

ORISSA REVIEW



INDEPENDENCE DAY ISSUE AUGUST 1975



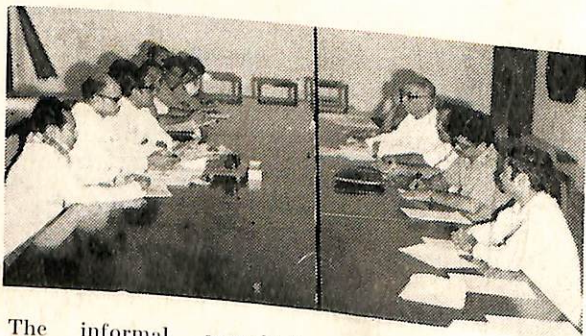
Shri Akbar Ali Khan, Governor of Orissa, speaking to the Children at the Douglas Memorial Children's Home at Bhubaneswar



Fifteenth meeting of the Flood Control Board is being held at Bhubaneswar under the Chairmanship of Shrimati Satpathy, Chief Minister, Orissa



Mr. John R. Burrows, Leader of the I B R D (World Bank) is received at the State Guest House, Bhubaneswar by the officers of the Agriculture Department



The informal consultative Committee of the Department of Tourism & Cultural Affairs discussing matters relating to promotion of tourism in the State. Shri J. N. Das Mohapatra, Minister, Tourism & Cultural Affairs presided over the meeting



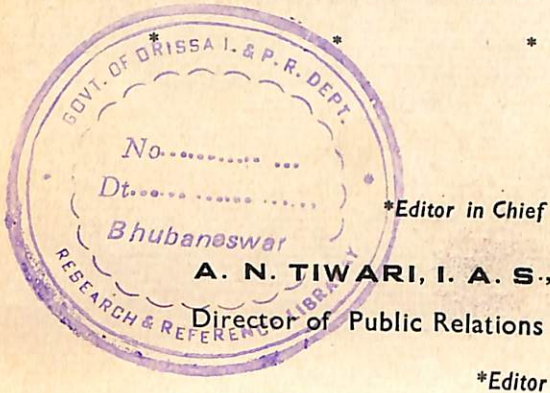
Shri Jagannath Patnaik, Deputy Minister, Education, giving away prizes at the Annual Commemoration Day of the College of Basic Science & Humanities at Bhubaneswar

ORISSA REVIEW

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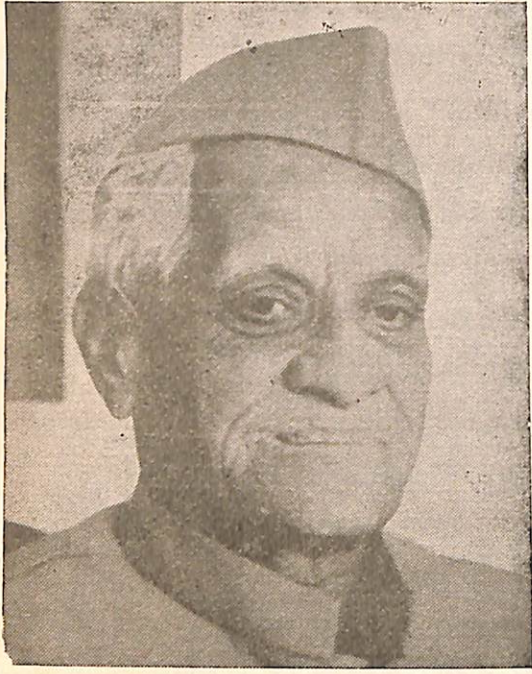
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On this auspicious occasion of the 28th anniversary of our Independence, I deem it a great privilege to convey my warm greetings and best wishes to the people of Orissa.

This is no doubt, a day of rejoicing for all of us, in cherishing anew the freedom we have been enjoying as the invaluable fruit of valiant struggle and complete self-sacrifice on the part of our National leaders as well as the common people of our country, many of whom are no more with us in person, though always fresh in our memory. This is, therefore, a very appropriate occasion for us to remember their contributions with a deep sense of gratitude once again, and also to take a renewed pledge to follow the principles of dedication and self-sacrifice inspired by the great national leaders like Mahatma Gandhi, Jawaharlal Nehru and their esteemed fellow-fighters and comrades. We should also utilise this auspicious occasion to apply ourselves whole-heartedly to the building of modern India on the lines contemplated by the provisions of the Constitution, and as envisaged by Pandit Jawaharlal Nehru, the first Prime Minister of India, to achieve the socio-economic goals that free India has set for herself. Above all, it is also essential to keep up the unity, integration and sovereignty of the Nation, as also to uphold the high ideals of Democracy, Secularism and Socialism.

For some time past, we all have been passing through a very critical period, not only owing to the severe drought which affected our State acutely, but also due to the economic difficulties brought about by a spiralling inflation and artificial shortages of the necessities of daily life created by smugglers, hoarders and profiteers. Simultaneously, the democratic core of our national existence was getting vulnerable by being exposed increasingly to onslaughts by extremist elements; our socialistic aims, objectives and action-programmes for the benefit of the poor and the down-trodden were being steadily eroded and undermined; and, in consequence discipline in our offices, educational institutions, farms and factories came to touch a very low level indeed. In order to combat and overcome these problems and to re-charge our national will to usher in all-round development in every sphere of the country's life, National Emergency had to be promulgated as an essential step in the present complicated situation. However, the promulgation, as we should all be fully aware, is not to be construed as an end in itself. But the State, the Government and the people must now alike resolve and work tirelessly in order to derive the maximum possible advantage from the favourable climate thus generated, so that the clarion call of 'Garibi Hatao' gets effectively translated from a resolution into a practical reality within the shortest possible time. Towards achieving this, and in common with our sister States in the Union, Orissa would also expect all her sons and daughters, to play a positive and constructive role to support the Governmental measures already under way. The path is also well defined in view of the 21-Point Socio-Economic Programme announced by our respected Prime Minister to meet the challenge of the critical situation. We now require to follow this with an iron will and steadfast determination, wherever we may be and to whatever place or station in life we may have been assigned, by augmenting industrial output, achieving self-sufficiency in farm production, removing avoidable sloth, delays and bottlenecks in office work, improving the conditions of our Adivasi and Harijan

brethren, restoring discipline and proper academic standards in our educational institutions, and by generally playing a meaningful, efficient and effective role in the various walks of life. I am glad to say that in implementation of the 21-Point Programme, my Government has taken several steps towards eradication of poverty, inequality and exploitation of the weaker sections of the community, as well as vigorous steps to meet the challenges of diseases of leprosy, filaria, etc., with a sense of urgency. But full co-operation and enlistment of public efforts is also essential, so that these measures may achieve fruition in the expected manner as also at the earliest possible time. I am sure, such co-operation would indeed be forthcoming in an ample measure through unstinted association and participation of the people of Orissa in all these beneficial measures initiated by our State.

On this memorable occasion, I take the opportunity to once again appeal to the people of the State of Orissa, who have immense natural wealth and glorious traditions from the past, to rededicate themselves to the task of providing better living standards for the common man and for the creation of a better society by strengthening democratic values. It is only by working unitedly to this end that the quality of our life could be enhanced and our National dignity may stand full vindicated.

JAI HIND.

Akbar Ali Khan
Governor, Orissa



I extend my warmest greetings and good wishes to the people of Orissa on the occasion of the celebration of the 28th Independence Day of our country.

After years of hard struggle, on the 15th August, 1947, we ripped the fetters of subjugation to greet the rising sun of Independence. How far we have been able to fulfill the hopes and aspirations nourished by millions of our countrymen then, is the index of our success today. It is true, we have made considerable progress in many spheres after Independence, but that Independence has lost its significance as millions and millions of people who are still continuing to survive below the poverty line.

We did never comprehend that in return of the Independence achieved at the cost of the sacrifices of innumerable brave saheeds of the country, we would indulge in protecting the interests of a handful few, instead of dedicating ourselves for the welfare of the common mass. The ideas, such as, let the rich be richer and the poor be poorer and let capital concentrate in few hands, were beyond our imagination. But, how this could happen ?

The vested interests and the forces opposed to people's interest conspired to thwart all attempts for successful implementation of the action programmes initiated for the welfare of the mass. People were instigated openly to insult and force the duly elected members to resign and compel the dissolution of the democratic institutions like the Parliament and the Legislative Assemblies. The situation was so chaotic that not only our progress was hampered, but also our democracy and Independence were endangered.

Democratic rights does not mean anarchy. Nor it is desirable to have freedom to destroy democracy. We are fortunate that our dear Prime Minister, Smt. Indira Gandhi has proclaimed emergency at the right moment to guide the country on the proper track and has announced a new economic programme. Today, on this auspicious occasion let us all combine together and work hard with discipline and sincerity to strengthen our democracy and successfully implement the progressive programme announced by the Prime Minister.

JAI HIND

Mandira Patra

Chief Minister, Orissa

TELEVISION GOES TO THE VILLAGES

SHRI T. R. RAO

Liaison Officer (TV-Satellite)
New-Delhi

THIS IS A GREAT EXPERIMENT. WE CANNOT EXPECT OUR HENS TO LAY GOLDEN EGGS AT THE END OF 'SITE' BUT THE ENTIRE COUNTRY WILL BE HAPPY IF WE CAN CREATE PUBLIC OPINION AGAINST PREJUDICE, LETHARGY, INEFFICIENCY AND CORRUPTION AND CREATE A CLIMATE FOR MODERNISATION WHERE INITIATIVE IS ENCOURAGED, CHANGE IS NOT FEARED AND HOPE IS NOT LOST

Editor

You need not be a resident of Delhi, Bombay or Amritsar or their neighbouring areas to enjoy Television (T. V.) Programmes. But if you belong to any one of the 400 villages selected in each of the States of Andhra Pradesh, Karnataka, Orissa, Rajasthan and Bihar, you can see the T. V. programme, that too without spending a single paise from to-day (August 1, 1975). If you are a farmer you are doubly benefited by these T. V. programmes as they are specially prepared for you. You will know how to farm properly for getting high income through the T. V. set placed in your village-school. Your wife and other womenfolk in your village will also learn how to manage their homes in a better way and also about

family planning, hygiene, baby care, etc. Your school-going children too will be benefited, as special programmes are telecast for them too. In addition to learning their lessons more vividly through T. V., they can also enjoy cartoon films, etc. . . Whole of your family will thus have the benefit of learning many things through TV but also enjoying cultural programmes such as folk dances, folk songs, etc.

