heritage site, features a rock carving of an elephant from the last phase of the Pleistocene epoch rendered with remarkable realism. The other prehistoric examples are Neolithic rock art of South Oran (Algeria) and a white elephant rock painting in Phillip's cave by the San in the Erongo region of Namibia.

Indian rock reliefs include a number of depictions of elephants, notably the descent of the Ganges at Mahabalipuram, a large 7th century Hindu scene with many figures. At Unakoti, Tripura there is an 11th century group of reliefs related to Shiva including several elephants. Indian paintings include many elephants, especially ones ridden for battle and royal transport in Mughal miniatures.

Elephants are often featured in modern artistic works, including those by artists such as Norman Rockwell, Andy Warhol, and Banksy. The stork-legged elephant, found in many of Salvador Dali's works, is one of the surrealist's best known icons and adorn the wall of the Dali museum in Spain.

Elephants in politics and secular society

The elephant is also depicted by various political groups and in secular society. They are used as a representative of political parties such as United National Party of Sri Lanka and Bahujan Samaj Party of India. The elephants of Kerala are an integral part of the daily life in Kerala, South India. In Kerala, they are often referred to as the "sons of the sahya". The elephant is regarded as the "State animal of Kerala" and is featured on the emblem of the Government of Kerala. This huge mammal is also on the flag of the kingdom of Laos with three elephants visible, supporting an umbrella until it became a republic in 1975. Other southeast Asian realms have also displayed one or more white elephants.

Elephanta Island (also called "Gharapuri Island") in Mumbai Harbour was named by 17th century Portuguese explorers who saw a monolithic (single stone) basalt sculpture of an elephant near the entrance to what became known

as the "Elephanta Caves." The Portuguese attempted to take it home with them, but ended up dropping it into the sea because their chains were not strong enough. Later, the British moved this elephant to the Victoria and Albert museum (now Dr. Bhau Daji Lad Museum) in Mumbai.

Elephants symbolically represent a divine attribute. The elephant vahana (carrier) represents wisdom, divine knowledge, and royal power. It is associated with Lakshmi, Brihaspati, Shachi and Indra.

History of elephants in Europe is also spectacular. After Alexander's victory over king Porus of India, the captured war elephants became a symbol of imperial power, being used as an emblem of the Seleucid Diadochi empire. The order of the elephant (Danish : Elefantordenen) is the highest order of Denmark. This very select religious organization was founded by king Christian I in 1478, using the elephant as a symbol of docility, sobriety and piety, instituted in its current form in 1693 by king Christian V.

In Central London, England, an area known as the "Elephant and Castle" (or "The Elephant") is centered on a major road intersection and a station of the London underground. The heraldic elephant and castle has also been associated with the city of Coventry, England since medieval times, where it denotes religious symbolism.

The elephant as the symbol for the Republican Party of the United States originated in an 1874 political cartoon of an Asian elephant by Thomas Nast in Harper's Weekly. Many African cultures revere the African elephant as a symbol of strength and power. South Africa uses elephants' tusks in their coat of arms to represent

wisdom, strength, moderation, and eternity. The elephant is symbolically important to the nation of Ivory coast features an elephant head escutcheon on its focal point. In Western African kingdom of Dahomey (now part of Benin), the elephant was associated with the 19th century rulers of the Fon people, Guezo and his son Glele. The animal is believed to evoke strength, royal legacy and enduring memory as related by the proverbs : “There where the elephant passes in the forest, one knows” and The animal steps on the ground, but the elephant steps down with strength. Their flag depicted an elephant wearing a royal crown.

Elephant rock in New Zealand is developed in stone in such a way, the rock looks like a huge standing elephant with a very long proboscis.

Elephants in popular culture

Elephants’ existence in popular culture is noteworthy through various idiomatic expression, description and adages. The phrase “Elephants never forget” refers to the belief that elephants have better memory. But, in Odia, it is said to fools that the person is “Gajamurkha” (fool like an elephant) which seems inappropriate. The variation “women and elephants never forget an injury” originates from the 1904 book “Reginald on besetting sins” by British writer Hector Hugh Munro, better known as Saki.

The adage seems to have a basis, in fact, as reported in Scientific American. “Seeing the elephant” is a nineteenth century American denoting a world-weary experience, often used by soldiers, pioneers and adventurers to qualify new and exciting adventures such as the “civil war”, the “Oregon Trail” and “California Gold

Rush”. The term “white elephant sale” was sometimes used in Australia as a synonym for jumble sale. In the US, a white elephant gift exchange is a popular winter holiday party activity. A “White elephant” has become a term referring to an expensive burden, particularly when much has been invested with false expectations.

The idiom “Elephant in the room” tells of an obvious truth that no one wants to discuss, alluding to the animal’s size compared to a small space. “Seeing pink elephants” refers to a drunken hallucination and is the basis for the Pink Elephants on Parade sequence in the 1941 Disney animated feature, “Dumbo”. “Jumbo” has entered the English language as a synonym for “large”. Jumbo, in fact, originally was the name of a huge elephant acquired by circus showman PT Barnum from the London zoo in 1882. The name itself may have come from a west African native word for “elephant”.

Elephants in literature

Elephants are crept into various forms of literature. The elephant’s different connotations clash in Ivo Andric’s novella “The Vizier’s Elephant”. In the Tarzan novels of Edgar Rice Burroughs, Tantor is the generic term for ‘elephant’ in the fictional simian Mangani language. Other elephant characters shown include “Jean de Brunhoff’s Babar” and “Dr. Seuss’ Horton”. Jules Verne featured a steam-powered mechanical elephant in his 1880 novel “The Steam House”. In addition, the animal is depicted in its military use through the oliphaunts of JRR Tolkien’s “The Lord of the Rings” trilogy and the alien invaders of “Larry Niven” and Jerry Pournelle’s 1985 science fiction novel “Football”.

Prominent short stories featuring elephants include Rudyard Kipling’s “Toomai of the

Elephants” and “The Elephant’s child” as well as Mark Twain’s “The Stolen White Elephant”. George Orwell wrote an allegorical essay “Shooting an Elephant” and in “Hills like White Elephants” and Ernest Hemingway used the allegorical white elephant, alluding to a pregnancy as an unwanted gift.

The animal is also described in historical novels. “The Elephant’s Journey” is a novel by Nobel laureate Jose Saramago. This discusses 16th century journey from Lisbon to Vienna by an elephant named “Solomon”. “An Elephant for Aristotle” is a 1958 novel by L. Sprague de Camp. Elephants also represent the hugeness as in Ursula Dubosarsky’s 2012 children’s book “Too Many Elephants in this House”, which also plays with the notion of the elephants in the room. In AA Milne’s “Winnie the Pooh” stories, a heffalump physically resembles an elephant and EH Shepard’s illustration shows an Indian elephant. “Heffalump” has since been defined as “a child’s term for an elephant.”

Elephants in sports

Elephants so giant in structure and feature, they are placed as a mascot or logo for various sports groups. Circus showman PT Barnum donated the stuffed hide of “jumbo” the elephant to Tufts University in 1885, where jumbo soon became the mascot for their sports teams. The mascot for the Oakland Athletics baseball team is based on the figurative white elephant. The Oakland Athletics (A’s) are sometimes, but infrequently, referred to as the ‘elephants’ or ‘white elephants’. Their mascot is nicknamed “stomper”.

University of Alabama’s Crimson Tide mascot has been an elephant since 1930 after a

sports writer wrote of a fan yelling “Hold your horses”, the elephants are coming” as the football team rumbled on to the field. Their elephant costumed “Big Al” officially debuted at the 1979 Sugar Bowl. Catania, Italy uses the elephant to represent their football team, referencing the animal that has represented their city since ancient times.

The mascot of the Asian Games held in New Delhi, India in 1982 was named “Appu” which provided a sneak peek into India’s culture and outlook. This was the first time that the Asian Games had a mascot. Every Asian Games since 1982 has its own mascot. Appu, the mascot for the 1982 Asian Games, was the first mascot which was an Indian elephant.

Elephants in music

The elephant is represented in music such as Henry Mancini’s hit song “Baby Elephant Walk”, which has been described as “musical shorthand for kookiness of any stripe.” The American band the white stripes fourth album was entitled “Elephant” in honour of the animal’s brute strength and closeness to its relatives. The hit single “Elephant” by British recording artist Alexandra Burke is based on the expression “Elephant in the room.” “Nellie the Elephant” is a children’s song first released in 1956 and since covered by many artists including the punk-rock band Toy Dolls. For her album, “Leave Your Sleep, Natalie Merchant set to music “The blind men and the elephant” poem by John Godfrey Saxe, which is based on the parable.

Our mothers in Odia sing a local song in their own style referring to elephant towards neonates (babies) and allow the babies to sleep. The song is – “Jhulure Hati Jhule; Baa Pani Khai

Phul”. This is a very traditional and common song of the mothers in Odia community in a popular form.

Elephants in film and television

As an animal of significance, elephant is also featured in film and on television. Thailand, the land of white elephants, has produced many movies about the elephants from the 1940 drama film “King of the white elephant” to the 2005 martial-art action film “Tom-Yum-Goong.” In the west, the elephant was popularised by “Dumbo”, the elephant who learns to fly in the 1941 Disney animated feature of the same name. Kipling’s “Toomai of the elephants” was adapted as the 1937 British adventure film “Elephant Boy”. In the film “Tai the elephant – actress” has portrayed Bo Tat in “Operation Dumbo Drop (1995)”, Vera in “Larger than Life (1996)” and Rosie in “Water of elephants (2011)”.

On television, “Nellie the Elephant” is a 1990 UK cartoon series inspired by the song of the same name, featuring Scottish singer Lulu voicing Nelly. Britt Allcroft adapted “Mumfie” the elephant from Katherine Tozer’s series of children’s books, originally in a 1970s televised puppet show and then in 1990s animated “Magic Adventures of Mumfie” series. The 2016 action – comedy film “The Brothers Grimsby” gained notoriety for its crude and graphic elephant scene.

Elephants in games

Elephants are observed in various games. In “Shatranj”, the medieval game in which chess developed, the piece corresponding to the modern bishop was known as ‘Pil’ or ‘Alfil’ (Elephant’ from Persian and Arabic, respectively). In Indian ‘Chaturanga’ game, the piece is also

called ‘Elephant’ (Gaja). The same is the fact in Chinese chess which bears an elephant piece, being the only one that way not cross the river dividing the game board. In the Japanese ‘shogi’ version, the piece was known as the ‘Drunken Elephant’. But, it was dropped by order of the emperor Go-Nara and no longer appears in the version played in contemporary Japan. With modern chess, the word for bishop is still ‘Alfil’ in Spanish, ‘Alfiere’ in Italian, ‘Feel’ in Persian, and ‘elephant’ in Russian. All of these games originally simulated a type of battle field. Thus, this exhibits a war elephant. Today, canonical ‘Staunton chess set’, the piece’s deep groove, which originally represented the elephant’s tusks, is now believed as representing a bishop’s (abbot’s) mitre.

Distribution, position in animal kingdom and types of elephant

Two types of elephants are seen today on the earth namely African elephant and Asian elephant or Indian elephant. During fairly recent geological times, elephants of many species making up six families ranged over the world except for Australia and Antarctica. The African elephant is found in most parts of Africa south of the Sahara, in Savannah, bush, forest, river valley or semi-desert. The Indian elephant is native to Sri Lanka, Burma, Thailand, Malaya, and Sumatra, living in dense forests. More correctly it should be called Asiatic, not Indian, but the use of ‘Indian elephant’ is now too intensely and deeply rooted for change.

Among five categories of vertebrates such as fishes, (ii) amphibians (frogs and toads), (iii) reptiles (snakes, lizards, crocodiles, turtles), (iv) birds and (v) mammals, elephants come under mammalian group. Mammals include animals like

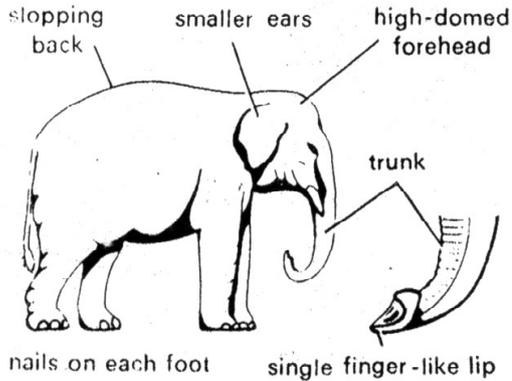


Fig. 3 Asiatic elephant (*Elephas maximus*).

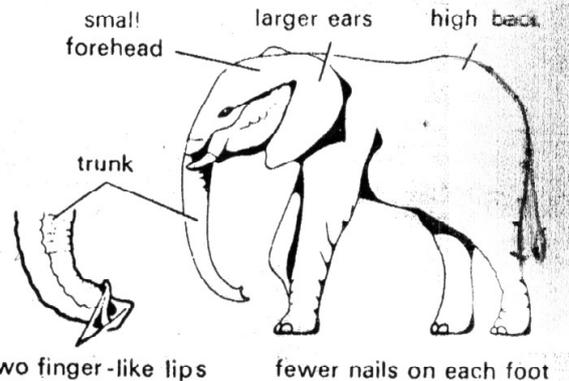


Fig. 2 African elephant (*Loxodonta africana*).

cat, dog, monkey, zebra, giraffe, mouse, rhino, hippo, horse, elephant etc. According to animal taxonomists, elephants belong to the class – Mammalia, Order – Proboscidea and family - Elephantidae. In fact, they are mammals as they are characterised by three basic characteristics such as : (i) presence of hair on the body, (ii) presence of external ear called pinna (plural pinnae) and (iii) presence of mammary glands or breasts for feeding the baby or young ones after birth.

Further, elephants are unique mammals having a trunk or proboscis. Looking at the types of elephants, the biological or zoological or scientific name of the African elephant is *Loxodonta Africana* (Fig.2) and Indian elephant is *Elephas maximus* (Fig.3)

Structural characteristics of Indian and African elephants

The African elephant, the larger of the two surviving species, is up to 11.5 feet high and weighs up to six tons. Indian elephant is about 9 feet high and weighs less than six tons. They are characterised by massive body, large head, short neck and stout pillar-like legs. The feet are short,

broad, and circular with an elastic pad on the sole and hoof like nails, five on each foot except for the hind foot of the African elephant, which has three. The most distinguishing feature of elephant is the snout which is remarkably long, flexible with the nostrils at the tip. This is called trunk or proboscis which is a fused structure of both nose and upper jaw. The nostrils are two in number and the trunk is mobile which is used for carrying food and water to the mouth, for spraying water over the body in bathing or spraying dust in dust-bathing, and for lifting objects, as well as being used for smelling (Fig.4).

Elephants are also unique with respect to their teeth. The single incisor tooth on either side of the upper jaw are elongated and form tusks.

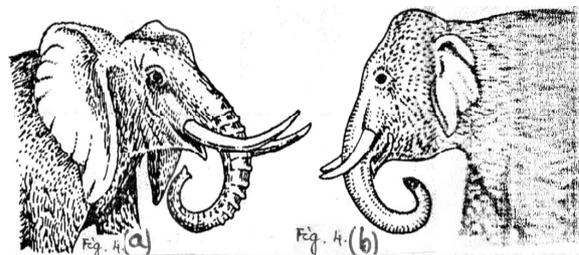


Fig.4a - African elephant showing large ears and two lips at the end part of trunk.

Fig.4b - Indian elephant showing small ears and a single lip at the end part of trunk.

In African elephants, these tusks are found projected out in both the sexes whereas in Indian elephants, tusks are seen only in males. The molars (side teeth of mouth) have broad crushing surfaces for chewing fibrous vegetation. Every elephant in its life time, assuming it dies of old age (70 years in Indian and 50 years in African) has 7 teeth in each half of both upper and lower jaws, exclusive of tusks. The first are 4 milk teeth which are soon shed. After that a succession of 6 teeth moves down each half of both jaws on a conveyor-belt principle. The first is in use alone, but as its surface gets worn down, the next tooth behind it moves forward, to push out the worn stump and take its place. When the last teeth have become forward and been worn down, the elephant must die from starvation, if nothing else.