How this Happen

A new kind of machine called 'Satellite' which works far far away in the sky does this wonder. It is highly powerful and with its large antenna (the eyes, ears and tongues of the machine) the Satellite is



Television Antenna

able to send strong signals. They can be picked up even by a small and cheap 10 feet chicken mesh antenna connected to the T V set in your village. The Satellite is having one 'picture' and two 'sound' channels.

This type of television broadcasting is done in an experimental basis for one year to know how well it can be used for instructional purpose.

Site

The Satellite Instructional Television Experiment which in short called as SITE has begun from 1st of August, 1975 with the inauguration of the programme by the Prime Minister of India at Ahmadabad. The Indian Space Research Organisation. (ISRO) jointly with the All-India Radio (AIR) have started broadcasting instructional television programmes to all the selected villages on 213 blocks of six States through the Satellite, loaned to us by the National Aeronautics and Space Administration (NASA) of U. S. A. for a period of one year.

Who produces the Programme and how

All-India Radio is primarily responsible for making these TV programmes with the guidance of the experts in various departments such as Agriculture, Animal

Husbandry, Women and Child Welfare, Health, Family Planning, Education, etc. of the State and Central Governments.

Three Base Production Centres have been set up by the A. I. R. to produce programmes for feeding the T V Satellite. The Base Production Centre in Delhi is producing for the cluster areas of Rajasthan and Bihar, the Base Production Centre at Cuttack is producing for Orissa and M. P. and the third Base Production Centre located at Hyderabad is working for the cluster areas of Andhra Pradesh and Karnataka.

Earth to Satellite and back to Earth.

All the programme thus produced at the three Base Production Centres are sent through Delhi TV Station to Earth Station established at Ahmadabad which is the prime broadcasting station for SITE. This earth station beams the capsuled programmes through its 46-feet diameter dish to the Satellite which in turn beams back directly to the community TV set of your village.

Earth Station at Delhi

Another Earth TV Station is located at Delhi which will be put to use when any problem or any trouble arises at Ahmadabad Station. Of course Delhi

Station broadcasts half-an-hour common programme daily in Hindi including the news, to be picked up by all the TV sets in the cluster areas. In addition, the programmes are being relayed through the TV Stations in Ahmadabad, Amritsar and Delhi for the benefit of another 2,400 villages around them.

Most of the TV sets established in all about 2,400 villages which receive direct signals from the satellite are connected with the electric lines. But about 150 fully transistorised TV sets run on batteries are established in remote and unelectrified villages of Orissa.

Service Centres run by ISRO

Maintenance centres and sub-centres are run at important points of the cluster areas. The ISRO is ensuring that no T. V. set is farther than 15 kilometres from such a maintenance centre, so that quick service is rendered.

T V set custodians

Two persons are made responsible for maintaining the T V set in your village. They are custodian and associate custodian. They are in charge of the set, to turn it on and off and to lock it up after the programme. They also report to the maintenance centre if any defect in the set is found and get it rectified. Your village school teacher is mostly entrusted with this job. He will receive fifteen rupees per month as honorarium.

Where and when to see the programme.

The T. V. set is placed in the school premises, if no proper school buildings available the set is placed in the Panch Office or Community hall.

T. V. Programmes are telecast both morning and evening, all together for four hours a day. The morning programmes run for 90 minutes from 10:30 A.M., mainly meant for your school going children of 6—12 years on all the school working days.

The evening programmes run for two hours which start at about 6:00 P. M. is primarily meant for adults. In addition, specific half-an-hour common programme in Hindi is telecast for all the cluster areas.

Farm programmes will be broadcast thrice a week; only on Tuesday, Wednesday and Friday.

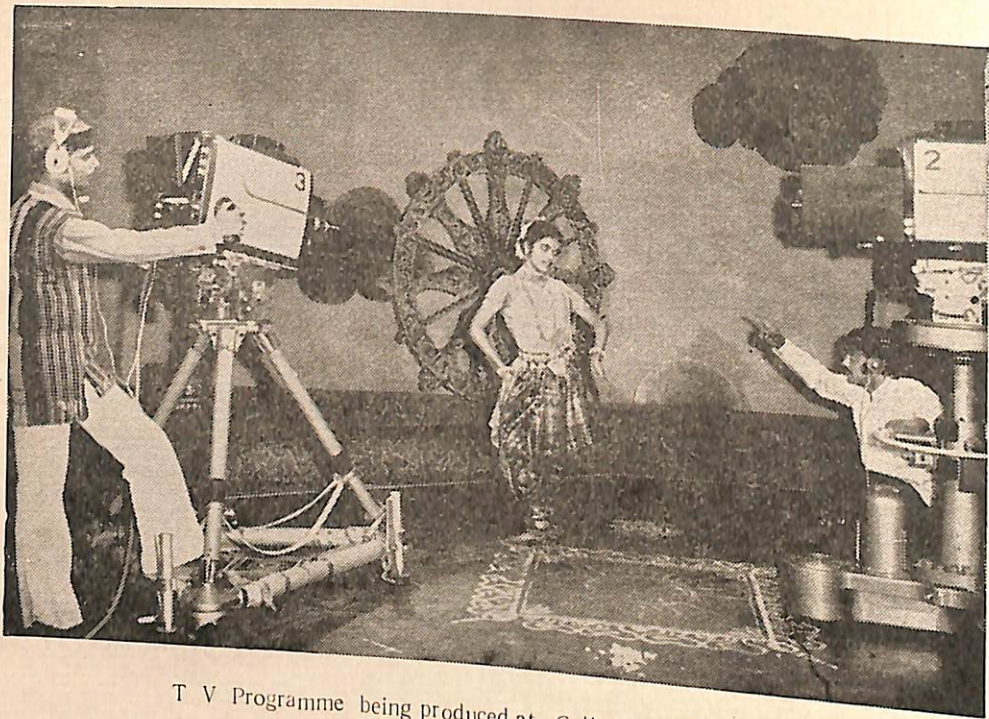
The total time has been divided into different segments for different States.

The programme in your language will be for about 20 minutes. You can see the instructional programme for ten minutes which is of most valuable to you. Then for the rest 10 minutes you will see cultural items such as dances, songs, etc.

The broadcast schedule of the morning and evening transmissions as follows :—

Morning Transmission

Time	Cluster	Language
10:00 A. M. to 10:22 ½ A. M.	.. Andhra Pradesh	.. Telgu
10:22 ½ A. M. to 10:45 A. M.	.. Karnataka	.. Kannada
10:45 A. M. to 11:07 ½ A. M.	.. Orissa	.. Oriya
11:07 ½ A. M. to 11:30 A. M.	.. Madhya Pradesh, Bihar and Rajsthan.	Hindi



T V Programme being produced at Cuttack T V Studio

Evening Transmission

Time	Cluster	Language
August 1, 75—October 31, 75		
March 1, 76—July 31, 76		
6:20—7:00	.. Andhra Pradesh	.. Telugu and Kannada
7:00—7:30	.. Common Programme	Hindi
7:30—8:10	.. Madhya Pradesh & Orissa .	Hindi and Oriya
8:10—8:50	.. Rajasthan and Bihar	.. Hindi
November 1, 75—Feb. 29, 76		
6:00—6:40	.. Rajasthan and Bihar	.. Hindi
6:40—7:10	.. Common Programme	.. Hindi
7:10—7:50	.. Madhya Pradesh	.. Hindi and Oriya
7:50—8:30	.. Andhra Pradesh and Karnataka.	Telugu and Kannada



What you do after the programme.

After the T V Programme is over, you will be contacted by your TELE Club convener, V. L. W. or the Extension Officer to better participate in the discussions carried out on the subjects to get your doubts clarified. You can even offer your comments. Your Extension

Officer might help you still further by supplying leaflets and other information material on the subjects viewed on the T V.

Your help please

It will be a problem for the custodian to satisfy all the school children and all of you, if the whole village turns up in full strength as many of the school buildings and Panchayat Offices do not have bigger rooms or halls to accommodate all of you at a time. In this connection your co-operation is solicited. See that no damage is done to the T V set and its accessories. This can be achieved only, if you all give fullest co-operation to the custodian while the T V programme is on and after. You are lucky if you belong to any one of the cluster districts detailed below as direct reception T. V. sets are established in the selected villages of these 20 districts

State	Districts
Andhra Pradesh	.. Hyderabad, Medak, Mehboobnagar, Kurnool
Karnataka	.. Bijapur, Gulburga, Raichur
Madhya Pradesh	.. Bilaspur, Durg, Raipur
Orissa	.. Dhenkanal, Phulbani, Sambalpur
Bihar	.. Champaran, Darbhanga, Muzzafarpur, Saharsa
Rajasthan	.. Jaipur, Kotah, Sawai, Madhopur.





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THE CREATIVE PROCESS IN MATHEMATICS

Dr. K. Sree Ramamurty,

PRINCIPAL, G. M. COLLEGE, SAMBALPUR

In 1973 at Paris, at the Centre de Synthèse, a series of lectures were delivered under the general direction of the Genevese psychologist Claparede, and the conference was held for a week, to discuss about the creative process in diverse fields and to arrive at some general features of the process. The participants, representing a wide spectrum of intellectual activities included Louis de Broglie for experimental science, Paul Valery for poetic vision and Jacques Hadamard for mathematics. In spite of marked superficial divergencies, it was felt that there is an essential similarity in the creative process in all intellectual and artistic pursuits, and there are sufficient grounds to consider the process as observed in mathematics to be paradigmatic.