The main difference between two living species are larger ears and tusks of the African, its sloping forehead and hollow back, and two lips at the end of the trunk compared with one lip in the Indian elephant (Fig.5).

Elephants are sometimes grouped with rhinoceroses and hippopotamuses under a loose term of pachyderm meaning thick skin. In all, the skin is thick and only sparsely haired and all need to keep the skin in condition by wallowing. The

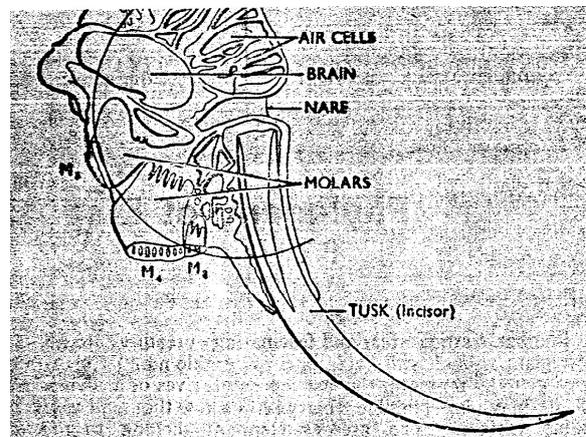
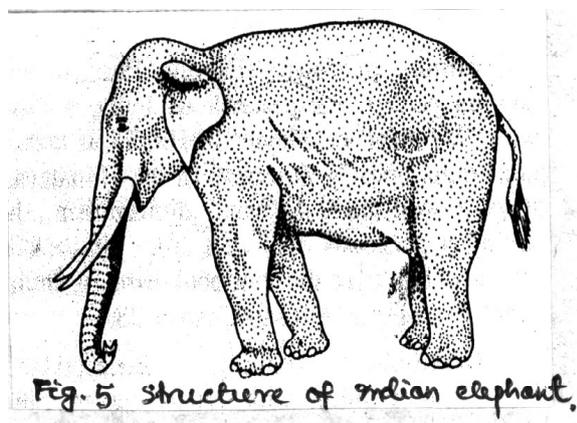


Fig.6 : Skull of elephant showing air cavities, brain, cheek teeth (Molars) and large tusk (incisor in front).

long axis of the skull of elephants is reduced and extensive air cells called “diploe” are there in the skull (Fig.6). These lighten the skull and support the massive head. The bones of the skeleton are large and instead of marrow cavities, they are filled with spongy bone. Cheek teeth (Molars)

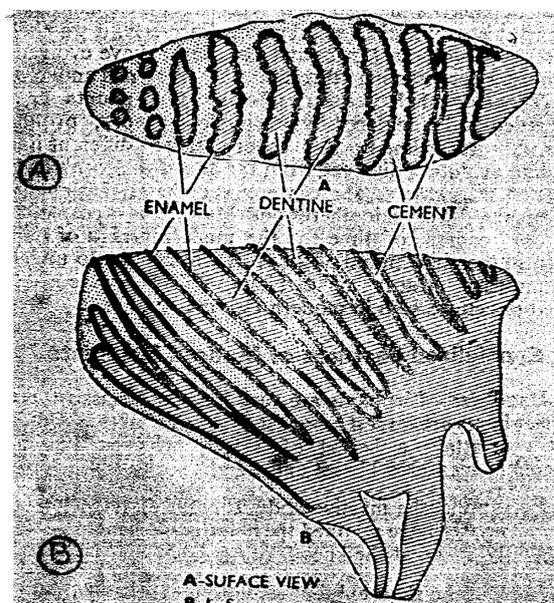


Fig.7 : Side or cheek tooth (Molar) of elephant. (A) Surface view (B) View after longitudinal section.

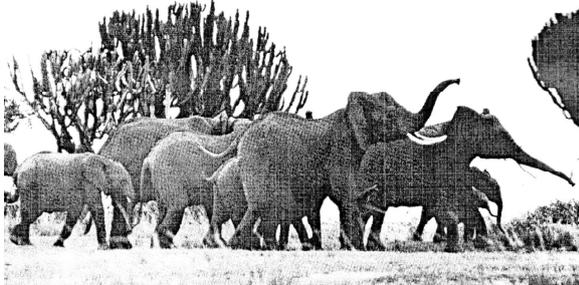


Fig.8 : The herd of elephant (Gregarious nature) having female in front (matriarchy), bull (Male) and babies. The herd is led and controlled by the elderly cow (female elephant).

are oval shaped having enamel, dentine, and cement (Fig.7).

Stomach is simple and the liver is without gall bladder. Elephants are very sharp in scent and hearing. Testes are abdominal unlike other mammals. A female elephant attains sexual maturity between 8 to 13 years and gives birth to young which is usually one and very rarely twins. The gestation period is 515-760 days, mostly about 22 months. They live in group (gregarious) having bulls and cows and each herd is led by an elderly cow (Fig.8) while the older bulls live solitary and join the herd only to mate. During 'musth period', a blackish secretion occurs in male elephants from a gland called 'temporal gland'. This gland is located between the eye and ear on both sides.

The food of elephant is entirely vegetation and includes grass, foliage, branches of trees and fruits (herbivorous). African elephants cool their body by waving large ears back and forth. The Indian elephants, with much smaller ears, achieve the same by keeping to dense shade, but both the species rest at midday. Both species can sleep standing or lying on one side. Another unique behaviour of elephants is purring from the stomach.



Fig.9 : Untameable African elephants, but tamed by Belgians by training immature ones for work using kindness and patience rather than brutality. Indian elephants can be tamed easily which is evidenced from circus and elephants in procession of Odisha and mostly Kerala.

When elephants are out of sight of each other, they keep up purring. On the approach of danger, one of them becomes silent. The sudden silence alerts the rest of the group (herd), which also grows silent. Only when the danger vanishes, the purring from the stomach resumes, by which the elephants communicate each other that all is well. This shows their group or herd behaviour. Apart from purring sound, elephants trumpet. This sound is as startling and as loud, if less pure in tone, as that from the brass wind instrument. Indian elephants are tameable, but African ones are very difficult to be tamed. But, Belgians succeeded by

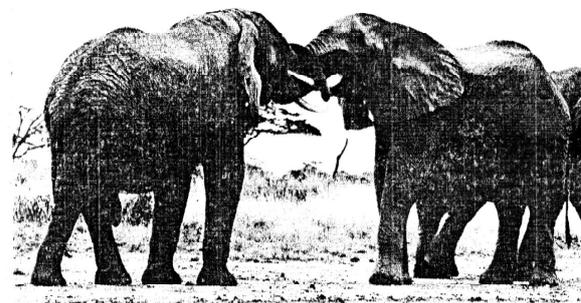


Fig.10 : Two bulls (male elephants) contest for the cow (in front) who appears to be rather disinterested in the combat.

training immature ones for work using kindness and patience rather than brutality (Fig.9). During musth period, 2 bulls quarrel and fight to mate with a female (Fig.10) by intertwining the trunk.

Evolution and ancestry of elephants

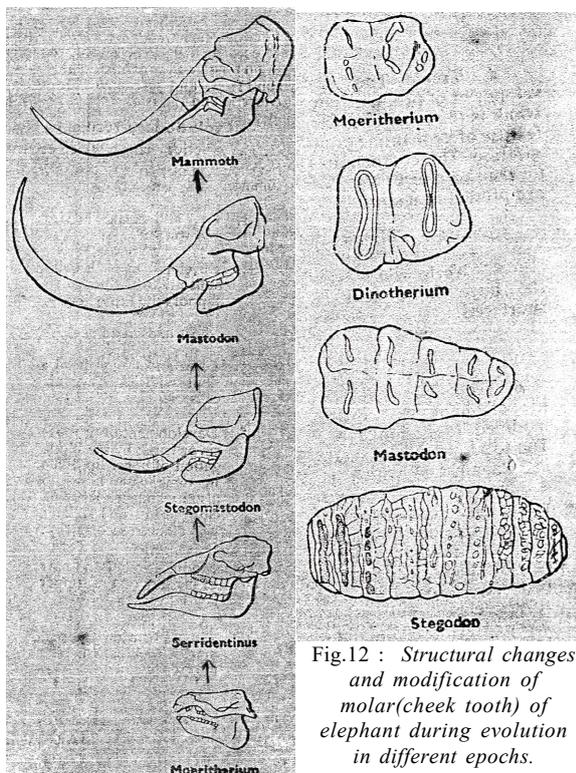


Fig.11 : Development and changes in skull and tusk in elephants.

Fig.12 : Structural changes and modification of molar(cheek tooth) of elephant during evolution in different epochs.

The gigantic mammals still live in considerable number in Asia and Africa and represent the last representatives of a dying group. The chronological sequence of the fossil ancestors of elephant projects the gradual development of the tusk and changes in the skull (Fig.11). Further, during the evolution, changes in the structure of cheek teeth (Molars) are significant (Fig.12). Elephants have originated from some common

proboscidea - Sirenia ancestor, whose fossils are abundantly found in Eocene, Miocene and Pliocene beds of geological time period. The main stage of their evolutionary orchestra happened to be Africa, from where these migrated to other continents and became widespread in North America, South America and Eurasia. Gradual elongation of tusk is highly significant (Fig.13).

The first known ancestors of proboscideans (elephant) as a whole are regarded as Maritheres, that lived in Egypt during late Eocene period. These ancestors in chronological series are (1) Moeritherium, (2) Phiomia, (3) Dinotherium, (4) Mastodon, (5) Gomphotherium, (6) Tetralophodon, (7) Stegomastodon, (8) Stegolophodon, (9) Stegodon and (10) Mammonteus (woolly mammoth) (Fig.14). The detailed evolutionary succession can be analysed from the phylogeny of elephant (Fig.15). If

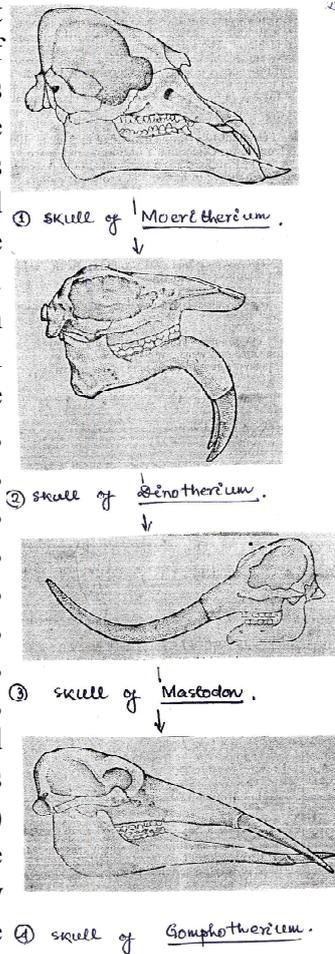
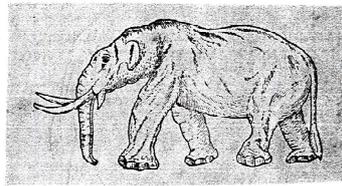


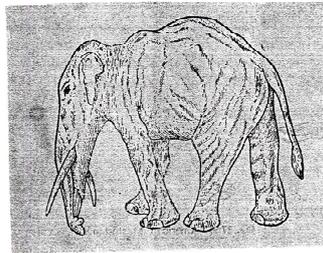
Fig.13 : Gradual development and change in skull and tusk in elephants during evolution.

woolly mammoth and present day elephants are compared, we can see that in woolly mammoth, lower jaw was short, upper tusks were long,

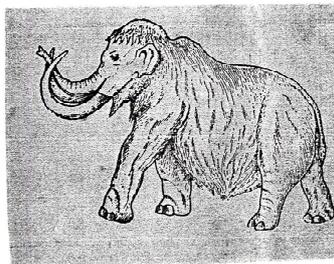
vertical and curved. Body was covered with coarse dark brown hair. Their complete carcasses were found in the permanently frozen gravels of Northern Siberia. Finally, after so many years and changes, present elephants are represented by *Elephas* (Asian) and *Loxodonta* (African) in which several changes have taken place.



① American Mastodon. ↓



② Gomphotherium. ↓



③ Woolly mammoth.

Fig.14 : Structural change in elephant during the course of evolutionary history.

Nature, poacher and number of elephants

As per the report of the daily newspaper 'The Samaja' the number of elephant in India is increasing whereas it is decreasing in certain States. It is happy to state that districts in Odisha namely Dhenkanal, Deogarh, Mayurbhanj, Keonjhar, Sambalpur, Angul, Sundargarh, and Cuttack are the congenital habitats of elephants in Odisha. But it is a matter of grave concern that Poachers kill the male elephants for the sale and trade of tusks. This causes a failure of appropriate reproduction of elephants. Poachers kill elephants by electrocution and intoxication. Apart from this, a microbial disease anthrax is held responsible for

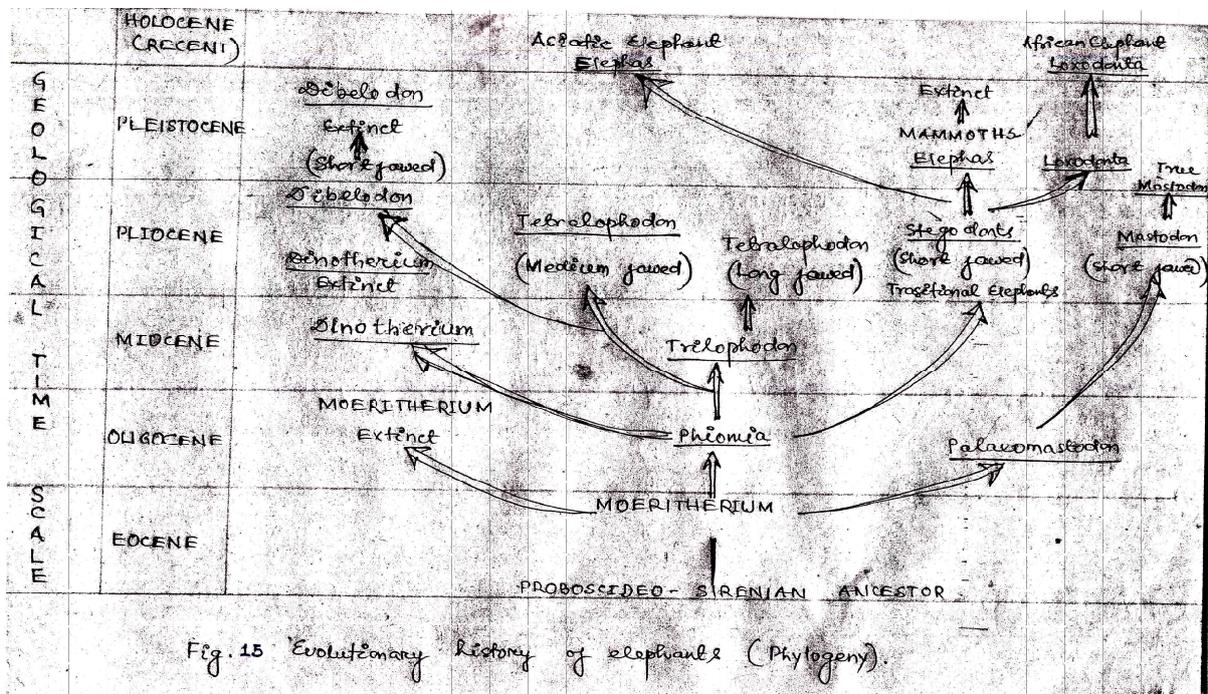
the death of elephants. Deforestation and lack of food fragmented the herd of elephants into smaller groups.

Human – elephant conflict : An issue

One of the major issues relating to wildlife is animal – human conflict. This conflict is mostly observed between bear-human and elephant-human as well as rarely between other animals. Elephant – human conflict is recorded and reported to be a regular feature each year. The main causes of the conflict are as follows :

1. Degradation of forest and development of dams, canals, embankment, industries and expansion of roads.
2. Urbanization and lighting.
3. Loss of natural corridors of elephants.
4. Lack of food from the habitat and migration to human habitat for food and to agricultural land to take cereals as food.
5. Disturbing the elephants through human created problems (anthropogenic problems) like using crackers, beating drums, irritating through follow up etc.