While the psychological conditions or pre-conditions for an act of creation are almost the same in mathematics, science, literature, art and technology and even while the inventive capacity and the Bergsonian elan vital may be universal with no special propensity for a particular intellectual or artistic activity, there are very great differences in the degrees of freedom in manipulation and expression in the diverse fields. In science and technology the freedom is very much restricted because of the limiting or boundary conditions of natural laws and the continuous proximity to the ground of reality. In mathematics there is greater freedom, but even then, as Hermite pointed out: "We are servants rather than masters in mathematics". The limitations are due to strict compliance to logic whether

single-valued or multi-valued and one gets a taste of the freedom from logic in the work of the famous professor of mathematics of Oxford Charles Lutwidge Dodgson, better known as Lewis Carroll, particularly in his "Alice's Adventures in Wonderland". In literature and poetry, however, the freedom is the greatest and yet limited by what Ronald Bottaral called "the arrowed treachery of the words that miss the target", and what T. S. Eliot described as a hopeless struggle with words in which

"..... words strain
 crack and sometimes break, under
 the burden, under tension, slip,
 slide, perish
 decay with imprecision....."

unable to contain and carry the meaning and 'climate' that the poet tries to infuse into them individually and in patterning them. In visual arts, again, the freedom of imagination is unlimited, but the expression is limited by the media in which the artists operate and the inventiveness has the second stage at the level of communication in the form of technique, style and diction.

While mathematics, thus, occupies an intermediary position between science and arts in respect of the freedom of imagination as well as in the mode of communication, the creative process in mathematics can be considered as paradigmatic of the entire process of creativity of human imagination and it is for this reason that a somewhat detailed study of the creative process in mathematics is undertaken in this essay.

Discovery and Invention—When one considers the creative process, one has to distinguish between the two kinds of activity known as discovery and invention. Discovery is the act of unravelling or bringing to light something that existed on its own right but

lay hidden so far whereas invention consists in improvising or building up something new utilizing the principles of nature already known or just discovered. For example, Toricelli discovered that the space above the mercury column in the tube originally filled with mercury and inverted in a trough of mercury is vacuum, for the vacuum existed there merely to be discovered; but, Toricelli invented the barometer for measuring the atmospheric pressure on the basis of the discovery of Toricellian vacuum. This distinction between discovery and invention clearly discernable in the field of physical sciences gets blurred as one goes from the Physical to the Mathematical and almost becomes indistinguishable as one proceeds to the Artistic. The recent developments in the field of epistemology which increasingly stress the subjective content of human knowledge and we have no access to the knowledge that is not human tend to increase the domain of invention into the territory originally held to be that of discovery and solipsism at one extreme altogether negates the very possibility of discovery. Here, again, mathematics occupies the position of the happy mean, for while pure mathematics can be put in the category of discovery, applied mathematics can be classed under invention. It should, however, be noted that both discovery and invention are forays into the unknown and as such share all the characteristics of the creative process.

Some Instances of Mathematical Creation—(1) Pierre de Fermat (1601-1661), the enunciator of the famous principle of minimal action as nature's economy, was a magistrate and a counsellor at parliament of Toulouse. In his copy of a work of Diophantes (a Greek mathematician) was found in the margin, after his death: "I have proved that the relation $x^m + y^m = z^m$ is impossible in integral

numbers (X, Y, Z being different from zero and m greater than 2) : but, margin does not leave room enough to describe the proof". Later, partial proofs have been found for this proposition but even those proofs needed knowledge of some algebraic theories found much later. One wonders what insight might have enabled Fermat to provide a general proof that eludes us even today.

(2) Poincare, the well-known French mathematician describes in his "SCIENCE ET METHODE" how his discovery of fuchsian functions and their identification with non-euclidean geometry occurred to him in a sudden flash when he was not thinking of them at all but while getting into an omnibus. He realized in an intuitive insight that the arithmetic transformations of indefinite ternary quadratic forms were identical with those of non-euclidean geometry.

(3) Ampere's fundamental ideas on probability occurred to him on the 27th April 1802 after seven years of unsuccessful cogitation. The incident is described by Ampere himself thus: "It was seven years ago that I proposed to myself a problem which I had not been able to solve directly, for which I found a solution by chance, and knew that it was right, without being able to prove it. The matter often recurred to my mind, and I sought unsuccessfully for this solution. At last, I do not know how, I found it together with a large number of curious and new considerations concerning the theory of probability".

(4) Karl Friedrich Gauss (1777—1855), the German mathematician, after a vain search to prove a theorem on higher mathematics on hypergeometric series for four years, writes : "At last, two days ago, I succeeded, not by dint of painful effort, but so to speak, by the grace of God. As a sudden flash of light, the enigma was solved. For my part, I am not in a

position to point to the thread which joins that which I knew previously and to what I have succeeded in doing".

(5) Evaniste Galois (1811—1831) died at the very young age of twenty in a duel. Galois spent the night before the fateful day of his duel in revising his notes on his mathematical discoveries. First, the manuscript was rejected by Academy of Sciences as being unintelligible. It was only after fifteen years that the work was brought to the lime-light. One of those is the theorem on "periods" of a certain kind of integrals. This theorem, which is very clear now, would not have been understood by the scientists living at the time of Galois. This periodicity can now be understood in view of the later developments in the "theory of functions", which means that these developments must have been unconscious in the mind of Galois so that he could take the intellectual leap that landed him on to the concept of periodicity in those functions.

(6) Bernhard Riemann (1826—1866) has not only made a monumental contribution to mathematics in the form of non-euclidean geometry, but also renovated our knowledge of the distribution of the prime numbers. He developed a method using integral calculus for the distribution of prime numbers; more precisely, he based it on the study of a certain quantity, a function of a variable 's' which may assume not only real but also imaginary values. He found some important properties of that function, but pointed out several other properties without giving the proof. At the time of death of Riemann, a note was found among his papers saying these properties of zeta function (the function in question) are deduced from an expression of it, which, however, I did not succeed in simplifying enough to publish it." We still do not have the slightest idea of what that expression could be. Many of the properties

simply enunciated by Riemann have been proved subsequently by Jacques Hadamard. But those proofs were based on mathematical facts completely unknown during Riemann's time. This, again, can only be explained on the basis of the assumption that even if Riemann had no conscious knowledge of these subsequent complicated mathematical discoveries, they might have been present in his unconscious mind.

(7) The most outstanding and almost inexplicable example of the role of the unconscious in mathematical discovery is that of Srinivasa Ramanujam (1887—1920) whose genius was not only nurtured into flowering under the able guidance of Professor G. H. Hardy of the Trinity College of Cambridge University, but also has been authenticated by him. Ramanujam gave only a few steps or sometimes only the last step in the solution to hitherto unsolved problems in pure mathematics, leaping over the intervening steps some of which have been provided by the laborious efforts of a host of subsequent workers and many of which are yet to be provided. Writing about the mode of working of Ramanujam, Professor Hardy says: "All his results, new or old, right or wrong, had been arrived at by a process of mingled argument, intuition, and induction, of which he was entirely unable to give any coherent account".

One could multiply these instances of intuitive insight in mathematics. It is not to be concluded that it is only in mathematics that such incidents abound. Descartes the apostle of rationalism got his famous dictum "cogito ergo sum" in a flash of intuition on the 10th November 1619. He wrote: "The light of wonderful discovery flashed into my mind". Nietzsche, the German philosopher of the superman got the "theory of eternal recurrence" in an intuitive flash while roaming in the hills and dales of Egan-dine. Schelling, another German philosopher records that in 1801 he saw

"light". Mozart the great composer claimed that he got his musical compositions as finished products spontaneously bursting forth, causing a great pleasant surprise to the author himself.

It is equally possible to quote innumerable instances of the intuitive flash from all branches of thought and action. The important point to observe is that every act of creation, in all branches of thought and action, involves this intuitive flash of a lower or higher intensity covering wider or narrower domains and one notices them particularly on the higher and wider side, while on the lower and smaller scale it passes off almost unnoticed being taken for granted as quotidian.

Some Explanations for Mathematical Ability:

The mathematical ability has been subjected to some systematic study by Gall, who developed a new branch of study called "phrenology", which states that every mental aptitude and natural propensity is connected with a greater development not only of some part of the brain but also of the corresponding part of the skull, a kind of cerebral localisation. This theory characterises mathematical skill by a "bump" on the head. Gall's theories were taken up later by Mobius, who, while agreeing with the fundamental notion of Gall collected further data on points like heredity (families of mathematicians), longevity, associated abilities fond of music and are also interested in the arts. Gall-Mobius theory in its original crude form has subsequently been assailed and rejected. But, recent developments in the field of phrenology, localizing pleasure and pain centres in the brains of animals and exciting these centres through electrodes implanted at those centres that collect external electrical impulses have gone a long way in establishing localisation

of mental activities in different parts of human brain. The demonstrations of radio-controlled bull-fights by Dr. Delegado and excitation of pleasure centres by trained rats in Dr. Skinner's behaviourist experiments are likely to bring a new credence to Gall-Mobius theory, even if it shall be in a far more sophisticated form.

It is of interest to take notice, in this connection, of two very interesting works on men of genius, even if they are not confined only to mathematicians. One is Kretchmer's "Psychology of Men of Genius" and the other, Lombroso's "The Men of Genius". Kretchmer discusses different conditions under which a man of genius appears: one of his conclusions is that racial or geneological mixing is propitious for the occurrence of a genius (even as Arthur Koestler, in a recent book, pointed out "bisociation" or the intersection of two diverse planes of thinking or feeling is required for an act of creation); the second conclusion is that in a family history, genius occurs when the family degenerates and is almost on the point of disintegration, as if genius is the last flicker of an expiring taper, the last surge of the dwindling elan vital or what may be called the swan-song of a family before its extinction. Kretchmer noted the fact that the kith and kin of a man of genius are usually mentally deficient and he indicated the great proximity of genius and insanity. Lombroso not only endorses a number of the findings of Kretchmer but also has a specific chapter "Genius and Insanity", in his book and cites the example of Geronimo Cardano (1501—1576), the Italian mathematician as a typical instance of the intermingling of genius and insanity. Cardano was not only an inventor of a well-known joint which is an essential part of the automobile but also brought about a fundamental transformation in mathematics by the invention of imaginary quantities. When Cardano made his invention of the imaginary

quantities, they must have looked absurd, and if someone talked of a number whose square was a negative quantity it would be considered madness. Yet, we now know that a spectacular development in algebra and analysis and their application to the field of physical sciences could come about only as a result of these imaginary quantities. "It has been written that the shortest and the best way between two truths of the real domain often passes through the imaginary one". It was said that Cardano received suggestions from a mysterious voice at certain periods of his life, just as Socrates used to get his ideas from daemon and as Num a Pompilius, the legendary king of Rome, from the nymph Egeria.