The conflict can be reduced or minimized or controlled or regulated if first of all their habitats and corridors are restored and enriched with trees. So, dense natural forest can keep them in their home or nature, so that they will never feel like coming out of their food area and shade territory. Moreover, water sources of elephants should not be blocked or choked. They do like an area where proper water sources are available. Steps need to be taken to develop jungle as well as water availability in sufficient quantity. Thirdly, local people close to human habitat and elephants' habitat must be educated and prompted to avoid



irritating the elephants followed by disturbing their natural attitude of these calm, cool, composed, and gentle most creatures of the nature. We have to remember that elephants, in general, are never aggressive or attacking in their nature and behaviour.

Conservation of elephants and steps of the government

It can be emphatically said that ‘conservation without compensation is a conversation.’ So many species are vanished and extinct like dodo and cheetah. Restricted number of elephants indicate extinction unless appropriate measures are taken. Government is very keen in saving, protecting and increasing the strength of the elephants not only in India but also in Odisha in particular. In 2019-21, the Government of India has sanctioned 9.68 crore to Odisha towards the ‘Project Elephant’ for not only enhancing the population of elephant but also for ‘green economy’.

Besides, the Government of Odisha had identified 14 corridors for elephants in January, 2010. Government had spent twenty crores for developing 420.8 kilometer long path which is about 870 square kilometre. In this corridor, West Bengal, Chhatisgarh and Jharkhand were associated. Moreover, the Government of Odisha had identified five places for the conservation of elephants. Till date, three places namely Mahanadi, Mayurbhanj and Sambalpur were notified for conservation and two other places such as Baitarani and South Odisha are yet to be notified.

To generate awareness world wide, 12th August of each year is observed as “World Elephant Day”. Further, to make the people of our country conscious, to protect the elephants in our nature and to enhance the number, Ministry of Environment, Government of India has declared the elephant as “National Heritage Animal” on 22nd October, 2010. Hope, this status

towards such colossal animal would create a successful momentum for the enrichment of the population of elephants in India. So, let us conserve and preserve this gigantic creature for our better future without any torture.

Concluding Remarks

Elephants or elephant symbolism represents sensitivity, wisdom, stability, loyalty, intelligence, peace, reliability and determination which are seen in the animal's nature when observed in wild. Specifically speaking, elephants are gentle giants, who show great care towards their herd, offspring and elders. This also symbolizes responsibility, dedication and discipline in the group. They are usually calm and mellow creatures unless their young or herd is threatened or disturbed. They are, in fact, very slow to anger. Broadly, elephant is an animal with good qualities and nature. We must inculcate these qualities in our day today life and activities.

Justice is extended to this huge balanced creature to be the 'National Heritage Animal'. Let us see its bright future, brilliant number as well as dignified status. Realising the gravity, weightage, and role of the elephant as a key species it may be said as follows :

Past is a waste paper.

Present is a newspaper.

Future is a question paper.

So, looking at the past, present and future of some important and key living animals like elephants, rhinos, hippos etc., elephants' future should be crystal clear which is in our clutch.

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Odisha : A Developed Economy

Prof. R.P. Sarma

Economic development of a region is measured by its production. In an economy commodities produced are measured by dividing the economy into three sectors; Primary, Secondary and Tertiary. In the earlier centuries economies were dominated by the primary sector of agriculture, forestry and mining. From the last quarter of 19th century manufacturing products and industrial production were dominated in the economy, but now from the middle of the 20th century, the service sector is dominating the GDP composition. Primary sector has been relegated to a third position with smaller percentage contribution to the national economy. Presently the dominance of service and Industrial sectors in an economy is recognized as the developed economy.

In India, among the states, Odisha is regarded as a fastest developing economy. The economists now hope that Odisha is shortly going to be the one trillion economy state in the country. During the seven year period from 2012-13 to 2018-19, the annual growth rate GSDP of the state remained equal to or above the national GDP with the exception the years 2014-15 and 2015-16. During the last two years, 2017-18 and 2018-19, Odisha's GSDP annual growth rate remained

7.4 and 8.4 per cent. During the year 2019-20 while economists and statisticians struggling to attain national growth rate of at least 5 per cent, some other economists are predicting that the state would attain about 11 percent growth of GSDP, some others predicting a growth rate of mind-blowing 15.7 per cent. It is observed that the state's GSDP is growing at the average growth rate of 8.10 per cent.

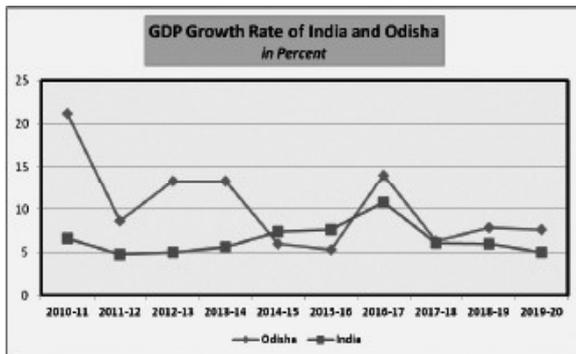
Annual GSDP Growth Rate of Odisha

Odisha is continuously growing at the rate of, on an average, about 8 per cent growth rate from year 2010-11 year. Fig.1 shows the comparative growth rates of GDP of India and Odisha graphically. As it clearly shows that with the exception of two years, 2014-15 and 2015-16, in all other years Odisha's GSDP growth rate remained higher to India's annual growth rates.

Sectored Composition of GSDP :

An economy is divided into three sectors for calculation of production. These three sectors are (1) Primary sector which includes agriculture, forests and mining; (2) secondary sector which includes all types of manufacturing goods and (3) tertiary Sector which includes all types services provided to the individuals and families in the

Fig. 1 : The GDP Annual Growth Rates of India and Odisha



economy. In the sectoral distribution of GSDP also Odisha has symptoms of developed economy.

(1) Primary sector :

Lowest contribution of primary sector is regarded as the symptom of a developed economy. In Odisha agricultural sector is in the third position, in the composition of three sectors with a contribution of 20 per cent. This is a symptom of advanced development. The pie diagram in Fig. 2 and Fig.3 for Odisha and India clearly indicates this. The agricultural sector in India and Odisha are in the third place, even though Odisha's share is 3 per cent higher to the national share. In the year 2016-17 the share of primary sector was 21.5 per cent which is gradually declined to about 20 per cent in the year 2019-20.

(2) Secondary Sector :

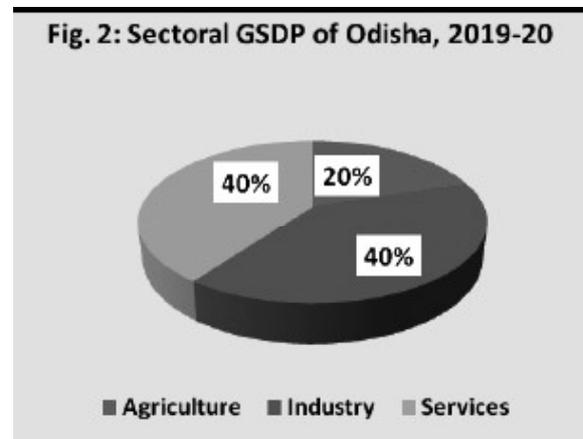
In the share of the industrial sector, Odisha's share is about 10 per cent above India; Odessa's industrial sector is 40 per cent as against India's 30 per cent for India. In the year 2015-16 Odisha's share in this sector was 36.5 per cent which increased to 40 per cent in the year 2019-20. In the industries the manufacturing sector

contributed maximum of about 15.8 per cent in current prices.

(3) Service Sector :

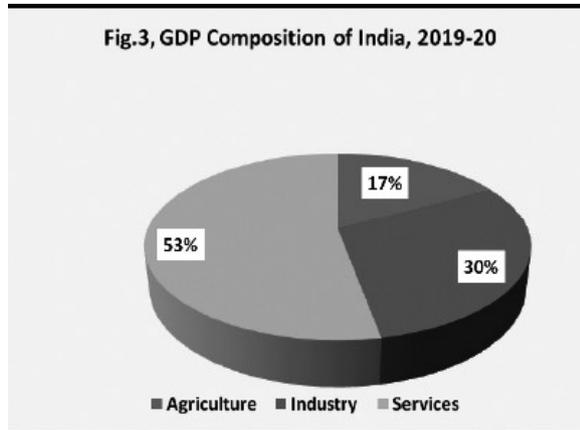
The most surprising growth is in the service sector of Odisha. In recent years Odisha is progressing rapidly in the services sector. In 2015-16 shows that Odisha's services sector was below the India's share of about 12 per cent. In the year 2017-18 the service sector share was as high as 47.6 per cent, an all time high record for Odisha. But the economists predict that Odisha's service sector would exceed India's service sector and Odisha attain the share figure of about 64 per cent in 2019-20; but the actual figure of 2019-20 shows that now it would reach about 40 per cent.

Fig. 2: Sectoral Positions of Odisha, 2019-20



The industries and the services sectors together accounts for 80 per cent of the share of GSDP and the industries sector alone recorded a maximum growth of annually 13.4 per cent. In terms of sub-sectors the manufacturing sector experienced a maximum annual average growth of 22.3 per cent in recent five years.

Fig. 3: Sectored Positions of GDP of India, 2019-20



Per-capita Income of Odisha :

Growth of per-capita income (PCI) is another measure of welfare of the people. During the last seven years, the PCI of Odisha grown on an average by 6.6 per cent annually as against the national trend of 6.1 per cent annually. The PCI which was Rs. 70,799 in the year 2017-18 increased to Rs. 75,796 in the year 2018-19. All these analyses shows that Odisha is now a developed economy. Rank of per capita income came down to 16th position in 2016-17 from 25th position in 1996-97 among the states of India. Bihar's position remains constant in both the years at 26th Position.

Inflation :

The rate of inflation in Odisha is less than national figures. India's rate of inflation (CPI) which was 4.5 per cent in the year 2016-17, declined to 3.6 per cent in 2017-18. During the same period Odisha's rate of inflation declined from 5.0 per cent to 2.2 per cent; the rate of inflation in Odisha is about 1.4 per cent below to the national figure. Not only this Odisha ranks first in highest declining of inflation among the states from 2014-15 to 2017-18, about 5 per cent

which is not found in any other state. A recent study (NITI Aayog's Delta ranking, 2019) shows that in the top 10 districts of India, in which development of infrastructure has been ranked first position, among the 10 districts, 6 districts are from Odisha. Gajapati district of Odisha, primarily a scheduled tribe district, with more than 50 per cent of tribal population, has emerged as second highest district in infrastructural development in India.

The State of Human Development

All the economic indicators analyzed above shows that Odisha is now a developed economy. But only the material development is not indicating a developed human society, the aim of a society is to achieve a better human development, a happier human life. Apart from the material production in the society the following aspects of development has to be taken into account. Among others the following three human development factors have to be taken into account apart from economic development.

1. Eradication of extreme poverty;
2. Achievement of universal primary education;
3. Provision of health and medical facilities to all and reduction of child and maternal mortality.

Incidence of Poverty

In the world, about 11 per cent of people are living below the poverty line to-day, just surviving by spending less than \$ 1.90 a day. It is very difficult to define poverty. USA Census Board has defined poverty as 'deprivation of human well-being'. It is measured as minimum income required for a family to cover minimum needs of living. On this basis the Head-count Ratio of poverty is computed in India to know the incident of poverty in a region.

The head-count Ratio of India and Odisha is presented from the years 2004-05 to 2011-12 in Table -1.

Odisha is the 11th largest populated state of India in population, but ranked at 25th in Human Development Index among the 29 states of the country. The Table shows that the poverty ratio in Odisha reduced from 48.56 per cent in 1993-94 to 32.59 per cent in 2011-12, a drop out of about 15.97 per cent, on the other hand in India, during the same period, the reduction of poverty has been about 15.28 per cent.

Literacy and Primary Education

At the middle of last century, in 1951, Odisha's rate of literacy was 15.80 per cent, in which female literacy was as low as 4.52 per cent. Of course by 2011 the percentage of literacy of the state reached 72.87 per cent. District wise analysis shows that according to census of 2011 in the district of Khordha, in which the capital of Odisha Bhubaneswar is situated, the literacy is highest with 88.86 per cent. The district of Nabarangur is last in the rank with a literacy percentage of 46.43 per cent.

Table 1: Poverty, Head Count Ratio according to Tendulkar Method

Year	Odisha			India			Gape with India & Odisha
	Rural	Urban	Total	Rural	Urban	Total	
2004-05	60.80	37.60	57.20	41.80	25.70	37.20	20.00
2009-10	39.20	25.90	37.00	33.80	20.90	29.80	7.20
2011-12	35.69	17.29	32.59	25.70	13.70	21.92	10.67

Source : Odisha Economic Survey, 2018-19, Govt. of Odisha

The poverty of ten poorer states of India and their changes in poverty status from the year 1993-94 to 2011-12 are presented in Table 2.

It can be observed from the Table that, in both the years, that is in 1993-94 as well as in 2011-12, the ranks of the two states, remained unaltered: Bihar first and Odisha in the second place. U.P. made a good progress during these years in reducing poverty to the tune of 29.59 per cent, as against about 15.97 per cent in case of Odisha. In the year 1994-95, Haryana had lowest poverty of 25.05 per cent but in the year 2011-12 Kerala had reached the lowest of 7.05 per cent of poverty in the country.

Table 2 : Poverty in the states of India, 1993-94 –2011-12

State	1993-94	2011-12	Change
Bihar	54.96	33.34	21.62
Odisha	48.56	32.59	15.97
M.P.	42.52	31.35	11.17
U.P.	40.85	11.26	29.59
Maharashtra	36.86	17.35	20.51
West Bengal	35.66	19.98	15.68
Tamil Nadu	35.03	11.28	23.75
Rajasthan	27.41	14.71	12.70
Kerala	25.43	7.05	18.38
Haryana	25.05	11.16	13.96

Source: Odisha Economic Survey, 2018-19, Government of Odisha

In the year 2014-15 there are 36,550 primary schools in the state, of course there are primary classes in other secondary schools which are not included here. The GER and NER in Odisha's primary schools from the year 2008-09 to 2014-15 is shown in Fig.3.

In seven years period from 2007-08 to 2014-15, the general drop-out rates declined to 1.63 per cent from that of 7.39 per cent from the year 2007-08. The drop-out figures of general

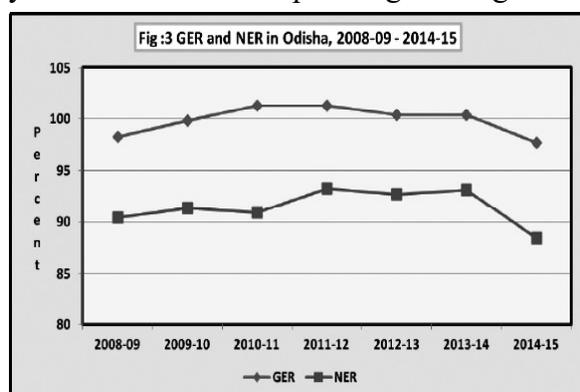


Fig.3 : GER and NER in Odisha from 2008-09 to 2014-15. The Drop-out from Schools

student and students of scheduled tribes are presented in Table- 3. The general drop-out ratio has come down to 1.63 per cent in 2014-15 but the tribal children's drop-out ratio remained at 3.75 per cent and among them the girl-child drop-out ratio remained highest with 3.93 per cent in 2014-15.

The differences in the ratios of drop-outs by the general and schedule tribe students are graphically presented in Fig.4.

The General Health Conditions

A developed state is not evaluated alone with material development. All though a higher per-capita income is deniable but with it a healthy life is more desirable, to term it as a developed state. There are few health indicators which indicate the health of a society. Some of the important Health Indicators are shown in Table - 4.

Life Expectancy at Birth:

Life expectancy at birth is an overall indicator which indicates a health status of a

Table – 3 : Drop-outs of Students in Primary Schools, 2007-08 to 2014-15

Year	All categories			Schedule Tribes		
	Boys	Girls	Total	Boys	Girls	Total
2007-08	7.76	7.83	7.39	14.03	19.75	16.89
2008-09	5.00	4.84	4.95	9.05	12.34	10.69
2009-10	2.57	3.10	2.83	6.27	6.66	6.46
2010-11	2.35	2.86	2.60	4.12	5.35	4.86
2011-12	0.25	0.62	0.43	3.51	2.80	3.10
2012-13	0.73	0.22	0.37	2.76	2.85	2.96
2013-14	2.08	2.05	1.97	2.68	2.77	2.71
2014-15	1.58	1.78	1.63	3.57	3.93	3.75

Source: Odisha Economic Survey, 2018-19, Govt. of Odisha

people in a region. In the life expectancy at birth females are at a better position than males. The projected life expectancy at birth for the years of 2021-25, has been estimated at 72.3 years for the females and 69.8 years for the males in India. The state of Kerala maintains highest figure of LEB with 75.2 years and 78.6 years for male and females respectively. As against this the Odisha has LEB of 67.8 years and 71.6 years respectively for males and females.

Infant Mortality Rate (IMR)

Assam and Madhya Pradesh ranks first position among the states of India with 54 deaths for every 1000 live births. National figure is 40 infant deaths per 1000 live births. The high death rate is due to delivery of children at residences of the mothers instead of in maternity homes. In the residence of the mothers babies are delivered by a village Old-lady in very unhygienic conditions. The government record says that the institutional delivery of children in 2012-13 was only 80.8 per cent and the percentage of institutional delivery has declined from the previous year which was 84.4 per cent. In a civilized society child delivery takes place in very hygienic conditions with

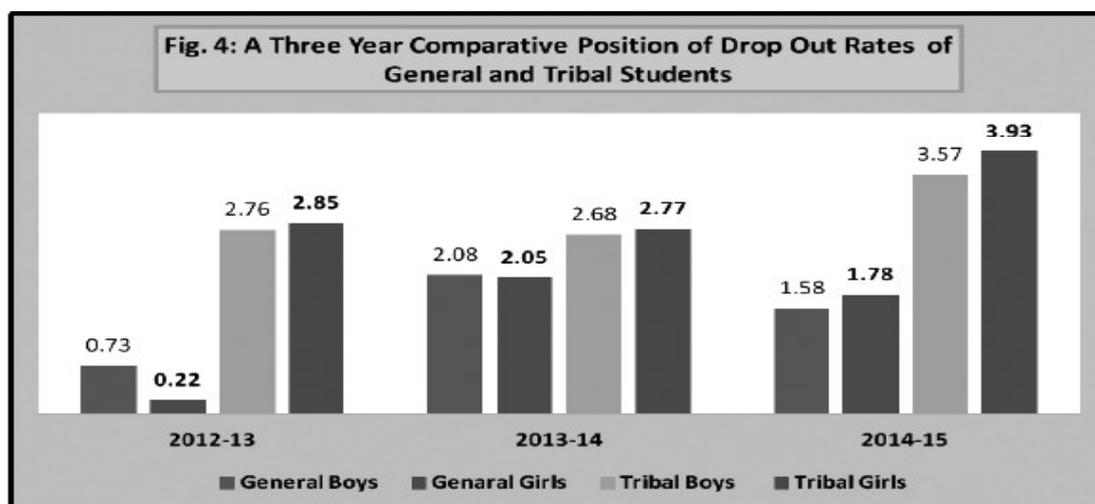
specialized doctors and medical staff specialized in child delivery system.

Table -4 : Important Health Indicators for the people of Odisha, 2013

Indicators	Population	Rate
Infant Mortality Rate	Per thousand births General	51
Infant Morality Rate	Per thousand births Rural	53
Maternal Mortality Rate	Per 1000 live births	2.22
Life Expectancy at Birth	Male	67.8 years
Life Expectancy at Birth	Female	71.6 years

Conclusion

On the basis of annual growth of GDP, it is found, that between the years 2000 and 2020, that is, in a period of two decades the annual growth of GSDP of Odisha, in comparison to annual GDP growth rate of India, with the exception of two years in the middle, the GSDP of Odisha remained above the Indian GDP



growth rate. In another analysis also it shows that Odisha's GSDP system behaved like a developed economic system. The composition of three sectoral GSDP systems also now shows the symptoms of developed system. Odisha which is primarily an agriculturally dominated economy now the primary sector is relegated into third position in its share in the states' economy. Now the primary sector constitutes about 20 per cent, while at the national level India's primary sector contributes 15 per cent. In both Industrial sector and Services sectors Odisha's position is either equivalent or higher to the national position.

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Nicholas Brook

Dr. Sonali Mohapatra

It was a rainy day..
there came the shadow of a man
with thinning bones and hanging skin..
and gave a charming smile..
and there he stooped
picked up a hoop,
he was delighted with his find !!

The crinkling folds around his eyes
crinkled even more with upturned lips
he raises his arms and plays the flute
the tune enigmatic to say the least.

Hippity hop and skippity skip..
goes his steps over the stones..
carefree, light, nimble, wise
no grave, no warning, tired tone..

He whistles and he dances wild..
the trees, his partner, reveling wind..
There he's reached his pretty shrine !

His dome is silent, no one home..
for the bird is flying outside his nest
and he has reached back to his tomb.

Adorns his name, stares at the writing..
a confused look.
"Friend, loving, rests in peace,
Nicholas Brook"

Shrugs and adorns it with his hoop !!

Then the little man is trapped once more
or is he free ever more ?
enters his room pretty deep
and fell into a dreamless sleep.

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Role of Police in the Rehabilitation of Released Prisoners of Western Odisha : A Critical Appraisal

*Dr. Hrushikesh Meher
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Abstract

Thoughts regarding the rehabilitation of an offender should start from the day one of his entry into the prison for incarceration. Classification of the prison inmates need to be done with all seriousness keeping in view of one's proper reformation and rehabilitation after release. Research regarding the factors responsible for the development of criminal behaviour needs serious analysis to find out the cause and effect relationship which will goad the researcher and the prison keeper alongwith the police to chalk out effective plans and programmes for rehabilitation. The unsolved problems of the released prisoners before conviction and the newly anticipated problems, after release need to be taken up as a challenge by the Police, Prison Welfare Officers and the N.G.O. personnel in rendering all kinds of support, so that these persons do not resort to crime again, but lead a peaceful and harmonious life. In this paper, an attempt has been made to critically examine from the perspective of the released prisoners as to how they have experienced the role of police in their process of rehabilitation. The scholars have suggested the relevance and importance of community treatment focussing attention on Community Policing handling the problems of rehabilitation effectively involving the rural youth in villages.

(Keywords: Rehabilitation, Aftercare, Prison Vocational Training Programmes, Prisonisation, History Sheeters and Non-History Sheeters)

Released Prisoners though small in number, yet constitute a vulnerable section in every society. They are looked down by everyone for the act they have committed violating the laws of the land and the prevailing social norms and values. The manner in which they are treated and humiliated outside the prison after release is more pathetic and painful than that of the life while undergoing imprisonment. The ray of hope to spend time till death peacefully on release becomes juxtaposed on account of the stigma attached i.e., called "DAGI" results in socio-cultural re-victimisation. Due to lack of social,

economic, political and moral support they revert to crime again and again and re-enter the jail causing over-crowding, mal-adjustment and unhygienic condition. The process of prisonisation leads to the learning of serious crime by petty offenders in association with the hardened criminals. For some habitual petty offenders the prison has become a "Short Stay Home". In this context police as a law enforcing agency play a crucial role in protecting the life and property of the people in general on one hand and on the other rendering support and assistance to the released prisoners for their effective rehabilitation.

In practice, police chase the persons having criminal records with similar modus operandi to detect and apprehend the culprits committing crime. It also becomes part of policing to check and verify the behaviour of the offenders in terms of their patterns of livelihood, extravagant life style and source of earning which gives input of suspicion specifically in property offence cases. Therefore, police keeps a track of the new upcoming criminals as well as the offenders who have been released from prison. Frequent visit of the police to the released prisoner's house on account of suspicion or calling him to the police station now and again adversely affects the smooth re-integration and reformation processes. It is a truism that such action of police used to negatively work in their process of rehabilitation because the public suspect that they might have again got involved in some type of crime commission. No doubt, the role of police in terms of reformation and rehabilitation is commendable in spite of their multiple assignments and pressure of work. But it becomes sociologically relevant to critically examine and assess from the perspective of the released criminals as to what kind of opinions they possess on the functioning of the police with regard to their social re-integration.

Keeping in view the above assumption, the present paper developed two main objectives for analytical enquiry and analysis.

Main Objectives

1. To find out from the perspective of the released prisoners as to what support they expected from the police for their social re-integration.
2. To critically examine the impact of police intervention as experienced by the released prisoners in their process of rehabilitation.

Research Design and Methodology

This paper is an outcome of the data collected for the Ph.D. programme during 2012-2013 and the degree awarded in the year, 2016. Exploratory-cum-Descriptive Research Design was adopted for the purpose of the study. The Universe of the study comprises of eight selected districts of Western Odisha out of the ten, namely Bargarh, Bolangir, Boudh, Sonepur, Sambalpur, Deogarh, Kalahandi and Nuapada.

Sampling

The study involved two categories of respondents for the collection of data namely the released prisoners and the police personnel of the study area. In order to draw the sample from the universe, purposive random sampling method was followed to select 155 released prisoners, because the nature of habitation of the released prisoners was not homogeneous and most of them were living in distant remote places. In addition, they voluntarily changed their residences to different places or were rehabilitated at different places after their release. Though list of respondents and details regarding their locations were obtained from the police stations and prison records; the respondents were not available for the interview at the same locations. On the other hand simple random sampling method was followed as to draw the sample of the police personnel because unlike the released prisoners they were available at their offices for the interview.

The researcher has selected the respondents from the released prisoners on the basis of duration of their stay in the prisons. The police personnel were also selected on the basis of their experiences working in police station and dealing with activities of released prisoners.

For the convenience of the study 8 districts among 10 districts of western Odisha were selected as the universe. These districts are typical in nature in respect of their underdevelopment and strong religious belief and faith of the people. There is caste based social stratification and occupation based social status, which attracts the life of the released prisoners. The sample size of the respondents, i.e. the released prisoners is 155. Keeping in view the significant concentration of the released prisoners as obtained from the district crime officials and also due to paucity of time, energy and fund it was felt proper to confine our attention on the 8 districts instead of covering 10 district of Western Odisha.

Focus of structured interviews

Two duly structured interview schedules were designed to collect the data from the two categories of the respondents, i.e. the released prisoners and the police personnel in different districts of western Odisha. The schedules were framed containing both open-ended and close-ended questions to cover the overall socio-economic aspects of the respondents with specific reference to the problems and prospects of the released prisoners. The interview schedule focused on each household respondents among the prisoners and individual respondents among the police personnel. The major emphasis of the schedule was to find out the information relating to their past and present socio-economic status, income pattern, causes of imprisonment, supports from different sources, rehabilitation process, future expectation, future plan etc. So to say, the schedule was designed to assess the overall situation of the released prisoners. The tool had been executed technically so as to extract the information from the respondents pertinent to the

topic of the research keeping in view to its accuracy and reliability.

Case Study

There were altogether six case studies undertaken on the prisoners who utterly suffered from various problems after their release from the prison. It focused on how life of an individual after imprisonment went on a change, how it led to crisis and how it influenced the entire life system of the prisoner and his family. It was an intentional exercise to test the questions raised in the problem formulation process. The findings of the study through this method had borne a substantial support to the argument of the study that what and how different forces acted in the life of a prisoner and his family. The most fitting cases for the case studies were derived from the sample area during the field work. During the interview process the suitable cases were identified looking into the relevance of the study.

Analysis of Data

Simple statistical analysis of primary data collected from the released prisoners was undertaken for better analysis, interpretation and understanding. In the process of analysis, a critical analysis of the collected data had been made for further verification and re-interpretation of variables that were to be found crucial to the study area. The researcher paid special attention during scrutiny of data collected, classification, coding and tabulation of data to make them measurable and amenable to interpretation. Efforts were made to give systematic treatment to data so as to avoid any form of variation and difficulty in the analysis. The tables were systematically organized in order to explain them under different chapters pertaining to the thesis of the study.

Tabulation

After the careful classification of data the researcher meticulously computed, systematically arranged and represented the data in the tabular forms under different headings and sub-headings in a master chart. Then the data were re-arranged into various tables and figures. The tables and figures of the study, consisting smaller and larger units, were organized in order to cross-check the assembled data presented in the master chart to make the same valid, explanatory and reliable. The tabulation plan of the study was so arranged as to facilitate an interpretation and factual analysis of data pertaining to the study.

Role of Police in the Rehabilitation Process

Crime is a manifestation of a disease motivated by numerous factors over which the criminal has no control. Essential rehabilitation service programmes need to be followed up immediately after release of the prisoners to check the motivating factors for repetition of crimes. "The most critical period in a criminal's life is not that which follows his entry into the prison, but that which follows immediately after his release. Whatever, be the monotony of the prison life, its sense of security, orderly routine and its steady and regular supplies of food, clothes, shelter and the like; the prisoner depends on others even for his essential needs. The longer the prisoner in the prison, the greater are his difficulties. On release, he, therefore, finds himself like a cripple leaning to walk again on the avenue of social life with all its characteristics, competitions and struggle for the survival of the fittest. In this atmosphere of insecurity he often finds himself to be a lone traveller, detested by his family, hated by his friends and shunned by society with a little or no money in his pocket to meet his essential needs" (Deb, 1975:603).

In Indian context, it is urgently necessary that an officially recognised system should be evolved to pursue and ensure that the follow up action for the rehabilitation of the offenders must start from the day a prisoner enters into the prison and end with his proper rehabilitation in the family and the society as a whole. This job may not be difficult in India because majority of prisoners hail from the agricultural community and they may be easily absorbed in their original system with little bit of counselling and social assistance. This kind of support and services will be necessary only for those who have lost their socio-economic roots in the process of incarceration. In India, the necessity for the proper rehabilitation of offenders has been started time and again, since the All India Jail Committee, 1919. In fact, all the Prison Reform Committees, since then have made plethora of recommendations for evolving an effective rehabilitation system for the released offenders. But unfortunately, implementation status of these recommendations has not been up to the mark. It is the urgent need of the day that some machinery is created at the Government level to pursue the follow up action of these recommendations. In order to give a fillip to rehabilitation of released offenders, the Government has to play a dominant role. Some organisations like Rehabilitation Bureau which functions under the Government of Japan needs to be created in the country for continuous review and monitoring of the rehabilitation work, since the day they enter into the prison, till they are settled in their normal life (Chattoraj, 2007, pp.5).

The ultimate objective of the correctional administration is the rehabilitation of offenders in the mainstream of social life. Aftercare as the harbinger of any rehabilitative endeavour and as a vital link in the correctional cycle, has been

concerned as an approach and as a service designed to reduce the offender's social isolation and dependence, to help him to get over his social handicaps, to remove the stigma that darkens his present and future life and finally to accelerate the process of his rehabilitation as a socially useful and productive citizen of the country. The person in a prison is often a victim of circumstances and his detention period needs to be utilised for giving him training and equipping him with skills which would help him to rehabilitate himself in the society (Sabnis, 1958).

After release from the prison, the released prisoners confront with several challenges, the most important ones being, lack of co-operation from the family members, neighbours and friends. In this connection Priyamvada Thilagraj(2005) states that the indifferent attitude of the society towards the released "juveniles" causes adverse harm on their re-integration and results in delinquent persistence.

It is said that today in the contemporary period the police has to behave as a friend, philosopher and guide for an individual in the society. Whether, such a role is applicable for the released prisoners or not is a big question mark? The answer is "Yes", because the released prisoners have already been reformed during their period of detention while undergoing disciplined life inside the prison and after release, they need police help and co-operation for their effective integration. But in reality the picture is somewhat different. The so called system of "History Sheeters" often adversely works in the process of their rehabilitation, because the police always keeps an eye on those persons. Any crime recently committed with similar modus-operandi of a released prisoner (History Sheeter), gives a scope

to the police to immediately apprehend that person who had undergone imprisonment having committed that sort of crime. The police immediately calls for the released prisoner and interrogates, in this process sometimes the already reformed offenders are again looked under suspicion by the public along with the friends and relatives. In their study on "Examining Impact of Official Intervention and Delinquent Persistence among Released Juveniles from Correctional Institution"(Thilagaraj and Priyamvada, 2008) have stated that the official intervention increases the probability of involvement in subsequent delinquency and deviance because intervention triggers exclusionary consequences. The official intervention has been taken as the intervention of the Juvenile Justice System with special reference to police intervention.