These works of Gall, Mobius, Kretchmer and Lombroso may be instructive about the external and objective circumstances of the occurrence of genius, in general, and of mathematical genius, in particular, but they do not throw much light on the process of the occurrence of new mathematical ideas. Psychological and subjective study of the appearance of new ideas in different fields has been extensively undertaken by Graham Wallas in his "Art of Thought". Henri Poincare and H. L. F. Helmholtz had devoted considerable thought to this process and several symposia, including the one in 1937 to which a reference was made, have been organized to arrive at certain general features of the creative process. Arthur Koestler had written a book "The Act of Creation", and W. M. S. Russell in a comparatively recent talk (1969) over the B.B.C. sums up the findings of these various agencies that studies the creative process.

Stages in the Creative Process :

One very significant common feature that stands out in all these studies is the suddenness of the occurrence of new ideas, as in a flash; and when the flash occurs there is a characteristic

certitude about its veracity independent of any conscious logical proof. This is very often called ILLUMINATION.

Another significant point observed is the lapse of time between initial conscious efforts to solve the problem, called PREPARATION and the time of illumination. This interregnum of comparative lull and apparent inactivity is characterized as the period of INCUBATION, and lasts for varying lengths of time from a few days to several years.

Thus, chronologically, the first three phases are: preparation, incubation and illumination. When once the illumination occurs, the insight thus vouchsafed has to be rationalised, bridges built between the existing knowledge and the new insight. This final and the fourth phase is called EXECUTION.

It needs no stressing that there can be no question of invention or discovery unless the background work is done and a very great concentration bestowed on acquiring all the knowledge that has already been accumulated in the relevant field. But one very interesting observation that has emerged is that the utterly exclusive concentration to the negligence of other factors aside is not at all conducive to invention and discovery. As a matter of fact, it is very often the factors which were apparently irrelevant at first sight that become essential ingredients of a new insight. This 'thinking aside' is absolutely necessary for a creative act. But, too much of diversification can dilute the attention on the main problem. Thus there is a threshold of attention needed for the essential problem coupled with some thinking aside. It is this thinking aside and its new relevance for the old problem is what Koestler calls "bisociation" a coming together of two different planes of thinking.

While preparation is a highly conscious effort, whatever happens

during the period of incubation takes place below the surface of the conscious mind. Thanks to the pioneering work of Sigmund Freud, it is now firmly established that besides the conscious part there is an unconscious part of the mind. This unconscious, according to Freud, is a repository and receptacle of the suppressed emotions, those emotions that are tabooed by the society as deviating from its norms being repressed. Freud had developed methods of psycho-analysis for curing the mentally ill, the essence of his technique consisting in getting to the surface of the conscious mind those emotions that were suppressed which cause the mental illness. Freud and his followers also observed that the unconscious played a very important role in all works art and all creative processes; they even found that the so-called lapses and mistakes in every day life are not accidents but governed by the operation of the unconscious. Since, however, the unconscious of the Freudians consists only of the suppressed emotions, lapses and mistakes of every day life as well as the great works of art are simply pathological. The Freudian analysis of the works of art are pegged to a few 'complexes of the unconscious—Shakespeare's Hamlet, for example, is relentlessly goaded on by 'Oedipus Complex' and all work of Hemingway is tainted a single traumatic experience. Classic example of Freud's analysis of a work of art is the interpretation of Michaelangelo's Moses in Sistine Chapel in Rome.

Two of the close associates of Freud—Adler and Jung—while accepting the role of the unconscious in all human activities including those of the processes of creative efforts differed from him as to the contents of the unconscious. Carl Jung observed that below the superficial layer of the personal unconscious there is a deeper layer of the collective unconscious and

the contents of the universal unconscious are called 'archetypes'. Jung and his followers have developed a much more satisfying interpretation of the role of the unconscious in the creative process than Freudians by giving the unconscious a much greater depth engulfing the racial memories over and above the merely personal suppressed emotions. In the recent years and very currently, structuralists like Profs. Jacques Lacan and Claude Levi-Strauss are making fresh approaches to the study of the unconscious and the full impact of their findings on the role of the unconscious in the creative process is yet to be assessed.

During the period of incubation, according to Poincare, there is a combination of different ideas that are tried in the unconscious numerous permutations and combinations of the ideas are tried in a ferment in the unconscious. When a combination 'clicks' there is a sudden flash and an illumination that takes the conscious by surprise.

W. M. S. Russel, in his talk over the B. B. C. (The Listeners : 9th and 16th January 1964) agrees with Poincare that the ideas that burst forth into the conscious are characterized by aesthetic charm. The beauty of a new idea consists essentially in the harmony that it brings in the elements that so far looked disparate and disjointed, bringing in them a coherence and unity. Russel says : "we can look upon the whole creative process as a struggle of the intelligence guided by the aesthetic sense, against personal and social resistance to expansive cultural change.

Creative process, then, is a choice—and a choice among innumerable combinations—and this choice is governed in the ultimate analysis, by aesthetic considerations, a sense of beauty. In the recent years, P. A. M. Dirac, the

famous quantum physicist has been urging on the primary of aesthetic considerations of harmony and symmetry in the realm of mathematics, a coming together, as it were, of truth and beauty. Robert Oppenheimer had been talking about the fascinating beauty of the mathematical equations that underline the production of the hydrogen bomb—a reminder, perhaps, of man's inability to bring to unity the trinity of the true, the beautiful and the good.

The question why there should be a period of incubation between preparation and illumination has puzzled some thinkers and two hypotheses have been suggested as tentative explanations : (a) that fatigued mind needed rest, known as rest hypothesis and (b) that getting rid of false and unaesthetic leads is needed, known as forgetting hypothesis. The fact remains, however, that in almost all the cases the illumination occurs when one is not thinking of the problem at all and one is taken by surprise. In some instances it is almost a miracle of metamorphosis, a revelation on the "road to Damascus".

The final step in the creative process is the transformation of the intuition into ratio; the linking up of the new insight with the existing knowledge and extending the frontiers of knowledge. Many interesting instances of the tantalizing nature of the intuition that eludes the grasp of rationality are known. Senor Ortega Y Gasset, the famous Spanish thinker and the author of "The Revolt of the Masses" had illustrated this aspect in his "Concord and Liberty" with the example of Wilhelm Dilthey whom the "Idea of Life" eluded for several years at this stage of translation from intuition to intellection.

Richard Courant, in his essay in the Scientific American (Sept. 1964) on "Mathematics in the Modern World" uses a valuable metaphor to describe

the creative process in Mathematics :
"As is often said, mathematics aims at progressive abstraction, logically rigorous axiomatic deduction and everwide generalisation. Such a generalisation states the truth but not the whole truth. It is one sided, almost a caricature of the reality.....The interplay between generality and individuality, deduction and construction, logic and imagination—this is the profound essence of live mathematics. Anyone or any other of these aspects of mathematics can be at the centre of a given achievement. In a far-reaching achievement all of them will be involved. Generally speaking, such a development will start from the "concrete" ground, then discard the ballast by abstraction and rise to the lofty layers of thin air where the navigation and observation are easy.

After this flight comes the crucial test of landing and reaching specific goals in the newly surveyed low plains of the individual 'reality'. In brief, the flight into abstract generality must start from and return again to the "concrete and specific."

Here, the concrete ground for starting is the preparation, discarding the ballast is done during the period of incubation, rising to lofty layers of thin air is the one that corresponds to illumination and landing back is the execution.

Mathematics, as we started, shares of the features of sciences on one side and of arts on the other. The creative process in Mathematics is paradigmatic of the process of creation by the human mind.



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THE ROLE OF PUBLIC SECTOR UNDERTAKING IN ORISSA



Dr. H. P. Misra

Chairman, Industrial Promotion and Investment Corporation

- (3) Working out strategic industries of national importance like iron and steel and other mineral based and vital consumer industries like medicine, drugs, etc.

In the realm of prevailing philosophy in spite of the uses of the terms like socialistic pattern and also accepted desire of the Government for the rapid industrialisation of our country, the industry as a whole is to a large extent controlled by the private sector. Although during the last plan periods the State has come more and more to the domain of public enterprise, yet judging from the problems we face in the industrial enterprises today, the effective promotional and regulatory control of the State in the industry, to my mind, is not appreciable. In this connection, it may be relevant to quote Prof. Galbraith, who has observed, "the economy of the United States is subject to far greater degree of public guidance and direction than that of India. He points out that by almost any test the economy of India is less responsive to public guidance and direction than that of United States and that it is one of the world's least controlled or planned economics." Therefore, a lot has to be done by the Government in promoting, running and regulating the production activities of our country and especially in an industrially backward State like Orissa.

Orissa may be considered as an infrastructurally backward region of the country with poor communication between the mineral, forest and coastal areas. The State can be divided into 4 well marked physical units. The northern plateau, eastern ghats, central table-land watered by many important rivers and the coastal plains. The river Mahanadi flowing west to east divides this State into a minerally rich northern part (practically a continuation of Chotanagpur plateau) and a southern part covered

The entry of the State in the field of productive economic activities has a very long history. It dates back to the Fifth Century B. C. For instance, the State of Athens used to have its own Silver Mines at Laurium, which were worked by slaves. There are various reasons for the State owning and working industrial units. Amongst the very many reasons a few may be illustrated here.