In order to ascertain the real state of affairs in matter of rehabilitation of released prisoners from jails and released inmates from correctional institutions, a study was conducted during 1996 to 1998 in the Union Territory of Delhi. The study covered 200 adult released prisoners and 100 juvenile offenders from jails and correctional institutions, respectively. One of the interesting findings of the study reveals that, too much of police interference on their post release life was experienced by 67 per cent of adults and 85 per cent of released juvenile offenders (Chattoraj, 2007). According to Priyamvada (2005) the severity of stigmatization in the society due to official intervention paves way for the released juveniles to relapse into criminality.

Generally, it is accepted that once a person enters into the prison he is branded as an offender. In traditional Indian society people used

to attach a social stigma (DAGI) on such persons, even sometimes the entire family members are looked down by the public and ostracised. This very process of stigmatization has been elaborately analysed and discussed in the theory of labelling as propounded by Lemert (1967).

Becker writes: “——social groups create deviance by making rules whose infraction creates deviance, and by applying those rules to particular people and labelling them as outsiders. From this point of view, deviance is not a quality of the act the person commits, but rather a consequence of the application by other of rules and sometimes to an ‘offender’. The deviant is one to whom that label has been successfully applied; deviant behaviour is behaviour that people so label (1963:9)”. While society uses the stigmatic label to justify its condemnation, the deviant actor uses it to justify his actions. He wrote : “To put a complex argument in a few words: instead of the deviant motives leading to the deviant behaviour, it is the other way around, the deviant behaviour in time produces the deviant motivation (1963:26)”.

Thilagaraj and Priyamvada (2008: 14-15) states that “The police intervention in the life of the juveniles plays a significant negative role. Affixing a deviant label could be a momentous occurrence in a juvenile’s life. But thereafter they are suspected and watched vigilantly by police. Their every mis-step is used as an evidence to prove their delinquent nature. Once they are officially labelled as delinquent they are excluded more and more from legitimate activities. Hence, they are designed and dealt with as delinquents and they are finding it very difficult to move into law-abiding path even if they could overcome their own belligerent reaction and self-image, and tried hard to do so. Some of the case studies clearly

indicate that the very image of police is immaterial whether intervention of police is positive or negative; it has adverse effects on the juvenile career. Some of the younger age group released delinquents complained that they faced more problems when compared to higher-level age group juveniles from police”. Apart from the negative perception of the juveniles towards police, there is a societal reaction, which confirms that delinquent label on the juveniles who are frequently contacted by the police. Hence, the chances for de-labelling a juvenile is very limited if he has a prolonged police intervention. In other words, official intervention by way of labelling of delinquent behaviour leads to delinquent persistence.

According to labelling theory, official efforts to control crime often have the effect in increasing crime. Individuals who are arrested, prosecuted, and punished are labelled as criminals. Others then view and treat these people as criminals, and this increases the likelihood of subsequent crime for several reasons. Labelled individuals may have trouble obtaining legitimate employment, which increases their level of strain and reduces their stake in conformity. Labelled individuals may find that conventional people are reluctant to associate with them, and they may associate with other criminals as a result. This reduces their bond with conventional others and fosters individuals the social learning of crime. Finally labelled may eventually come to view themselves as criminals and act in accord with this self-concept. (Mohanty and Mohanty, 2012:pp.100).

Analysis and Discussions

As already stated earlier, the paper focuses on two main objectives; the first one being

to highlight the expectations of released prisoners from the police with regard to their social re-integration in the society and secondly, to critically examine the impact of police intervention as perceived by the released prisoners in their process of rehabilitation.

It is an inevitable fact that the more the period of detention of a prisoner the greater becomes the problem in the process of his social re-integration. If the family members or relatives are not regularly visiting the prison and keeping in touch with the prisoner, then it becomes difficult on his part where to settle down? Whether in his own society within the family or in a host unknown society? If his own family members show indifferent and hostile attitude then the problem becomes more complex and complicated. The first and foremost requirement for a released prisoner is a safe place to stay and a regular source of income for maintaining his livelihood.

A flash on the demographic profile (Table-1) of the released prisoners reveal that out of the 155 respondents, 153(98.7%) are Hindus and 2(1.3%) are Christians.

Table-1: Distribution on the basis of Religion

Religious Background	Frequency	Percentage
Hindu	153	98.7
Christian	2	1.3
Total	155	100.0

Further, on the basis of ethnic composition (Table-2) the data distribution indicated that 10 (6.5%) belong to the General Castes, 36 (23.2%) belong to the OBCs, 82 (52.9%) belong to the S.C.s and 27 (17.4%) belong to the S.T.s

Table-2: Distribution on the basis of Social Groups

Castes	Frequency	Percentage
Gen.	10	6.5
OBC	36	23.2
SC	82	52.9
ST	27	17.4
Total	155	100.0

Looking at their present occupations (Table-3) after release it was found that 19(12.3%) were engaged in agriculture, 63(40.6%) were wage earners, 1(0.6%) farm labour; 1(0.6%) hotel boy; 9(5.8%) rickshaw pullers; 9(5.8%) engaged in small petty business (betel shop, tea stall, small grocery shop, illegal sale of liquor, etc.); 28(18.1%) were working as gardeners, part time watchman, fishing, wood cutting from forest, etc; and 25(16.1%) were engaged in more than one job, such as agriculture with small business, farm labour with daily wage earner, etc.

Table-3: Post-release Occupation

Occupation	Frequency	Percentage
Agriculture	19	12.3
Wage earning	63	40.6
Farm labour	1	0.6
Hotel boy	1	0.6
Rickshaw puller	9	5.8
Business *1	9	5.8
Others *2	28	18.1
Multiple occupation	25	16.1
Total	155	100.0

1. *Business denotes petty business like betel shop, illegal sale of liquor (kuchia), tea stall, small grocery shop, etc*

2. *Others refer to garden keeper, part time watcher, migration for labour work, fishing, wood cutting, etc*

Pertaining to their place of stay (Table-4) it was observed that after release 131 (84.5%) were living in their own natives, while 24 (15.5%) had migrated to different places.

Table- 4: Distribution on the basis of place of stay

Place of Stay	Frequency	Percentage
Same Place	131	84.5
Different Place	24	15.5
Total	155	100.0

Considering their family type (Table-5) and marital status, it was found that 134 (86.4%) were living in nuclear families, 18 (11.6%) were staying in joint families and 3 (1.9%) were single persons staying independently.

Table-5: Distribution on the basis of Family Type

Family Type	Frequency	Percentage
Nuclear	134	86.4
Joint	18	11.6
Single	3	1.9
Total	155	100.0

Their marital status (Table-6) revealed that out of 155 respondents, 148(95.5%) were married, while 7 (4.5%) were unmarried.

Table-6: Distribution on the basis of Marital Status

Marital Status	Frequency	Percentage
Married	148	95.5
Unmarried	7	4.5
Total	155	100.0

On examination of the educational level (Table-7) of the respondents it was found out that, 64(41.3%) were illiterate without any formal education. 3(1.9%) were having knowledge of non-formal education in Adult School and Jail. The respondents who completed up to IV standard constitute 51 (32.9%) of the total respondents followed by 17 (11%) of the respondents having completed standard VII to X and 7 (4.5%) have completed above X standard. The figures shown in the Table indicated that from among the people of all the levels of education the highest incidents of crimes, i.e., 41.3% were committed by the people who were illiterate. Next to them, the second highest incidents of crimes were shown by the people who studied up to only IV standard. Least involvement in crimes was shown by the people who were having non-formal education.

Table-7: Distribution on the basis of Educational Background

Educational Background	Frequency	Percentage
Non-formal Education	3	1.9
I to IV	51	32.9
V to VI	13	8.4
VII to X	17	11.0
above X	7	4.5
Illiterate	64	41.3
Total	155	100.0

Data on age categories reveal that only 1(0.6%) fall in the category of upto-20 years; 6(3.9%) belong to the age group of (21-30 years); 97(62.6%) belong to the age group (31-

60 years) and 51(32.9%) fall in the age group of more than 60 years.

Table-8: Distribution of the Respondents on the basis of Age

Age Group	Frequency	Percentage
Up to 20 yrs.	1	0.6
21 to 30 yrs.	6	3.9
31 to 60 yrs.	97	62.6
more than 60 yrs.	51	32.9
Total	155	100.0

An examination of the monthly income reveals that prior to imprisonment majority i.e. 119 (96.8%) were having a monthly income upto Rs.1000/-, while 32(20.6%) were having upto Rs. 5000/-and only 4 (2.6%) were having upto Rs. 10,000/- as their monthly income.

Table-9: Income wise distribution of respondents (Pre-Imprisonment)

Monthly Income	Frequency	Percent
Upto 1000	119	76.8
Upto 5000	32	20.6
Upto 10,000	4	2.6

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Indian Ancient Knowledge on Gynecology

(A Bird's Eye View)

Dr. Chittaranjan Mishra

Ancient India was a storehouse of Knowledge in the arena of Mathematics, Astrology, Astronomy, Medicine, Physics, Chemistry, Metallurgy, Botany, Zoology, Logic, Religion, Philosophy and Engineering. Ancient scriptures, archaeology and folk literature of India provides ample evidences and ideas related to modern science and inventions. Most of the modern science and inventions have their origin in the thoughts, imaginations and practice of the sages of the ancient India. Many modern day scientists credited themselves as the first to invent all the technological advancements we use today. But many of the inventions are nothing but the reinventions created by examining the knowledge of the ancient. The art of obstetrics was well advanced in ancient India. Indian medical science was originated during Vedic period. More than seven hundred hymns of '*Atharvaveda*' are on the topics related to *Ayurveda* ('Ayur' means life and 'Veda' means knowledge or science). *Ayurveda* has eight branches famous as *Astanga Ayurveda*. One of which is '*Kaumarabhritya*' consisting of gynecology, midwifery and pediatrics. The '*Kausika Sutra*' a related work, is the creation of post Vedic period. "*Garbhpanishad*", the Pippaladda sakha of *Atharvaveda*, composed on 8th century A.D. by

Pippalad is a most important book on embryology. Other two famous works are the '*Charak Samhita*', '*Susruta Samhita*' and '*Hastyayurveda*' - a veterinary science book in Gupta age.

To open the window to Indian ancient knowledge of gynecology a humble attempt has been made in this research study.

"Gynecology" is the medical practice dealing with the health of the female reproductive system (vagina, uterus and ovaries). Outside medical science, the term means "the science of Women". Modern science says, the progress of human embryo or blossoming of human baby undergoes eight odd changes during pregnancy. Obstetric ultrasonography is used to image a human fetus inside its mother's womb. It is used to confirm a pregnancy, to identify the sex (presently restricted) and number of fetuses and to detect fetal abnormalities etc. Ultrasound was first used for clinical purposes in 1956 in Glasgow, 1970 in British hospitals and other countries also, though it was invented in 1950. By the end of the 20th century ultrasound imaging had become routine in maternity clinics throughout the developed world. Much before the modern scientific research on fetal development and its stages of growth in



(The progress of human embryo on 'Sukra Yantra' (second Picture) showcased in Kalavariabanath temple, Tamilnadu)

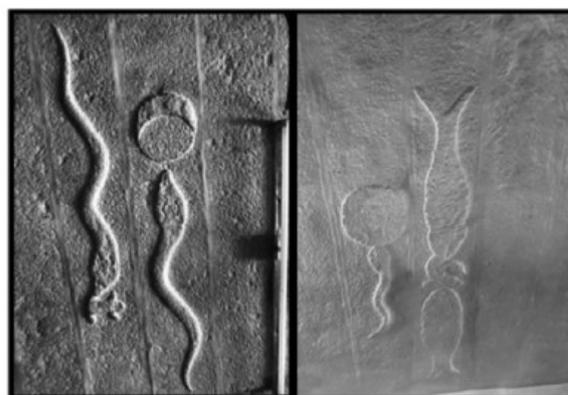
the mother's womb Indian sages and Ayurvedic practitioners discovered the fetal position in the mother's womb month by month. There are a number of archaeological and literary evidences we find in India.

Archaeological Evidences

On the temple walls of Kundadam Vadukunathar Swamy temple, Tirupur, situated 60 kilometers away from Coimbatore, Tamilnadu, dedicated to Bairavar has carvings of different stages of fetus growth in a mother's womb, 1000 years before the invention of X-Rays, microscope and other medical instruments.

There are also ancient inscriptions and some of the prayer procedures related to pregnancy is found on the inner walls of the Chola (King Raj Raj Chola, 985-1014 A.D. as well as from Pranantaka Chola) temple called, Shri Garbharakshakmbika Sameta Shri Mullaivana Nathar temple at Thirukarugavur, Papanasam taluk, located on Thanjavur-Kumbakotam road. There is a carving of sculptures of fertilization (Dhatu or Sukra i.e sperm sanchar) we found at Varamurtheeswarar temple, Ariyathurai, Tamilnadu.

The analogy figure shows a fish with a bud in its mouth trying to deposit the bud inside a



kumbha or pot means placement of sperm eggs inside a mother's womb. Another figure is a snake like figures entering in to a round shape. One snake has two buds in the hood, means two male chromosomes of male viz. X and Y. These are two different stages of human fertilization of eggs. (Image of Midwives helping to a pregnant woman for smooth delivery)

In ancient time Midwives popularly known as Dhais performed deliveries leaving the perineum intact without causing a tear. In the ninth month enema is administered. Tampons soaked in medicinal oils are placed inside the vagina. These make the birth canal, placenta, pelvis, waist, sides of the chest and back supple and soft. They message and bathe pregnant women with medicinal oil and medicated warm water to reduce



(Kundadam Vadukunathar Swamy temple,
Tirupur, Tamilnadu)

her body pain, tie up a cloth on abdominal muscles to save from flabbiness. They are also good **pediatricians** to the new born baby. In addition, they prescribe special nutritional diet (Pathy) for the mother.

Knowledge on surrogacy

Ancient Indian sage scientists had the knowledge of surrogacy. Surrogacy is an agreement, whereby a woman agrees to bear a child for another person, who will become the child's parent(s) after birth. In gestational surrogacy, an egg is removed from the intended mother and fertilized with the sperm of the intended father and transferred to a surrogate mother who carries the baby. This was experimented in the age of the "*Mahabharat*" or



(Stone carving of a
pediatrician)

post Vedic era. "*Srimad Bhagbat Mahapuran*" is the literary evidence of this knowledge. When Balaram, the elder brother of Lord Srikrishna was in mother Debaki's womb (in her 7th caring period) had transferred to surrogate mother Rohini's womb to save the child from the demon Kansa. Kartikeya, the God of war was born out of surrogacy through Shiva and not Parvati's womb, the surrogate mother being Ganga. A number of evidences are there in Hindu scriptures on existence and practice of surrogacy. It was socially accepted and respected also.

Sukra Yantra

The curved image of the human embryo in the Kundadam Vadukunathar Swamy temple, Tirupur was on a Yantra (Hindus sacred emblem for different Gods and Goddesses). To know the secret behind it, I gone through the book "mandala sarbaswa" and "mandal and Yantras in the Hindu tradition" and came to know that, the embryo was showcased on 'Sukra Yantra'. "Sukra" is one of the nine planet Gods of the Hindu faith. It is believed by the Hindus that, by the grace of 'Sukra', marriage and attainment of paternity and maternity happen. 'Sukra' means the sperm or Brahma in Hindu faith also. Ayurveda, astronomy and astrology are co related.

This Yantra is one of the most important and powerful one. We find it in the centre (Garbha) of almost all the Yantras of Hindu Gods and Goddesses. Images of Sri Yantra, Laxmi Narayana Yantra and Saraswati Yantra are given bellow for example.

Literary evidence

Jasobant Das, one of the Panchasakhaa sadhakas of 15th century Odisha, describes about



the month wise position of human fetus in a mother's womb in his Sariratwa Bhajan (devotional song) "Bada Mayabi Jeevanuhe Kahari". According to his song:-

"Jetebele Maata garbhe helu sanchaar
Anakaar bhumi seje nahi aakaar
Prathama maase tujhe helu **dhabal barna**
Ditiya maase tujhe jale jesane **mina**
Trutiya maase tujhe **sunye melilu daala**
Chaturthe **asti khanjaa** tohari
panchame **nabhi kamal** kalaa bhiaan
Sasthare **baastari naadi** khanjilaa jaana
Chakshu bhrulataa karna kamaanare
nirmaan
Gangaa jamunaa nadi bahai anukshan
Aape manaku kalaa bichaari"
astame **angusthi hasta pada** khanjilaa
Nabamare **chamadaku dhankuni** delaa
Dasa maasare **sesa kalaa** hoi harasa
Stuti je kalu tuhi bho Deva Nanda Sisya"

Month wise baby's development in the mother's womb imagined by Jasobanta Das is as follows:-

1st month – (**Dhabal barna**) looks like a white spot, (the period of Andotsarg or ovulation. Group of eggs is there) viz. embryo. 2nd month- (**Mina**)

just like a little fish (develops from embryo to fetus). 3rd month- (**sunye melilu dala**) means opening of branches, development of hand and feet buds and ear leave etc. 4th month – (**asti khanja**) bone construction. In 5th month- growth of (**nabhi kamal**) or construction of belly button completes. 6th month- (**bastari nadi**) completion of veins and arteries. In 7th month- (**chakshu, Bhrulata, Karna**) development of eye, eye brow and ear (hearing, looking and feeling capacity). In 8th month- (**angusthi, hasta, pada**) completion of hand, fingers, feet and toes. 9th month- (**charmaku dhankuni**) development of skin (feeling capacity) and in 10th month- (**sesa kalaa**) complete baby.

According to modern science in first month baby is an embryo, about 1/4th inch, smaller than a grain of rice, like a white spot. In second month it is called fetus, about 1 inch length and 1/30 of an ounce weigh with a little development of arm and leg buds, just like little wings of a little fish i.e mina (little fish). In month third arms, hands, feet and toes are formed i.e "sunye melilu dala" means opening of branches. It is about 4 inch and weighs about one ounce. In fourth month bones become denser i.e "Chaturthe asti khanja tohari". It is 6 inch long and weighs about 4 ounces. In fifth month development of muscles and movement of baby centre round the umbilical code begins (nabhi kamal). It is about 10 inch and half length and one pound weight. In 6th month, Skin becomes reddish and wrinkled. Veins and arteries (bastari nadi) become visible and eye lids open. About 12 inch and 2 pound weight. In seventh month, hearing capacity, feeling experience begins (chakshu, bhrulata, Karna). Its length is 14 inch and weight is 2 to 4 pound. In Eighth month it reserves body fat, starts kicking to move inside with the completion of hand and leg (angusthi,

hasta, pada). About 18 inch and five pounds weigh. In ninth month it responds sound, light and touches (chamada ku dhankuni) as the blinking of eyes, lungs and skin becomes fully developed. At last in tenth month it took its birth as a complete baby.

Most of the imaginations or descriptions by Jasobant Das in his song “Bada Mayabi jeeva nuhe kahari” on the month wise development of human fetus in mother’s womb are almost similar to the discovery of the positions of human fetus in mother’s womb by modern scientific instruments.

Garbhopenishada

There are 250 Upanishads composed by Indian sages in different times. Out of these, 13 are called old and major Upanishads and others are minor and later Upanishads. Garbhopenishad is one of the minor Upanishads, composed by Pippalad in prose form. Its time of composition was 8th century A.D. It is called “Pippalad Sakha of Atharvaveda. Upanishad means secret and sacred knowledge. Garbhopenishad means secret and sacred knowledge on pregnancy. It is an Upanishad, which speaks about growth and development of fetus in mother’s womb. One verse of this Upanishad says:-

“Panchatmakam Panchasubartamanam
Sadasrayam sadgunyoga yuktam
Tat saptadhatu trimalam triyonir
Chaturbiddhahar maya sariram”

Means- human baby is a combination of prakrit, purusa and Bikaras (male +female+ emotions and feelings). Human body is consisting of five elements (earth, water, air, fire and ether), six tastes (sweet, acid, salty, pungent, bitter and astringent), seven agreeable and disagreeable sounds (sadaja,

Rishava, Gandhara, Panchama, Madhyam, Dhaivata, Nishad), Saptadhatu (white, red, black smoke colour, yellow, tawny, and pale white). Trimalam means three impurities (three springs for enjoyment) mana, buddhi and Ahankar. Pippalad says, from food blood is prepared; from it is flesh, thence fat, bones, marrow, and semen. By the combination of semen and blood fetus is formed. Again he says in another verse-

“Aka raatrositam kalilam bhabati
Sapta ratri usitam budbudam bhabati
Ardhamasabhyntaren kathino bhabati
Masa dyoyen sira sampadayate
Masa trayena pada Pradesh bhabati
Chaturthe angulya,jathar, katipradesh bhabati
Panchame prusthobansa bhabati
Sasthe muklho, nasika, srotani bhabati
Saptame jeevan sanjukto bhabati
Astame sarba sampurna bhabati”

Means, after meeting of male and female originates Kalila (noodles like form). After seven days it becomes budbud (foam like form). After fifteen days it becomes a panda (lump). With the completion of one month the panda (lump) becomes kathina (harder). In second month construction of sira (head) begins. In third month construction of pada Pradesh (feet) begins. In fourth month fingers, belly and thigh with waist construction starts. In fifth month construction of backbone and in sixth month face, nose and ear construction takes its complete form. In seventh jeevan or prana or atma takes place means a soul enters with the results of its previous birth. In eighth month the fetus becomes a complete baby.

It is not a matter, how much authentic data and ideas all these ancient scriptures provide but these are made us nearer to the modern scientific

experiment and are the steps to enter in to the fact.

There was a time when India was known as 'Viswa Guru' - the world leader. Its spirituality, humanity, philosophy, Yoga, meditation, Vedas, Purans, Ayurveda, astronomy, astrology, metrology and other ancient wisdoms and culture astonished the world and were the centre of attraction. It contributed a lot to world civilization. Though the covetous eyes of the invaders looted a lot of wealth being the physical master for specific period, but they did not able to blow off the lamp of knowledge and culture. Every adversity brought us an opportunity to learn something new and act upon. It did not let any good crisis go to waste. It revives, revives and revives. We should be proud of our heritage.

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Ragi with Flaxseed : Ideal Combination for Children's Nutrition

Dr. Ramesh Chandra Parida

Dr. Pranab Kumar Ghosh

Recently our government has taken a very judicious step to fight malnutrition among the rural children in some parts of the state. It has decided to introduce ragi "ladoos" in the morning snacks of pre-school children of Keonjhar and Sundergarh, two tribal dominated districts as a part of its Supplementary Nutrition Programme (SNP), under the Integrated Child Development Services (ICDC). Not only it will help in improving the nutritional status of those children but also encourage the age old practice of ragi and other millets cultivation.

Years back ragi was cultivated in many parts of our state, particularly in rain-fed areas. It was growing luxuriously on the silt precipitated from the flood water and was providing an alternative to rice as a source of food. However, it was mostly consumed by the economically weaker section and was therefore looked upon as a "poor man's diet". Probably, because of that accompanying with lack of demand due to increase in the production of other crops refrained farmers from growing it. However, now-a-days the health-conscious people have realized its health-promoting potentials and some of them have begun to take it as a part of their daily diet.

Ragi is nutritionally superior to many of the corns that we regularly consume, including rice and wheat. Especially it is rich in dietary fibres

and minerals like calcium, phosphorous, iron, potassium etc. Besides, its protein, carbohydrate and vitamin contents are comparable with brown rice. A comparison of the nutrients present in these two can show the superiority of ragi.

The carbohydrate contents of ragi and brown rice per 100g are 72.6g and 76g respectively, while their protein, fat and dietary fibres are 7.7 g and 7.9g, 1.5g and 2.7g and 3.6g and 1.0g. Similarly, ragi is one of the richest sources of minerals containing 350mg of calcium and 3.9mg of iron as against 33mg and 1.8mg respectively in rice (per 100g). Again both also have comparable quantities of other minerals and vitamins and provide nearly same calories (ragi-336 and brown rice-362 kcal/100g). Besides, ragi has ample of essential amino acids such as lysine, arginine, tryptophan, threonine and methionine (220.300, 100, 240 and 210 mg/g nitrogen respectively).





Ragi Seeds Flax Seeds

Particularly its richness in calcium along with vitamin D, which helps to strengthen bone, has made ragi an essential part of our diet as increasing sedentary lifestyle and prolonged indoor working hours in absence of sunlight are taking their tolls to cause various bone diseases including osteoporosis. Again while adequate quantity of phosphorous (283mg) present in it plays an important role in the development of bone and teeth, it is also essential for the formation of phospholipids, nucleic acids and phosphoproteins. Similarly, potassium (408mg) influences cardiac muscles activities, bio-synthesis of protein by ribosome as well as retention of water in the body and iron increases haemoglobin level thereby fighting anaemia. Besides, plentiful of dietary fibres present in ragi slows digestive rate and makes one feel fuller on few calories. Those are helpful in smooth movement of bowels, in reducing the probability of rectal cancer and in preventing cardio vascular diseases. Moreover, the minor amount of fat it contains is rich in unsaturated fatty acids that drive away cholesterol.

Considering all these facts, the decision of the government to introduce ragi in the snacks

of pre-school children is welcome. However, it should consider extending the programme to all the school-going children of all the districts, increase the weight of the “ladoos” to at least 300g per week (considering 6 school days per week) and serve those daily instead of twice or thrice in a week. Besides, its nutritional quality can be further improved by adding an oil seed, particularly, flaxseed to it.

Years ago, flaxseed was also widely grown in many parts of our state. However, like ragi it was also seen in a poor light little realizing that it is the most nutritious among all the oil seeds, as it alone contains omega-3 fatty acids including DHA (Docosa Hexaenoic Acid), which is highly essential for brain development. Therefore, growing children need it more than anybody else. All vegetarian diets lack in DHA, while fish (particularly sea fish) is its most important source. Flaxseed oil is mostly polyunsaturated and monounsaturated of which 57% are omega-3 (fish-100%, walnut-10%, soyabean-7%, sunflower-0%, and safflower- 0%) and 14% omega-6 fatty acids. Besides, it is also very rich in essential minerals (mg/100g) like phosphorous (642), calcium (255), magnesium (392), iron (5.73) and zinc (4.34) as well as vitamins (mg/100g) such as niacin (3.08), vitamin B6 (0.473),



thiamine (1.644), pantothenic acid (0.985) and vitamin C (0.600). Moreover, flaxseed is also a rich source of protein (18.29%) with less carbohydrates (28 %).

Ragi and Flax Seed Ladoos

In our state about 42% of children are malnourished. Particularly, they do not get enough protein, minerals like calcium and iron, various vitamins and particularly, omega-3 and omega-6 fatty acids. A combination of ragi with flaxseed, ideally 240g & 60g per week respectively, can be the cheapest and most effective source to meet their daily nutrient requirements. Therefore, not only the individual states, but also the government of the centre should implement a nutritional programme taking these facts into consideration.

While addressing the problem of malnutrition in our children, it can encourage the farmers to cultivate these crops.

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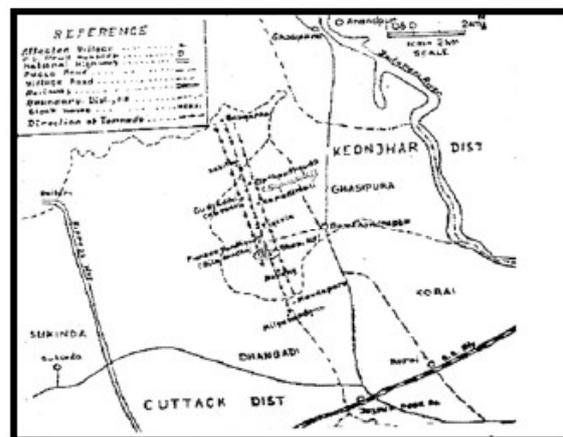
Remembering a Black Day

Dr. Kahnu Charan Dhir

Seventy five-year-old amputee Subarna, walks on crutches. Although she cannot recall many of the odds she has encountered in her life, she distinctly remembers the nightmare that made her specially-abled for good and then weeps silently. It's not she alone; there are others who survived a tornado that visited their village way back in 1978. As a rare event and in view of its impact, it had drawn national attention at that point of time. Even now, the slightest wind in the village sends a surge of panic through the villagers. A twenty feet tall pillar erected at the southern edge of the village, on the foothills of a hillock jogs the memory of the tornado-survivors who are still alive and enlightens the new generations that the dead bodies of more than 150 villagers who happened to be their ancestors and hundreds of animals killed by the catastrophe were burnt and buried there. In order to remember the black day, the villagers observe 16th April as *Batya Divas* and place floral tributes to the deceased at the platform beneath the pillar. To mark the occasion, a small public meeting is also organized.

What is Tornado?

A tornado is a strong, dangerous wind that forms itself into an upside-down spinning cone and is able to destroy everything as it moves



across the ground. Scientifically, it is defined as a concentrated vortex of very small dimension with a vertical and near vertical axis with great power of destruction because of its strong updraft, violent rotational speed and enormous pressure deficit inside.

In Odisha, due to its usual occurrence in summer and because of its ruinous effect on the place of the event, Tornado is known as “Kala Baisakhi”. In terms of appearance, it is named as “Khandia Bhuta” (Broken Ghost or Dust Devil) and Hatia Sundha (Elephant-trunk). The years in the past that experienced such tornadoes in Odisha are 1876, 1899, 1925, 1976, 1978, 1981, 1985, 1998 and 2009. Thus, the history of this disaster belies the contention of a section of climatologists

that Indian weather condition in general and that of Odisha in particular is not conducive for its formation. It's true, unlike America where it's very common; tornado is a rare and occasional phenomenon in India. Among all the tornadoes listed above, the deadliest one was the Anandpur Tornado of 1978 which affected 11 villages of the erstwhile Cuttack (now Jajpur) and Keonjhar districts covering an area of 50 square kilometres, affected more than 50,000 inhabitants, killed more than 177 human beings and thousands of cattle heads. In total, 272 houses were razed to the ground, 201 dwellings were fully collapsed, 313 houses were partly collapsed and 301 houses sustained minor damage. The worst affected was Puruna Bandha Goda village of Anandpur sub-division in Keonjhar district where the official death toll was 141 (the actual being 178 as some people are still missing). More than 150 people sustained serious injuries and some of them became disabled for all time. The entire village covering an area of about one kilometer was wiped out. Barring two RCC houses at the two extremes of the habitation, all the 150 houses were razed to the ground.

The tornado path

Having originated from the parching sand bed of the Kushei, a tributary of the Baitarani River near a village called Bangarkota in the present Jajpur district the tornado moved swiftly on a serpentine path across seven other villages where it caused minimum damage before its entry into

the luckless Puruna Bandha Goda village where the damage was colossal. As the witnesses describe, the tornado gained momentum before touching the northern edge of the village, over a stretch of arable lands. The damage was in two spells—one, while making headway towards the Dhanei hill through the village, and second, after it harked back following its obstruction by the hill. Later, it dissipated near Nityanandpur village of Jajpur district after extending its reach in two more villages.

Description

The description of the catastrophe, as done in the article has been restricted to the worst-hit Puruna Bandha Goda village.