- (1) State owning few industries for the supply of Defence requirement.
- (2) State owning the vital communication systems like coastal, railway, air service, transport, etc., in the national interest besides raising the revenue for the nation.

by the eastern ghats and also by the coastal plains. The 3 main rivers—Mahanadi, Brahmani and Baitarini—running almost parallel to one another from north-west to south-west from very important industrial link of the mineral belt. In spite of its vast mineral and water resources, the missing link is the communication. The State has got railway link running in periphery without any cross link either joining the north or south. Therefore, during the last decade the State has legitimately pleaded with the Government of India for speedy implementation of Banspani-Jakhpura rail link and Talcher-Bimalagarh, which will bridge the gap to some extent.

Based on the potentials of raw materials, especially forest, agriculture and minerals, the State can have most important industrial belts and some of them can be defined as follows:—

- (1) Industrial belt running from Rourkela-Bona-Talcher-Cuttack-Paradeep, and
- (2) Industrial belt connecting Banspani-Nayagarh-Gandhamardan-Jakhpura-Cuttack-Paradeep.

For shaping these industrial belts the two railway links mentioned above have great practical significance. Besides, industrial areas can be developed in Koraput and Mayurbhanj districts based on the vast forest and in case of Kerala.

Similarly based on the straw and jute sticks and rags, and coconut husks, paper industries can also be planned in Orissa. Rice bran and other oil extraction units can be planned in various parts of the State. Orissa can also have plants like caustic chlorine, magnesite recovery unit from sea-water and other industries based on the salt harvesting from the coastal area. Marine based fishing industries can also be planned in a large scale as in case of Kerala.

Orissa, as already mentioned above is a store house of several minerals and a number of industries can be planned utilising the minerals like iron-ore, manganese, coal, bauxite, graphite, china-clay, limestone, dolomite, quartzite, chromite ore, etc. In several of my deliberations, I have tried to emphasise that industrial belts can be organised on the basis of the infrastructure available, mainly relating to water transport and mineral resources.

Planning of the industries, therefore, may confine to three well defined groups.

- (1) Mineral based industries which are to be identified on the basis of national requirement to be executed mostly in the public sector or sometimes in joint sector. The gestation period of these industries is somewhat prolonged.
- (2) Industries which are required to be identified based on the raw materials of the State in the medium and small sector within the reach of the entrepreneurs either from the State or outside.
- (3) Industries which can be planned on the basis of the consumers' need of the area or the region, for which minimum infrastructure facilities are available.

In the first and second type of industries, the role of public sector in Orissa has to be viewed in the context of not only the interest of our State, but also of entire nation. Fortunately, Orissa has got the monopoly of certain minerals, like high grade iron-ore, nickel, vanadium, good grade bauxite, graphite and chromite ore, etc. These form the basic raw materials for undertaking some of the vital industrial programme for the

entire nation. Industries which can be planned are as follows:—

(1) Sponge Iron Project utilising high grade iron-ore and non-metallurgical coal available from Hingir-Rampur and Talcher coal fields in Orissa.

(2) Ferro-chrome and special alloy industry for the manufacture of particularly stainless steel utilising the best grade chromite ore available in Orissa. The grade of the ore considered to be one of the best qualities in the world.

(3) Nickel ore available almost in the same area as in case of chromite ore for the production of nickel or ferro-nickel.

(4) Vanadium ore available in Mayurbhanj district for the manufacture of ferro-vanadium.

(5) Bauxite ore available in Koraput and Kalahandi districts for the manufacture of alumina and aluminium.

(6) High grade fire-clay and quartzite available in Khurda (Puri district), Koraput, Balangir and Mayurbhanj districts for the establishment of refractory industry.

(7) Manganese ore available in Barbil-Joda area for the manufacture of electrolytic and Chemical grade manganese dioxide or manganese metal.

(8) Illeminite sand available in Chatrapur area for the manufacture of synthetic rutile, zirconium chemicals and various other products.

Formation of these projects require lot of spade work and each step mentioned below can be considered vital for the success of the Industry. These are prospecting the mineral, bench scale test in laboratory, pilot plant tests wherever necessary, preparation of the detailed feasibility report, giving adequate weightage of the first few years of the performance and likely bottle-

necks during commissioning and reaching the target.

In these systematic investigations, the public sector role is significant as it is primarily intended to give due priority of broader interest of the country keeping in view the profitability of the project. The private sector which is oriented more to the profit aspect, cannot afford to spend more money and time in the spade work and also cannot sustain a long gestation period for the project. Even if the resource is available, the attitude of the private sector is not oriented to such R. and D. effort. In our country entrepreneurship is more aimed for trading in conventional production route than competing through technological improvement due to absence of competition.

Under such circumstances the role of public sector is very important and in my long experience with the public sectors like Fertilizer Corporation of India, Hindustan Steel Ltd., in Central sector and in Industrial Development Corporation and now in Industrial Promotion and Investment Corporation of Orissa Ltd., in State sector, many resource oriented projects like coal based Fertiliser Plant, Catalyst unit, Form coke, Ferro-Vanadium, etc. have come to life by R. & D. effort at considerable expense. The following illustration will clarify the position :

Talcher Industrial Projects—In the year 1974, necessity was felt by the Government that the vast reserves of the non-coking coal at Talcher should be utilised for materialising certain basic industries like fertilizer, pig iron, special coke and various other coal chemicals. The need for the same was felt acutely in view of the depletion of the coking coal reserves in quality and quantity for our Steel Works. It was ascertained that Talcher had quite good reserves of non-coking coal with

comparatively low ash content and this might be utilised in chemical and Metallurgical industries, instead of being used as boiler fuel.

Now the problem of Project identification and selection of certain industries had to be taken up seriously and this was assigned to a group of engineers working under my supervision and guidance. At the first instance, we had to work out details of the coal reserves with the assistance of the NCDC and the State Directorate of Mines in quality and quantity. Central Fuel Research Institute (CFRI) also assisted in the investigation work considerably. The mineable reserves of various grades of coal were estimated in details.

Thereafter, the coal was sent for testing to Central Fuel Research Institute in various pilot plants, i.e., coal washing unit, gassification plant and coal carbonisation unit. After these test results were made available, detailed work was conducted on various types of projects which could be planned. Various process parameters also worked out with a view to achieve the best techno-economic combination.

At the same time for Talcher site, detailed contour survey soil testing, water supply study from the river Brahmani, meteorological data, etc. were also compiled. This spade work was very much useful in expediting the process selection and investment decision by the Government of India for the Talcher Fertilizer Plant. It is particularly interesting to mention that when the coal based fertilizer plant was contemplated by the Government of India in the year 1968, Talcher was not taken into consideration. Government of India almost decided to locate the first coal based plant at different locations, i.e., Ramagundam in Andhra Pradesh and Korba in Madhya Pradesh. However, on our persuasion, the basic work done for

Talcher was examined in detail in the light of the parameters set up for other two fertilizer plants and it was found that Talcher presented the most suitable site for the location of the fertilizer plant. Now after the selection of the project, formulation of the scheme was taken up in the right earnest by the planning and Development Division of the Fertilizer Corporation of India Limited. Detailed Project Report was made and the project construction which commenced in 1970 is now almost nearing completion. The project is expected to go into production during 1976.

Similarly, Talcher formed coke plant also underwent the same type of exercise and now the Project is under implementation.

Ferro-Vanadium Project—The existence of vanadi-ferrous magnetite ore in Mayurbhanj district of our State was well known for many years. During the pre-war period, attempt was made to float a company for producing Vanadium out of the vanadi-ferrous ore, required mainly for the defence purpose. However, the process selected at that time was somewhat uneconomic and therefore, entire effort fell through.

In the year 1969, the question of recovery of vanadium from the vanadi-ferrous ore was taken up with all seriousness. Detailed prospecting work was conducted in 1970, 1971 and 1972 in order to establish a reserve of 2 million tonnes to sustain the operation of the plant at least for a period of 20 years. For this purpose Kumardubi and Betjharan deposits were considered. The survey earlier conducted by the Geological Survey of India broadly revealed adequate reserve of ore. Here it may be of interest to know the importance of the prospecting for the purpose of identification of the Project. This is because of the heterogenous nature of

the deposits, i.e., the vanadium content of the ore varies widely even at short distances. Therefore, it was decided to make detailed investigation on the mineable deposit with $\frac{1}{2}$ % content of at least 1 per cent. Now, it has been established that Kumardubi and Betjharan would cater to this requirement of the project.

Vanadiferrous ore, including other requisite raw materials, were sent abroad for pilot plant scale tests and after satisfactory smelting and recovery test results, the Project Scheme was formulated.

Similarly, for the Sponge Iron Project, the exercise as in case of ferro-vanadium Project has already been done considerably and very interesting phenomena have come out of it. As for example, the two types of iron ore even with same iron content may behave differently in the rotary kiln and these informations are extremely useful for the project formulation.

Therefore, in the mineral based industries, the steps mentioned above are a must and the promoter must have sufficient patience for completing the prospecting and the tests, which are expensive and extremely important for the Project.

The role of public sector in organising productive activities for both agro and forest based industries, especially in the States like Orissa, has to be examined in proper perspective. Based on the availability of forest products like sal seed, myrobalan, mohua flower, bamboo, hard and soft wood, kendu-leaf, etc., forest based industries can be planned. In most of the forest areas communication presents acute problem and these areas are mostly inhabited by tribal people. The livelihood of these people centres primarily in the forest products and therefore, collection and processing mechanism of these resources should be oriented in such a way that these

tribal people should derive maximum benefit. This necessitates organising the industry in public sector and our State Government has taken right step in organising Orissa Forest Corporation, Orissa Tribal Development Corporation, etc., keeping in view of the socio-economic need of these industries.

In Orissa due to deficiency of infrastructure, the private sector has not developed even in the areas where there is tremendous scope for such development. In this connection, it may be relevant to mention that the private sector is not geared for development of backward State like ours, but migrates to the areas of great profitability mostly located in the developed zones like Bombay, Madras, Calcutta, Delhi, etc., where consumer market and easy availability of technology, raw material and management expertise exist. Therefore, it is absolutely important for the State to develop well defined industrial areas adjacent to the main industrial infra structure of the State like, Rourkela, Talcher, Sunabeda, Paradeep, etc., and offer within the limited resources, the incentive to the private entrepreneurs to build up their industries. Here the role of the public sector like Industrial Promotion and Investment Corporation of Orissa Limited is meaningful.

The public sector in a State like Orissa has two important functions to play, i. e., Industrial Development Management in the model of SICOM of Maharashtra and Industrial Management like any other typical manufacturing unit either in private or public control. The Industrial Development aspect mentioned above is extremely important in a State like Orissa as lot of efforts are required to attract and promote the entrepreneurs and in making them available reasonable infrastructure and incentive for putting up the industries in various parts of the State. To cater to the need, the State Government has organised a

Company named the Industrial Promotion and Investment Corporation of Orissa Limited. This Company is assisting the State Government in implementation public sector units like formed coke in Talcher, Indian Rare Earth near Chatrapur and Ferro-Vanadium Project in Mayurbhanj district. Besides, the Corporation is putting its best effort to shape the projects like Tyre and Tube, Sponge Iron, Calcium Carbide, Caustic Chlorine and Electrolytic Manganese Dioxide in joint-sector, Paper Projects, Conveyor Belt, Calcium Carbide, etc., in private sector, Industrial areas in Bhubaneswar, Talcher, Rourkela, etc. Besides, it is assisting in Entrepreneurship Development Programme for medium sector have also been taken up by the company. These activities which are vital to cater to the State industrialisation can only be possible in public sector.

In conclusion, the planning for public sector industries in Orissa should be treated on a different footing as compared to other developed State like Maharashtra, Gujarat, Punjab, etc. In my opinion, these undertakings need professional management and adequate amount of autonomy for its meaningful role in the development of industries in the State. In case these undertakings, for some reason or other, are exposed to the typical Government control for the sake of procedure, the entire motivation for setting up of these undertakings will meet rough weather. Therefore, planning for public sector in Orissa, in view of its backwardness, has to be organised with the induction of proper human material and also with an organisational system which can respond to the objectives of each undertaking.

AGRICULTURE IN ORISSA'S ECONOMY

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The development of agricultural sector can be argued for various reasons. Firstly, this is that part of the economy which provides the basic need of the people, i.e., food, besides

supplying raw materials to the industries. The industries like sugar, jute, tea entirely depend upon agriculture. So, this sector has been given due importance by the policy-makers for

last two decades. It is regarded as an active and co-equal partner with the industrial sector. But during 1940's and 50's, it was widely believed that industrialization was the unique key to development and the industrial sector, as the advanced sector, would pull with it the backward agricultural sector¹.

To know correctly what agriculture is and what it covers the following lines should be properly understood. "The word agriculture has long been associated with the industry of basic food production known as farming. Agriculture and farming were synonymous before farming began selling their products on a commercial market. However, in to-day's modern agriculture, producing food and fibre (farming) is only one part of scientific agriculture. Modern agriculture also includes the farm supply industries (feed, seed, machinery, pharmaceuticals, etc.) as well as the product processing and distribution industries which convert the raw food into the farm consumers want and it to them. Often, these are referred to as agriculturally related industries or agribusiness².

Plan Outlays :

At the time when the First Five-Year Plan was being drawn up, the most important problem facing the country was that of food shortage and the

plan had therefore, to give the first priority to the schemes which would provide an effective solution to this serious problem. Attention had, therefore, to be focused and concentrated on those schemes in the Five-Year Plan which would go directly to increase food production or materially assist in doing so³. The schemes included in the Agriculture Plan broadly came under three principal categories, viz, (1) Research, (2) Extension and (3) Training. Since the First Plan in these fields the developmental work have been carried on.

Table No. 1 indicates how the expenditure on Agricultural Programmes and Irrigation have been increased by the Government. The total amount spent on Agricultural programme (Rs. in lakhs) was 5,16.01 in First Plan, 792.92 in Second Plan, 21,85.00 in Third Plan, 1,570.99 in Three Annual Plans (total) and 4,371.68 in the Fourth Plan. The total amount spent on Irrigation (Rs. in lakhs) was 4,81.55 in First Plan, 393.74 in Second Plan, 80,87.00 in Third Plan, 54,61.86 in Three Annual Plans (total) and 1,17,13.45 in Fourth Plan.

1. The Role of Agriculture in Economic Development, edited by Eric Thorbecke. (Introduction, P. 3).

2. Agriculture Economics and growth by Milton M. Snodgrass and Lether T. Wallace. Second edition, P. 10-11.

3. The First Five-Year Plan of Orissa, P. 26.

TABLE No. 1

Expenditure on Agricultural Programmes and Irrigation in First, Second, Third, Annual Plans & Fourth Plans

(Rs. in lakhs)

Sl. No.	Head of Development	First Plan (1)	Second Plan (2)	Third Plan (3)	Annual Plans			Total Three Plans (9)	Fourth Plan (10)
					1966-67 (4)	1967-68 (5)	1968-69 (6)		
(A) Agricultural Programme—									
1	Agricultural Production ..	1,39.90	2,65.98	6,16.00	1,95.10	1,63.48	1,20.90	4,79.48	13,80.27
2	Land Development ..	9.10	11.22	91.00	..	0.71	1.47	2.18	1,98.11
3	Minor Irrigation ..	2,72.04	1,58.39	6,18.00	2,60.53	2,36.25	96.34	5,93.12	15,39.75
4	Soil Conservation ..	4.04	51.19	92.00	19.01	17.48	12.50	48.99	1,99.58
5	Animal Husbandry ..	36.92	1,53.80	3,08.00	56.71	75.49	47.48	1,80.86	4,12.89
6	Dairying and Milk Supply	8.83	6.69	31.00	1.18	..	..	..	..
7	Forests ..	13.29	48.84	2,23.00	61.00	67.89	57.51	1,86.40	4,05.30
8	Fisheries ..	28.72	79.36	1,96.00	33.55	19.05	19.91	72.51	2,22.69
9	Ware-housing & Marketing	3.17	17.48	10.00	4.40	1.99	0.77	7.16	13.09
	Total	5,16.01	7,92.92	21,85.00	6,31.48	5,82.34	3,57.17	15,70.99	43,71.68
(B) Irrigation—									
1	Irrigation Project ..	..	35.25	26,22.00	7,39.35	6,59.24	6,45.82	20,44.41	26,29.58
2	Flood Control ..	..	24.09	2,94.00	44.16	32.58	23.89	1,00.63	2,92.00
3	Power Projects ..	4,81.55	3,34.40	51,71.00	11,52.05	11,21.43	10,43.31	33,16.82	87,91.87
	Total	4,81.55	3,93.74	80,87.00	19,35.59	18,13.25	17,13.02	54,61.86	1,17,13.45

Contribution to the National Income :

If we analyse the State Income of Orissa by Industrial Origin at current price, we find, in the year 1960-61 (end of the Second Plan) the Agriculture and allied activities (No. 1 item) contributes 61.3 per cent of the total income while mining, manufacturing, small enterprises and construction together (No. 2 item) contributed 14.3 per cent and commerce, Transport and communication together (No. 3 item) contributed 7.8 per cent of the total income. The percentage contributed by other services was 16.6 (No. 4 item). In the year 1965-66 (end of the Third Plan), No. 1 item contributed 56.6 per cent, No. 2 item contributed 19.1 per cent, No. 3 item contributed 7.7 per cent and No. 4 item 16.6 per cent. In the year 1971-72 (third year of the Fourth Plan). Item Nos. 1, 2, 3, 4 contributed respectively 62.1, 14.5, 7.9, 15.5 per cent to the total income. This indicates that the Agriculture and other allied activities contributes a very a large portion of the State Income⁴.

Yield Rate of Principal Crops :

The principal crops in Orissa are Rice, Ragi, Gram, Mung, Biri, Sugarcane, Mustard, Jute, Cotton and Potato. The yield rate of these Crops can be known from Table No. 2. The agricultural yield rates were severely affected during the year 1965 and 1966 due to drought and during the year 1967-68 due to unprecedented cyclone. However yield rates of the principal crops of the state showed encouraging signs during the year 1968-69. The yield rate of total rice although was higher than the previous three years was still below 1964-65 level. In 1964-65 the yield rate of rice has reached the record level of 10.20 quintal per hectare. Yield rate of

Ragi, Gram, Sugarcane were better during the year 1968-69 compared to previous years. During the year 1970-71 the yield rate of winter rice was 9.64 quintals per hectare as against 9.17 quintals per hectare in the year 1969-70. But the yield rate declined to 7.97 quintals per hectare in 1971-72. This short fall was due to cyclone effects towards the latter part of the year 1970-71. The yield rate of summer rice and autumn rice increased from 13.87 and 5.42 quintals respectively per hectare in 1970-71 to 15.03 and 5.62 quintals per hectare in 1971-72.

Yield rate of sugarcane crop was highest in the year 1971-72. It shot up from 53.80 quintals per hectare in 1970-71 to 62.06 quintals per hectare in 1971-72. But the yield rate of potato, a very important commercial crop, shows a decline trend continuously from 1966-67 onward and in the year 1971-72 it exceptionally reduced to 79.16 quintals as against 107.90 quintals per hectare in 1970-71⁵.

Irrigation :

The expenditure on the head Minor Irrigation in the First, Second and Third Five-Year Plans, Total of Three Annual Plans and Fourth Plan was of the order of (Rs. in lakhs) 2,72.04, 1, 58.39, 6, 18.00, 593.12 and 1,539.75 respectively and the expenditure on Irrigation Projects (from Second Plan) were (Rs. in lakhs) 35.25, 26, 22.00, 20, 44.41 and 26,29.58⁶.