The afternoon of 16th April, 1978 in the village was placid but sweltering. Most of the inhabitants, primarily agricultural farmers and day labourers were confined to their dwellings, for they were taking a respite from the hectic agricultural chores of the

season. A few of them were huddling together in groups on the verandah of the community hall in order to play cards and some others were inside the hall to sort out a village feud. Since it was a usual practice to collect green mangoes fallen off the trees in summer wind, more particularly in the afternoons, some children had already entered the mango orchard that extended over the green rolling foothills of the Dhanei. All of a sudden, the sun light dwindled and the village faded into shadow. A few minutes later, the sky turned metallic grey. To observe the uncommon nature

of the weather, people inside their homes popped out and the ones outside stood unmoved, glanced at the north-western sky. The sky turned vermillion red, but for a minute or so. People saw that a patch of cloud, descending from the sky had already taken the shape of an elephant's trunk. It was forging ahead, towards their village. It was roaring like a steam locomotive and emitting smoky dust all around. Suddenly, there was a nip in the air. With a premonition of an imminent dust storm, people went inside their homes and the children in the mango orchard started sprinting back to their huts. Within minutes the dust storm churned the village; everything that came on its way was battered. After about five minutes, it came to an abrupt stop. The sky turned clear, spruced up and dawn like. As people who survived came out, they found the second term of the storm, this time terrible, a little weird. It again whirled everything, even the remnants of the houses that escaped its wrath in the first attack. Within a spell of another ten minutes, it smashed everything—cracked the houses, tossed the trees and killed the human beings and animals. The portion of the Dhanei hill, stripped bare of vegetation by the catastrophe became bald and the green cover which used to swathe it disappeared within minutes. It looked like a gigantic monolithic rock standing at an edge of the village. The entire village took the shape of a war-stricken habitation—the houses razed to the ground, rubbles and debris scattered everywhere. Dead bodies, especially those of the children were found dispersed a few yards off the village orchard. Some of them were hanging



off the branches of the fallen trees. The people who survived the disaster were seen running from one heap of debris to the other, in search of their near and dear ones who were assumed to have been trapped under the wreckage. Having stripped off their branches the few hoary palm trees across the village had borne the burn scars. They had taken the shape of huge charcoal-pieces with torn clothes and broken branches of other trees hanging off their bodies. It was uncanny that a cart's wheel was found suspending from the top of such a tree.

A wisp of smoke curled in the air. It was from a hearth that was lit in the day time, prior to the storm. A few minutes later, there was a sudden downpour that soaked the village that had already fallen into gentle ruin. Fishes and

some other aquatics that were sucked by the tornado along with the water from the village pond were hurled down. More startlingly, a cow lifted into air fell over an injured person laid in the open who immediately succumbed to it.

The Rescue

The first and foremost task was rescuing the victims who were trapped under the debris. The community- members who survived the disaster were the first responders to it. They cleared the wreckage and lifted the casualties. The dead ones were laid on the ground and the injured were lifted to a couple of houses which sustained minimum damage. In the absence of adequate manpower and the required tools and implements,

the rescue operation driven by emotion was haphazard. Further, the downpour that followed the disaster obstructed accomplishment of the task to a great extent. Although people from the neighbouring villages, having noticed the bald hillock and the devastated picture of the village from a distance rushed to it and volunteered to supplement the villagers' efforts in rescuing the victims, the darkness that enveloped the village within a few minutes and non availability of minimum lighting through any source restrained them from doing so. However, in the next day morning a full-fledged mission for rescue was undertaken seriously by some neighbours, school and college children and even by the altruistic volunteers like the members of the Rashtriya Swayam Sevak Sangh and Vishwa Hindu Parishad.

Surprisingly, the district administration did not participate in the mission till 24 hours of the occurrence of the disaster. The Collector, Keonjhar and the Sub Divisional Officer (now re-designated as Sub-Collector), Anandpur though were informed of the event by their respective sources remained quiet. Nor did they instruct their field level relief officers to move to the affected-spot. Having observed the same, some people at the sub-divisional headquarters trooped into the Sub Divisional Officer's government residence and urged him to rush to the spot. Slogans against him reverberated through the air. Even the local Member of the Legislative Assembly did not hesitate to chide him. Although the SDO owed them an explanation, he preferred to keep quiet. The prime reason why the government officers shied away was their customary ritualistic character i.e. rigid adherence to the norms, the Orissa Relief Code in this case—the supreme statute governing post disaster

activities which, to one's utter surprise didn't enlist 'tornado' as a disaster. However, after the mounting political pressure, irrespective of party lines on the government, the officers entered the village in the afternoon of the next day. The facetious attitude of the government drew flak from the public. In order to save his own skin, the then Chief Secretary Sri Rammurthy briefed the media on the next day that, 'night had already set in by the time the news of the devastation reached his officers. It was difficult on their parts to proceed to the village in the night and undertake rescue in darkness.'

By the time, the rescue team comprising fifty sweepers from Cuttack Municipality, three platoons of Orissa Military Police (OMP) and some volunteers of Indian Red Cross Society entered the village, the rescue of the people from the heaps of debris barring some critical points was almost over. The entire village was reeking of the decomposed bodies of animals and humans. The new rescue team could reach the critical and almost-inaccessible points and cleared the wreckage. They were, then assigned with the tasks of carrying the dead bodies to a place on the foothill of the Dhanei hill and cremating them.

The Relief

The neighbours hurried to the village in flocks since the night of the day of occurrence. They took care of the injured—gave first aid, swathed their wounds and facilitated their conveyance to the health centres. They provided the victims with food, cloth and even drinking water. Some of them were found consoling the hapless villagers who lost their near and dear ones. Thus, the altruistic neighbouring communities took up the responsibility of 'relief' till the government and other agencies stepped in after a

lapse of almost 24 hours. Having heard the dreaded news that a village had been battered by a tornado, philanthropic individuals as well as organisations like CARE, CASA, Indian Red Cross, The Samaj Relief Fund, Orissa Nari Seva Sangha, Servants of India Society, TISCO, Manoj Manjari Sishu Bhawan (Keonjhar), YMCA, The Marwari Society, to name a few poured different relief items into the village.

Damage assessment

Although immediate damage assessment was required for prompt assistance to the victims like the provision of house building assistance and ex-gratia to the next of kins (NOK) of the deceased, it was undertaken at a belated stage, that too after 'tornado' was considered a natural disaster by the government. Ex-gratia at the rate of Rs 2,000 per family (not per death) was provided to the victims.

Constructing dwellings/ other community-infrastructure

Since the village was made nothing but rubble on the ground and the people who survived the disaster were roofless and spent time in the scorching sun and sultry nights, the provision of immediate shelter was the need of the hour. Keeping in view the same, the Indian Red Cross Society pitched tents for them followed by the Orissa Mining Corporation (OMC) which supplied straw and bamboo free of cost for construction of temporary dwellings. Since the damage assessment could not be done properly, some families were devoid of getting the same, thereby arranging their own resources for building huts. As a permanent measure, a pucca house comprising two-rooms (RCC) was constructed for each household. The executing agency for this

project was the Orissa Construction Corporation (OCC). Some other agencies were involved in construction of public buildings like schools, hospital, community centre, etc.

Rehabilitation

Some religious outfits doled out considerable amount money to the tornado widows and the orphans. Cows were also provided to them free of cost. The farmers were provided with loans for purchase of bullock (s). A few farmers— selected ones were given subsidised loans for poultry farms. The Food for Work (FFW), a flagship programme of the then government was undertaken on a war footing. A charkha centre was opened for making the village girls and women self-reliant.

Owing to the government's limitations, the Orissa branch of the Madras based social organisation called 'The Guild of Service' helped the children in their studies through the Sponsorship Programme of the Save the Children Fund, London. The unstinted support lasted for about two decades after the disaster.

While assessing the post-tornado activities, one shall definitely commend the activities undertaken by the neighbouring communities, especially in the rescue and the relief phases. But, unfortunately, after a day or two, when the administration stepped in, the officials involved in relief operation queered the entire operation— the distribution of different items among the victims was marred by irregularity, favouritism and discrimination on the basis of caste and sex. The demand (need)-supply (relief) chain was completely broken. In a summer month, when the people yearned for clothes to wear, some organisations, for the sake of charity went on

distributing blankets which was not the need of the hour. There was not a proper co-ordination among the agencies engaged in relief distribution as a result of which a majority of the victims were caught in the mire of deprivation. The absence of a strong and effective leadership was felt everywhere.

The myopic attitude of the officers was also observed in the rehabilitation and reconstruction processes. There was no follow up action in the former as a result of which the people got pauperised after the tornado, succeeded by droughts. Because of its location over an uncongenial and sloppy land, the huge iron and tin made shelter fell into disuse immediately after its erection. Further, not being oblivious to the financial crunch, the government issued work orders to some agencies for the construction of a dozen of public buildings. Later, after making good strides in construction, they were compelled to wimp out of the project. No interest was shown at government level to finish such half-constructed buildings, thereby resulting in huge loss to the state exchequer. Despite the loopholes, the state government must be credited for providing storm-resistant pucca houses to the tornado victims free of cost. Although the quality

of their construction was questioned at the initial years, they have stood intact against many odds like rains, wind-storms, etc. during the last forty two years. Although the attitude of the government officials drew heavy flak, some of them had performed yeoman service for the victims. It is due to the effective and timely steps taken by the health and veterinary officials that no deadly disease unleashed its fury in the village.

While summing up, it can be said that, the 1978 tornado placed two significant things before the public, disaster managers and decision makers—1) it blew the lid off the government's disaster management practices and 2) it exhibited the community's spontaneous and commendable role in the post disaster phases and its indomitable spirit to rebuild itself from the rubble.

(For more details about the disaster, please read the author's book *Story of a tornado in India* published by Lakshi Publishers and Distributors, New Delhi)

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Plotting Politics : Ideology and Literature

Sunita Samal

Abstract: Man is an ideological animal—says Althusser. What seems to take place outside ideology in reality takes place within the ideology. That describes what effects plotting politics have on us. Literature exposes the terrible weaknesses of every community and demonstrates how societies through myth try to disguise their serious flaws. Ideology is accepted as a common sense view of things presented by the powerful class. The reductive approach where by all subjects are political, either inherently so or made to be so, is often detrimental to real politics.

Introduction:

Louis Althusser in his views on the relationship between literature and ideology says that art cannot be reduced to ideology¹. In his opinion, art has a greater function than just passively reflecting that experience. He further comments that the difference between science and art is not that they deal with different objects. But the difference is that they deal with same objects in different ways. Literature also many times exposes the contradictions those are inherent in that ideology by its 'silence and gaps'. It means that because of the silences and gaps the text fail to say the reason for this is that its ideology makes it impossible to explain it. Such types of textual

absences are symptoms of the ideological repressions of that content.

Every genius is born a critique of art. He or she has himself or herself the evidence of all rules.

First is the literature of knowledge,

Second is the literature of power.

The function of first is to teach and the function of second is move². We see that for Foucault the key to classical knowing is the idea of mental representations. These representations are non- historical. From this, it further followed that language—precisely as a physical reality—could have no fundamental role in plotting knowledge. Immanuel Kant did not think of this domain as possessing a reality beyond historical—not metaphysical. And in some ways more typically modern view was that ideas were themselves as historical plotting. But such an approach was not viable in its pure form, since to make knowledge entirely historical would deprive it of any normative character.

The use of languages by the power holders is the weapon to inject the dominant ideology of the society. Since literature is created to describe the needs of powerful class in any

existing society, it will pay lip service to the existing power structure. But because of its subversive nature, literature especially novel as a genre would not abide by the rules of that society. Frederick Karl describes that literature exposes the terrible weaknesses of every community and demonstrates how societies through myth try to disguise their serious flaws. Ideology is accepted as a common sense view of things presented by the powerful class.

Rationalizing World Order:

At this point, Foucault's 'The Order of Things' introduce two central features of thought offer Kant; the return of language and 'birth of man'. Languages in plotting, now has an independent and essential role that it did not have in the classical view. During Renaissance, language can function as an autonomous body. Even Foucault suggests, Language is a truth unto itself, speaking nothing other than own meaning. In contrast to Renaissance, however, there are no divine words of languages³.

Even more important than language is the figure of men. For classical age, human beings are locus of representation, but not 'as for Kant' is their source. This stand for source is important for politics. Naturalism attempts to explain in terms of natural sciences (physics, biology), while Marxism appeals to historical social sciences. The difference is that the first grounds knowledge in the past evolutionary history where as second grounds it in revolutionary future that will transcend the limitation of ideology.

Foucault concept of archaeology supported a historiography that did not rest on the primacy of the consciousness of individual subject. It allowed historian thought to operate at an unconscious level that displaced the primacy

of the subject found in the phenomenology. For Foucault, the relation of power and knowledge is far closer than in the engineering model of Bacon for whom knowledge is instrument of power although two exist quite independently. But for Foucault, that the goals of power and goal of knowledge cannot be separated. In my view, it is important for plotting politics. Undoubtedly, in knowing, we control and in controlling, we know.

Plotting as conspiracy is the first and foremost explanation of politics. The conspirator is often referred to as a shadow government that operates as concealed political system behind the visible one. People have inherent biases in the way they perceive the world and these biases can be used to manipulate them. Norman Cohn's characteristics of conspiracy are—

Nothing happens by accident;
Nothing is as it seems;
And everything is connected.

American writer Garry Allain in his book 'None Dare Call It Conspiracy' (1971) articulated the anti-globalist plotting in U.S.A. The shift was due to growing right-wing populist opposition to corporate internationalism. Progressive ideology denounces this as a rationalization for American Imperial ambition in the Middle East. But conservative ideology rejected this plot as possibility of United States revival.

During 20th century, statesmen like Woodrow Wilson and Winston Churchill used the term New World Order to refer a new period of history evidencing a democratic change in balance of power after world war. They all saw these period as opportunities to implement idealist proposal of global governance. Observers note that the galvanization of right wing populist such as Linda Thompson led to rise of militia

government ideology through speeches, books, internet, satellite TV that contributed to their extremist political ideals about 'New World Order'. They find their way into previously political literature of many Kennedy Assassino-logists, Ufologist, Occultists, and Lost Land Theorists. Skeptic points out that political repression at home and imperialism abroad are said to be long plotting of USA.

Loaded Message:

The propaganda model developed by Herman and Chomsky⁴ that published in 'Manufacturing Consent' (1988) sought to explain the behavior of mass media in United States. It uses loaded message to produce emotional rather than rational response to the lot presented. Plotting through propaganda is a form of communication that can be used as political welfare. It is a deliberate and systemic attempt to shape perception and manipulate to achieve desired result. Opponents of the United States' invasion and occupation of Iraq used slogan 'Blood for Oil' to suggest that the invasion and human losses was due to access Iraq's oil riches. On the other hand, a supporter who argues that the US should continue to fight in Iraq and used the slogan 'Cut and Run' to suggest withdrawal is the option of weak. In World War II, American loaded messages endeavored to arouse support for war and committed to its victory. For example, there was the invasion of Afghanistan by USA in 2001. Political plots were employed to demoralize Taliban and to win sympathy of Afghanistan Population⁵.

Herman and Chomsky have attended to the societal function of ideology and propaganda as an effective means of societal control. According to them, twentieth century has been characterized by three great political development

–political plotting. First is the growth of democracy. Second is the growth of corporate power. Third is the growth of corporate propaganda.

In 1960s, there were Hippies and anti-Vietnam War protesters. At that time, the middle class youth in U.S.A. had turned their attention to political issues. These political issues included support for civil rights, women's rights, gay rights and so on⁶. The mass hysteria was in the form of unconventional appearance, music, drugs; sexual liberation etc. ultimately provokes authors to write plots in different ways. To some Americans these attributes reflected American ideals of free speech and pursuit of happiness. Other people saw the counter-culture as self-indulgent, rebellious, unpatriotic and destructive of American values.

In 1990s, in Russia, cultural movements were faced into quite a rigid framework of constant optimistic approach to everything. Even the mild plots such as breaking marriages and alcohol abuses are tended to view as taboo by media. Folklore and underground culture tended to be considered as forbidden fruits. In mid-1980s, there were movies with crime packed action, ruthless violence and social dramas on drug abused, prostitutions, violence and political trap those influenced the literature that times⁷. Similarly counter culture has to negate the two opposing cultural phenomena in Asian countries. First, is the invasion by western culture, second is the emergence of revivalist movements. If we succumb to first, we will be losing our identity, if we succumb to second we see our world be false and obsolete⁸. Many times the counter culture creates behavior of 'mass hysteria' among the people. Chomsky typified a dangerous intellectual tend to be authoritarian narcissists and obsessive, governed by upright psychology. Mass Hysteria

arises with behavior that hypnotizes people to bring them to mainstream plots⁹. Critics argue that Chomsky had ignored the insight generated by cultural studies like Marcuse on 'ideology' and Foucault on 'discourse'.