4. Pages 162-164, Economic Review of Orissa 1974 issued by the Bureau of Statistics & Economics.

5. Pages 44-45, Economic Review of Orissa, 1974

6. Table No. 1

TABLE No. 2

Yield rate of principal crops in the State (Quintals per hectares)

Crops	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Winter Rice	..	10.47	8.71	8.43	9.53	9.17	9.64	7.97	9.50
2. Summer Rice	..	8.80	10.51	9.89	11.03	11.69	13.87	15.03	13.55
3. Autumn Rice	..	7.54	2.94	4.25	4.69	4.94	5.42	5.62	5.02
4. Rice (Total)	..	10.20	8.45	8.22	9.55	9.02	9.17	7.79	8.90
5. Ragi	..	5.58	5.01	8.53	9.86	8.19	9.01	9.33	8.60
6. Gram	..	4.62	3.17	5.80	6.22	5.62	6.00	4.07	5.18
7. Mung	5.18	4.52	4.84	5.19	6.00	4.06	5.30
8. Biri	8.87	4.27	4.95	4.89	5.00	4.05	5.35
9. Sugarcane	--	49.63	51.30	49.69	57.73	52.07	53.80	62.06	65.20
10. Mustard	..	4.18	3.26	3.72	3.74	4.43	4.70	4.06	4.75
11. Jute	..	12.55	11.07	6.92*	6.92*	6.94*	7.50*	9.03*	9.18*
12. Cotton	..	2.22	2.43	1.58*	1.53*	1.31*	1.90*	1.09*	1.60*
13. Potato	..	66.87	103.03	119.26	117.60	108.75	107.90	79.16	51.73

Out of the Major Projects, Hirakud Stage I is irrigating 157'83 thousand hectares of Khariff and 89'84 thousand hectares of Rabi by the end of 1974-75, Salandi Project provided irrigation to 40'47 thousand hectares of Khariff and 14'16 thousand hectares of Rabi by the end of Fourth Plan, Mahanadi Delta Irrigation Project Stage I and Stage II irrigated 259'50 thousand hectares under Khariff and 147'86 thousand hectares under Rabi. During the year 1974-75, 17 numbers of continuing schemes were under execution with an approved outlay of Rs. 597'00 lakhs. The additional irrigation benefit likely to accrue from these projects would have been 6,430 hectares both for Khariff and Rabi, the different projects which have been taken up are Potteru Irrigation Project in Koraput, Rengali Dam Project, Bhimkund Project in Keonjhar, Daha in Ganjam, Nesa in Mayurbhanj, Pilasalki in Phulbani, Dumerbhal in Sambalpur. The Orissa Lift Irrigation took over 1,236 number of energized projects on October 1, 1973 with an irrigation potential of 29,139 hectares. Up to March 1974, 162 Lift Irrigation Projects were completed with an irrigation potential of 2,902 hectares⁷.

To get a picture of the net area irrigated by different sources in the State of Orissa, Table No. 3 may be referred.

Revenue from Agriculture—Table No. 4 may be referred to know the expenditure on collection and the actual revenue from Agricultural Income-tax and Land Revenue over different years. It can be studied that while Agricultural Income-tax has been profitable, it has not been so in the case of Land Revenue.

Conclusion—The contribution of Agriculture and Ancillary activities Sectors of different States in the year

1968-69 indicate that Orissa's portion was only better than three states viz. Haryana, Jammu and Kashmir and Rajasthan. In all other States agriculture's contribution was more than that of Orissa (P. 27, Economic Review of Orissa, 1974).

In Orissa, the cultivators as percentage to the total workers is 49'16 while the percentage of agricultural labourers to the total workers is 28'28. The latter is only less than some states like Andhra Pradesh, Bihar, Kerala, Maharashtra and Tamilnadu (As per Labour Statistics 1973, Labour Bureau, Department of Labour Employment). It clearly shows that in Orissa, a large area of land is cultivated by tenants.

As regards the Operational Holdings, Agricultural census, 1970-71 of the State indicates that the number of individual Holdings and Joint Holdings are much more in the size class of below 5 hectares or even less while the Number of Holdings declines to a very great extent in the size class of 10 hectares or more. To give an example the individual Holdings and joint Holdings in the size class of 3'0 to 4'0 hectares is 216123 and 292 respectively while in the size class of 20'0 to 30'0 hectares it becomes 5402 and 4 respectively and in the size class of 50'0 hectares and above it becomes 807 and 112 respectively. Due to 'Ceiling' individual bigger holdings are discouraged. But joint Holdings should be promoted for the interest of the State by developing Co-operative farming organisation.

TABLE No. 3

Net area Irrigated by different sources in the State of Orissa (In '000 Hectares)

Period	Major and Medium Irrigation Projects	Minor Irrigation Projects			Total	Percentage of net area irrigated to net area sown
		Flor (R. E. O.)	Lift	Others		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1965-66	365.58	201.11	..	221.68	788.37	13.15
1966-67	407.27	213.30	1.72	251.73	874.02	14.52
1967-68	428.47	225.91	1.73	251.14	907.25	15.01
1968-69	470.02	230.22	2.53	271.89	974.66	16.08
1969-70	484.83	235.14	1.33	290.80	1,012.10	16.61
1970-71	519.20	235.14	2.57	204.25	1,061.16	17.34
1971-72	547.88	240.00	3.93	336.62	1,128.43	18.44
1972-73*	579.52	240.00	8.24	336.62	1,164.38	19.40

* Provisional

Source—(1) Chief Engineer, Irrigation.

(2) Chief Engineer, R. E. O.

(3) Director, Lift Irrigation Corporation.

(4) Director, C. D. Department

TABLE No. 4

Expenditure on collection and actual Revenue from Agricultural Income-tax and Land Revenue

(Rupees in thousands)

Year	Agricultural Income-tax		Land Revenue	
	Expenditure on collection	Actual revenue	Expenditure on collection	Actual revenue
(1)	(2)	(3)	(4)	(5)
1966-67	72	6,48	3,38,90	2,51,35
1967-68	83	4,71	3,43,89	1,61,12
1968-69	94	6,53	3,58,30	1,57,77
1969-70	99	5,76	3,72,90	1,72,62
1970-71	1,18	7,39	3,81,48	1,66,83
1971-72	1,32	9,05	4,28,31	1,78,77
1972-73	N. A.	9,10	4,26,13	2,04,46
1973-74	N. A.	5,94	5,36,25	2,31,44

In the use of Pumpsets for agricultural purpose, Orissa falls below many States and it should not be encouraged. A table prepared for the sixth conference of State Ministers of Irrigation and Power and published by the Government of India, Ministry of Irrigation and Power indicates that no. of Pumpsets energised (1000) as on March 31st 1971 in Orissa was 0.6 while it was 530.0 in Tamilnadu, 211.7 in Maharashtra, 187.0 in Andhra Pradesh, 128.2 in Uttar Pradesh. Orissa's portion was only better than Assam (Including Meghalaya and Mizoram), Jammu and Kashmir and Himachal Pradesh. This gives a very

poor picture of Orissa. Similarly the *per capita* consumption of electricity for agricultural and irrigation purposes also falls below majority states. A major of the villages are not electrified.

The canal system does not provide irrigation throughout the year. From the month of March they start drying up. Major fall in the total yield in the State is due to lack of irrigation facilities.

To improve the Agricultural Section which plays a vital role in the State's economy, all efforts should be made.

DUG WELLS—A BOLD NEW VENTURE

Encourged by the success of the dug well scheme and finding it most suited to serve the interest of the weaker sections, the State Government have launched a massive programme of sinking large number of dug-wells.

During 1974-75, a sum of Rs. 417.90 lakhs has been provided for 19,217 dug-wells in the State through the financing institutions as against Rs. 329.44 lakhs for 16,280 dug-wells during 1973-74. A Master Plan has also been prepared for the first 3 years of the fifth Plan with an outlay of Rs. 35 crores for 61,450 dug-wells in the State.

—EDITOR

Achievements of Fisheries Department during 1974-75

The Department of Fisheries deals with the development of inland marine and brackish water fisheries. During 1974-75, which is the first year of the 5th Five Year Plan, many developmental measures were taken to develop the various fisheries so as to improve the fish production and the socio-economic condition of the fishermen. During 1974-75, 370 million of spawn was produced and the department alone collected 141 million of spawn from the rivers and produced 29 million of spawn by induced breeding. In the private sector, about 190 million of spawn were collected by the fishermen of the State and the fishermen of West Bengal. The department alone produced 19.49 million of fry from the riverine spawn and about 8.48 million of fry from induced breeding. Thus about 27.97 million of fry were produced by the department. In the private sector, about 10.23 million of fry were produced and so the total production of fry in the State was about 38.20 million. The inland fish production went to about 24,000 tonnes during the current year.

In the marine sector, about 21 new mechanised boats were introduced in the State. The department operated 22 mechanised wooden boats at Paradip and landed about 517 tonnes of marine fish worth Rs. 12.59 lakhs. So also in the Balasore coast, the department operated 27 mechanised

boats and got about 119 tonnes of marine fish worth Rs. 3 lakhs. Experimental marine fishing was done at Talachua base in the Balasore district by the department during the current year and the results are encouraging. The marine fish production is about 18,000 tonnes during 1974-75.

For the operation of mechanised boats at Paradip and marketing of fish at Cuttack, Bhubaneswar, Sambalpur and Berhampur, Government sanctioned Rs. 10 lakhs under P. L. Account and during the current year about 84 tonnes of marine and sweet water fishes have been sold to consumers at Cuttack, Bhubaneswar Paradip, Berhampur and Sambalpur. Besides the department marketed 592 tonnes of marine fish at Paradip and Balasore. The department gave two mechanised boats to Collector, Cuttack and one mechanised boat to Collector, Balasore for anti-smuggling measures.

A marine fishing training institution was wanting from a long time in Ganjam district and a new Marine Training Centre has been established at Ganjam during 1974-75, to train people in marine fishing. 19 candidates have been deputed for training outside the State for different courses of marine fishing.

Government provided Rs. 1 lakh towards share capital and Rs. 1.83 lakhs towards subsidy for the mechanised boats and nets and managerial subsidy

to the Kirtania Fishermen's Co-operative Society to implement mechanisation programme getting finance from Agricultural Re-finance Corporation. Also Government was pleased to transfer 10 departmental boats to Kirtania Fishermen's Co-operative Society at a depreciated cost of Rs. 3.20 lakhs so that the co-operative society can take up mechanised fishing immediately. The mechanisation fishing programme was inaugurated by the Minister, Fisheries on 15th March 1975.