Political Reduction:

The expropriation of work of literature for political purposes is completely dissociated from the qualities that distinguish them from other mode of discourse. It favors more terrestrial liberal politics- a political outlook that welcomes progressive change. It also emphasizes the political plotting to achieve it. It prefers tangible results to free floating attitude that hardly refuses to render 'politics' unstable. The literary left is frequently attacked for its relativism. But in this regard they would actually be well situated to appreciate the world view expressed by serious work of literature. By rational choice, the philosophers of liberalism presented a vision of this that often associates with alternative perspectives. It is political plotting at work to which authors must turn for inspiration.

Political literature is not itself a specious category. But unfortunately, literary critics are now all too often to make this claim at least implicitly. The cultural studies have described criticism that does not set out to interrogate texts for their deep seated assumption about gender, race, sexual orientation and other sources of culturally constructed difference. In some cases, those confronting to the established method do own interests within literary circle but for other this is a conspiracy that have undertaken with all it sincerity.

Richard Rorty wants the political left to give up on the idea of all encompassing narrative whose final explanation believes that history itself

unfolds. Stanley Fish reminds liberals of the hollowness of value neutral principle that supposedly can be shared by disregarding of their prejudice. Such pragmatism would require reconciling themselves to the inconclusiveness as well as willingness to consider the consequences of plotting of political choices and actions. Perhaps the most direct and sustained statements of political philosophy are American writers such as Ralph Waldo Emerson and Walt Whitman. Far from imposing literature to external political conceptions, each of these important American thinkers allowed their perception of ambiguity inherent in politics.

The autonomy of the literary text is only to assist in isolating the political content to which the poem, story or novel can more usefully be reduced. But this one dimensional, circumscribed vision of the nature of literature has another consequence when considering the recent wholesale politicization of literary study. The most notably quality of political plotting in theory and practice is the apparent trans-position of orderliness as constitutive of literature.

Qualified Truth:

It is in the political program that politicized cultural studies where scholar believes in blatant transfiguration of the real into fiction. It is not so much that so many of them persist in sustaining the Marxist vision that the twentieth century proved illusory. But they thus persist in full knowledge that their political desire will never be fulfilled in political realities. Here, the problem is how they engage in parallel kind of intellectual fabrication by resorting to the explanation of providing for example, by Freudian Psychoanalytic theory that we see in 'Crime and Punishment' By Dostoevsky.

It could be that immersion in the radical world view that provides like certain kind of popular escapist fiction as an opportunity to leave behind the description of ordinary life in exchange for narrative clarity. Furthermore, the excesses of the academic left in any kind of effective political obligation may emanate from an otherwise worthy liberal cause such as adequate funding for higher education or health care or environmental protection. Since free market encourages innovation, it inherently suggests that all values are ultimately up for 'grab' and 'sell'. Because those ideas are able to attract the greater numbers of consumers, this is one of the best 'qualified truth'. For many conservatives, this is the central plot of our time when we take the example of novel 'Death of a Salesman' by Arthur Miller.

For Marxist critics the economic base of society determines the interests and styles of its literature. For us, it is not possible to understand ideology without grasping the part it plays in society as a whole –as in 'The Trial' by Kafka. Freiderich Engel described ideology as 'a false consciousness' and later Marxists consider these are illusory in contrast to the scientific knowledge of the economic determinants like Theory of Evolution by Darwin.

While explaining the meaning of ideology at a wide level, Terry Eagleton expresses that we understand the texts like 'King Lear' and 'Ulysses' not only by the way of interpreting their sociological facts which enters into those text. For us, it is not possible to understand ideology without grasping the part it plays in society as a whole. The liberal economy emerged during 18th century; the reigning ideology incorporates the interest of particular class. In accordance with these views expresses about ideology, some critics look upon

literature as production of determinants of particular era. Some Marxists use the term 'vulgar Marxism' for analyzing bourgeois literary work as in a direct correlation with the present stage of the class structure. They expect that such work should be replaced by social realism like 'Tales of Two Cities' written by Charles Dickens that represented the realism of that time.

Eagleton points out that works of literature are just expression of the ideologies of their time. He agrees with the view that all art springs from an ideological conception of the world and there is no work of art which is entirely far away from the content of ideology. David Craig says that Marxists have always tried to show that the workers of the world are instrumental in plotting to overthrow the existing social systems. So far the writers, it is necessary to describe the working class people and their languages and ideas.

Indoctrination of Ideology:

The rise of the academic left during 1980s and 90s provoked share of contentious 'Sound and Fury' in the literary study. One could be less charitable to describe as indoctrination. The earlier paradigm did begin with the assumption that literature has autonomy and integrity of its own. Today it is almost plotting politics to which study of literature has become subordinate. The various accounts of radicalization of academics in the US over last decades are accurate to the extent they identify to 'Animal Farm' written by George Orwell. If we are looking from the perspective provided by literature then that is more natural to impose uncongenial vision of politics.

According to George Lukacs, only realistic forms of fiction are artistically and politically valid. But Lukacs fails to recognize that there are legitimate works which fall outside such

a literal reading of the base/ super structure models. He further says that in a society where the social and individuals are turning apart by the alienation and fragmentation in capitalism, then the great art struggles against the alienation and fragmentation of capitalism. It throws light on many sided image of human wholeness—that is to set relations among men, nature and society. However, the greatest novelist like Tolstoy becomes successful in producing a fictional world which is a reflection of life with clarity and contradictions.

In a way Gramsci's notion of hegemony is a continuation of the concept behind ideology. Hegemony is a sort of deception in which the individual forgets his own desires and accepts the dominant values as their own. Literature then may be seen as something that both plot and reinforce dominant values and that occasionally calls them into question. The nineteenth century women writers of sentimental fiction used to contain narrative conventions merely to reinforce dominant values where as writers like Jane Austen undermined the dominant values of society.

Concluding Observations:

Although a sound liberal argument can be made for what is loosely called as globalization that presents the insistence on upholding free-market fantasies. They might further relate to the conservative proclivity to idealize past and to measure the present. We have to bear one thing in mind that Marxism in the scientific study of society and literature is a particular reflection of it. An approach to both literature and to life allegedly more open to ambiguity and complexity that allowed itself its own kind of self duality that would hardly deserve to be called liberal.

Ultimately, the cultural studies exhibit a similar intolerance of the literary representations that reveals them to be synonymous with political plotting. It is still questioning the removal of literature from literary study if not actively resisting it. The clay upon which the forces work, those leave their fingerprints most clearly.

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Plastic Pollution - A Menace

Dr. Manas Ranjan Senapati

Plastic pollution involves the accumulation of plastic products in the environment that adversely affects wildlife, wildlife habitat, or humans. Because plastics do not break down for many years, they can be ingested and incorporated into and accumulated in the bodies and tissues of many organisms. Plastics that act as pollutants are categorized into micro-, meso-, or macro debris, based on particle size. The prominence of plastic pollution is correlated with plastics being inexpensive and durable, which leads to high levels of plastics used by humans. However, it is slow to degrade. A recent study has revealed that 79% of the world's waste plastic still remains in the environment with an estimated 8 million tons of plastic being dumped into oceans annually. If current production and plastic waste management trends continue, an estimated 12 billion tons of plastic will be in natural environment by the year 2050.

Plastic pollution can unfavorably affect lands, waterways and oceans. Living organisms, particularly marine animals, can also be affected through entanglement, direct ingestion of plastic waste, or through exposure to chemicals within plastics that cause interruptions in biological functions. Humans are also affected by plastic pollution, such as through the disruption of

the thyroid hormone axis or hormone levels. Up to 12.7m tonnes of plastic enters the world's oceans every year, equivalent to dumping one garbage truck of plastic per minute into the world's oceans, according to the United Nations. Some of that plastic begins its life as tiny particles, such as microbeads in face scrubs and toothpaste; others as larger pieces that get broken down through mechanical and chemical means. In 2015, a study found that sea salt samples purchased in China were contaminated with microplastics, often in concentrations as high as 681 plastic particles for every kilogram of sea salt. Earlier this year, a study in *Nature Scientific Reports* found microplastics in 16 out of 17 salt brands originating from eight different countries.

Effects on Animals

Plastic pollution has the potential to poison animals, which can then adversely affect human food supplies. Some marine species, such as sea turtles, have been found to contain large proportions of plastics in their stomach. Some species are consumers of jelly fish, but often mistake plastic bags for their natural prey. This plastic debris can kill the sea turtle by obstructing the oesophagus. So too are whales; large amounts

of plastics have been found in the stomachs of beached whales.

Over the years, plastic has emerged as one of the major reason behind the death of many cows and other animals in India. One of the biggest reasons behind it are the people who throw away food waste inside plastic bags (polythene bags). Ingestion of plastic materials may not result in immediate death, but there are several difficult symptoms seen in the victim animals. These plastics are indigestible and therefore pile up in their stomachs (rumen for cattle) with time and get entangled with different materials, forming hard cement like ball. After some time, the animal shows signs of being weak and tired then goes off feed and at times experiences bloat due to stomach blockage. As a symptom the animal may also start drinking a lot of water. In one such case, doctors in Patna managed to remove 80 Kg of plastic waste from the stomach of a cow. *In another incident at Bhubaneswar OUAT veterinarians surgically removed more than 70 kgs of plastic from the bull's stomach.*

Management & Control

Efforts to reduce the use of plastics and to promote plastic recycling have occurred. Some supermarkets charge their customers for plastic bags, and in some places more efficient reusable or biodegradable materials are being used in place of plastics. Some communities and businesses have put a ban on some commonly used plastic items, such as bottled water and plastic bags. It is a matter of concern that in India *15, 000 tonnes of plastic waste is generated every day, out of which 9, 000 tonnes is*

collected and processed, but 6, 000 tonnes of plastic waste is not being collected. The Government has notified the Plastic Waste Management Rules, 2016 for the control and management of plastic waste.

The plastic footprint is a similar metric, only it is used to judge how much plastic our lifestyle will contribute to the worldwide trash pile. If we are serious about reducing our carbon footprint, then the best way to start is by reducing our plastic footprint. Producing plastic creates carbon dioxide. Using five plastic bags at the grocery store adds one kilogram of carbon dioxide to our carbon footprint. It is estimated that it takes more than 500 years for plastic to degrade. Every year, more than 500 million single-use plastic straws wind up in the trash. Instead of a plastic straw we can use a stainless steel straw. Before the advent of poly-bags, people did shop, buy things, bring eatables from the market, and did the similar marketing as is done now. At that time people were using cloth or jute bags. These bags were washable and reusable lasting for six months to a year. Now we instead of using poly-bags should use cotton or jute bags. Let us carry a cloth or jute bag always with us. We should educate the local retailers on the ill effects of use of plastics.

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Woman : The Symbol of Divinity

Prabhudutt Dash

Woman is the symbol of divinity and grace,
She sustains us without any selfish motive and malice.

She is the epitome of kindness and compassion,
She serves us selflessly with devotion.

She is the symbol of fertility and energy,
Woman is imbued with maternal love
and affection sans any strategy.

Atrocities committed upon Women is pathetic and illegal,
Child marriage, premature wedding, trafficking and foeticide
and brutality are immoral.

She is not a commodity and an object of man's desire and carnality,
She is not made for drudgery and slavery,
She is trapped in the perversity and man's animality.

Woman is the maker of the Universe,
She is noble and generous.

How deplorable it is to label her honesty and diligence ?
She suffers in silence and cries for justice,
Woman has infinite power and she never hankers after prestige.

33rd Reservation Bill in Parliament are still pending,
How callous and insensitive we are that is very astonishing.

From dawn to the dusk she is struggling for her survival, and individuality,
Woman Empowerment is a distant dream and she is a victim of sensuality.

Nothing happens to elevate her courage and indomitable will,
If women are not respected, then mankind will come to be a standstill.

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Insect Pest Control in Crop Plants

Dr. B.C. Jena

The climate change at present have threatened the food security of the world. Now the Corona Virus- Covid-19 has caused the death of more than 13 lakh human being in the world. In India more than one lakh people have been died due to attack of Covid-19. The Green Revolution in India began after the Independence to meet the food requirement of burgeoning human population of the country. To produce bumper crop yield in crop plants the short duration varieties of rice was cultivated by application of higher quantum of fertilizers and pesticides. The crop production no doubt was increased. But at the same time the indiscriminate use of pesticides resulted in environmental pollution. The components of environment viz., air, water and soil became polluted. The food grains from crop plants was also polluted. Similarly the milk obtained from the cows when fed to the mother of the babies also contained some amount of toxic materials. The natural enemies of the insect pests which invade the crops were killed due to poisoning effect of pesticides. The pollinators of the crop plants were also killed. Realizing the ill effects of pesticides use in agriculture, Rachel Carson, one of the journalists of U.S.A. in 1962 wrote a book named 'Silent Spring'. In that book she spread the news of poisoning effects of pesticides in agriculture in European countries of the world.

In India the bad effects of pesticides in crop plants were also realized by agricultural experts particularly the scientist of Entomology, Agronomy, Breeding and Genetics, Plant Pathology, Nematology and Bio-technology. The experts organized several seminars and conferences and discussed the harmful effects of pesticides and came to draw the conclusion to adopt alternate methods to combat against the insect pests. The alternate use of pesticides in agriculture was to practice the 'Integrated Pest Management' (IPM) which was accepted by scientific community after the publication of a report by the council on environmental quality (CEO, 1972).

According to definitions given by FAO panel of experts (FAO, 1967), Integrated Pest Management is a system that in the context of associated environment and population dynamics of the pest species, utilizes all suitable techniques and methods as compatible a manner as possible and maintains pest populations at a level below those causing economic injury. It is a multidisciplinary endeavour.

Adoption of IPM components (tools) :

Before the advent of green revolution the farmers were practicing the traditional method of

agriculture, as a result, the diverse living organisms were preserved in agro-ecosystems and conserved the bio-diversity within the farming systems. The food grains and food commodities were purely beneficial for human consumption. At present the strategies of IPM are based on traditional knowledge coupled with latest development of non chemical methods.

The components of IPM are mechanical, physical, cultural, biological and bio-rational methods. Hand picking and destruction of caterpillars, beetles and bugs of insect pests attacking crop plants comes under mechanical methods. Under physical methods heating of stored grains at temperature of 51.5-54.5°C for three hours kills many stored grain insect pests at storage condition. The agricultural practices such as planting of seedlings at right time, suitable seed rate, proper plant spacing, tillage, crop rotation, fertilizer and water management, field sanitation and harvesting practices decrease the insect pest damage on the crops. Planting of sugarcane in the month of February and providing sufficient irrigation to the crop reduces the early shoot borer damage easily. Cultivation of one crop in the field for more than two years invites the insect pests of same crop and allows them to survive. As a result, the damage in the same crop increases. Therefore, other crops may be cultivated after two years in the same field to reduce the menace of previous crop. Stagnation of water in the rice field for several days invites the brown plant hopper, white backed plant hopper and stem borer to cause infestation. Field sanitation of brinjal crop does not allow the fruit and shoot borer to invade the crop.

Adoption of biological methods in crop protection practices without use of pesticides is

having significant role in suppression of harmful insects on crop plants. In sugarcane, release of the parasitoid viz. *Trichogramma chilonis* @ 50,000 adults or eggs per hectare of sugarcane in evening hour kills the most notorious insect pests such as early shoot borer, stalk borer and top shoot borer and remains in the field for several years. Similarly, release of *Epiricania melanoleuca* @ 4-5 lakh eggs or 4000-5000 viable cocoons/ha effectively controls the sugarcane pyrrilla, pyrrilla *perpusilla*. The crystalliferous bacteria, *Bacillus thuringiensis* is very potential to reduce the population of lepidopterous insect pests attacking brinjal rice, cotton and sun flower. Different species of lady bird beetles such as *coccinella transversalis*, *coccinella repanda* and *coccinella sexmaculatus* feed on thrips, jassids, mealybugs, aphids, white flies and scale insects attacking many crop plants.

Cultivation of resistant or moderately resistant varieties of crops plays a significant role in suppression of injurious insect pests on crops. For example, many rice varieties proved to be moderately resistant against its insect pests. The varieties such as Khandagiri, Lalitgiri, Udayagiri and Lalat grown in upland and medium land situations are less attacked by stem borer, leaf folder, brown plant hopper and white backed plant hopper. Mohanadi, Indravati, Konark, Sarala, nabin and haneswari prove to be moderately resistant against brown plant hopper and white backed plant hopper population.

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