In each district, one departmental fish farm has been remodelled for fish seed production. Government have been pleased to sanction a Senior Officer for applied research in fish production which was neglected in the past. Detailed salinity studies were taken up in Chilka lake for model studies at Central Water & Power Research Institute, Poona.

Traditional Inland Fishermen & Pisciculturists were neglected in past and Government were pleased to give 25 per cent subsidy to own wooden boats and nets for operation in rivers, reservoirs and lakes so as to improve the socio-economic condition of the inland fishermen. Also Government have been pleased to give 25 per cent subsidy to the private pisciculturists for pisciculture in their tanks. In the same way, the traditional marine fishermen were considerably helped by giving 25 per cent subsidy so as to own wooden

boats and nets for catching fish along the coast. These are the outstanding measures to improve the socio-economic condition of the poor fishermen.

Steps have been taken to operate purse-seining to catch valuable pelagic fishes and purse-seining nets, 2 plate freezers and one refrigerated container has been received under Indo-Norwegian aid programme and Government have been pleased to sanction money in this connection. Government have decided that four Polish Trawlers will be operated departmentally. The Indian Council of Agricultural Research also agreed to implement new research schemes dealing with fish seed production and trash fish during the current year.

The Fisheries Co-operatives have been transferred to the Fisheries Department during 1973-74 and the present Government took an outstanding measure not to auction revenue sairats but to settle them in favour of non-defaulting co-operative societies in April, 1974.

Government of Orissa are also persuading the Central Government to sanction fishing harbour at Paradip and Dhamra and approach roads to coastal fishing villages. Thus the measures are mainly to increase the fish production in the State by helping poor fishermen individually or through co-operatives.

EMERGENCY AND ECONOMIC MEASURES

Shri Nilamadhab Mohanty,
COLLECTOR, SAMBALPUR

The President of India has proclaimed a state of emergency in the country with effect from the 25th June 1975 on the ground that the security of India is threatened by internal disturbances. This emergency has been proclaimed under Article 352 of the Constitution of India. Following the proclamation of emergency, a number of measures have been taken by the Central and State Governments to bring about discipline and order in our national life. One of the major goals which the administration proposes to achieve during this period of emergency is to bring about economic benefits to the general population particularly those belonging to the poorer section of the community and the lower middle classes. This can be achieved if we can ensure adequate supplies of the various essential commodities and other daily necessities of life at reasonably low price levels. The measures taken by the Government so far are designed to achieve this objective.

Every citizen has a responsibility to the society in which he lives in. The businessman is no exception to this rule. The traders earn their living by doing business in the society to which he owes a responsibility. In this period of emergency, the businessmen like all other citizens have to function keeping in view the national interests

and not merely for achieving their own selfish ends. Unfortunately, however, in our society, there are some unscrupulous businessmen who indulge in mal practices such as blackmarketing and hoarding with a view to achieve excessively high profits by creating artificial scarcities. These businessmen show no concern for the economic plight of the general population. This tendency has to be carved ruthlessly. During this period of emergency, a number of measures have been taken to deal with this category of businessmen. There is the Essential Commodities Act and a number of Control Orders which have been issued from time to time to regulate the conduct of business in a number of essential commodities. Recently the Maintenance of Internal Security Act, 1971—popularly known as MISA—has been amended for effectively dealing with the emergency by the President of India on the 25th June 1975. The Defence of India Rules also contain a number of provisions for dealing with economic offences and the offenders. All over the country, a number of measures have been initiated against the blackmarketeers and hoarders and other unscrupulous businessmen who do not hesitate to play with the lives of million of people by creating artificial scarcity and by other illegal means. In our State Orissa and also in the district of Sambalpur, we have taken a number of measures with a view to bring about economic benefits to the people and to maintain the prices of essential commodities and daily necessities of life at reasonable levels.

In Sambalpur district, we have three important commercial centres—namely Sambalpur, Bargarh and Jharsuguda. From these centres, various essential commodities are taken to the interior areas of the district. During the period from July 3 to 7, 1975, I as the District Magistrate held a series of discussions with the wholesalers and retailers of

these towns during which the businessmen of these places were advised to ensure that the prices of various essential commodities such as pulses, oils, vegetable ghee, free sugar, wheat products, etc., are kept at reasonable levels. Under the law, the wholesalers and retailers dealing with various essential commodities are to exhibit the opening stocks and prices of these commodities every day so that the purchasers and consumers can know about the stock position and the prices of these goods. During my meetings, the businessmen were advised to scrupulously follow these provisions of law. They were also warned that the unscrupulous traders who would be indulging in black-marketing and hoarding and such other economic malpractices will be severely dealt with under the existing provisions of the law. The businessmen were also told that if any one of them took steps to cut the supply lines of essential commodities deliberately either by hoarding stocks or by not bringing these from the manufacturers and the producing centres, they will be responsible for the consequences of such action and they will have no one else but themselves to blame for the serious consequences that will follow. During these discussions, most of the businessmen—both wholesalers and retailers—assured that they would co-operate with the Government during the period of emergency and ensure supply of essential goods to the consumers at reasonable prices.

Apart from these discussions, a number of energetic steps have been taken to ensure that the businessmen do not indulge in the malpractices which will have the effect of creating artificial scarcity and rising of prices of various essential commodities. A number of checking parties are going round the business centres in different parts of the district of Sambalpur to ensure that the traders scrupulously follow the various legal provisions which regulate the conduct of the businessmen dealing with the essential commodities. Till the 11th July 1975

as many as 87 raids and searches have been made throughout the Sambalpur district by various checking parties, 22 persons have so far been arrested under the Essential Commodities Act and 47 cases have been registered. Recently a businessman was found indulging in blackmarketing of cement and we have already taken steps to detain under the Maintenance of Internal Security Act (MISA) with a view to prevent him from acting in a manner prejudicial to the maintenance of supplies essential to the community through blackmarketing of such commodity. This vigilance on the part of the various wings of the Government is going on. This measure will succeed if the people co-operate with the administration in checking the activities of the unscrupulous businessmen so as to maintain the supplies and the prices of essential goods at reasonable levels.

I am happy to say that these measures have already led to the lowering of prices of a number of essential goods throughout the district. I need not dilate on the subject as the people themselves are the best judges of the efficacy and success of the emergency measures taken so far. But it may be pointed out that the prices of a number of essential commodities such as pulses, mustard oil, vegetable ghee, free sugar, soda ash and common salt have already fallen compared to those prevailing before these actions were initiated by the administration. The prices of a few other goods have remained steady. The upward trend in the price levels which is an affective factor in our economy in the past has been checked. These measures will continue in the coming month so as to bring economic discipline in our national life. I am sure that the people in general and the business community in particular will co-operate with the Government in this task. I would once again assure the business community that those who will do honest business with a view to

earn reasonable margin of profit have nothing to fear from the administration. On the other hand, we will come down heavily on these unscrupulous businessmen who, through black-marketing and hoarding, play with the lives of millions of people.

Apart from these measures, the Central and State Governments have also announced a series of economic measures designed to bring about improvement in the lot of the poor classes of the people such as the landless, agricultural labourers, adivasis and the rural poor. A number of

schemes have already been designed to provide relief and economic benefits to these categories of the people and to free them from the age-old economic bondages which inhibit their development. These measures and schemes will be implemented with due earnestness and sincerity of purpose so that there is perceptible improvement in the conditions of these economically backward classes of our society. This alone will ensure a general economic development of our country and will make India a prosperous and strong nation. Let us all dedicate ourselves to this task.

EDUCATION IN THE SITE

Jagannath Mohanty



OUR HOPES AND ASPIRATIONS

"Time is of essence India cannot afford to wait. We cannot think of slow processes like bullock carts..... The satellite route is the only way to go if India is to develop quickly". These assertive and optimistic remarks were made by P. V. Krishnamurthy, Deputy Director General of AIR (Television) on the SITE Programme. The ATS-6 has been described as the "most complex, versatile and powerful communications satellite ever developed" and the SITE where it will be used is enlabeled as the most astounding, fascinating and epoch-making experiment of the present world. Orissa as one of the six States selected for this Experiment is fortunate for having such an opportunity.

It is visualised that many of the burning problems can be tackled effectively with the experiences of the Experiment and Education has its lion's share in the project. The objective of universal primary education as a committed constitutional directive is yet to be realised and the problems of wastage and stagnation resulting from drop-outs and irregular attendance of pupils are causing serious concern among the educationists and Statesmen. These problems are expected to be solved with the help of Satellite Instructional Television Experiment. Dr. Wernher Von Braun, the world-famous space scientist has said "ATS-6 could turn to be the most important advance since movable type as a means of reaching people separated by vast geographical, economic and cultural barriers" which stand on the way of making primary education universal and compulsory in our country.

Moreover, pupils should enjoy the programmes and practices of schools, which have so far been repulsive. Unless the school systems are made attractive, pupils cannot be retained and their performance cannot be improved up to our expectation. In

this context Krishnamurthy has aptly pointed out "Education Via Satellite will help the teacher and make education more interesting for children. It will have a tremendous effect on our school systems."

PREPARATION FOR THE EXPERIMENT

In Orissa three Revenue districts of Dhenkanal, Phulbani and Sambalpur were selected for the SITE Programme. But practically the educational districts of Angul and Dhenkanal, Phulbani and Baliguda, Sambalpur, Bargarh and Deogarh have come under this Project. Thus there are seven educational districts in all where 354 villages have been selected by Indian Space Research Organisation, which is in charge of identifying suitable places for the purpose on the basis of various technical considerations. Most of the Television Centres have naturally been located in the schools whether Primary or Secondary or Basic. The total number of schools is 327. Besides, there are 13 Clubs, 2 Mahila Samitis, 1 Graingola, 1 Dharmasala, 1 Yuvak Sangha and 9 Panchayat Ghars where Television Sets have been deployed as suitable school houses are not available in those villages.

Television Sets have already been deployed in most of the places by ISRO which have taken up responsibility for maintaining or doing repair of the Television Sets and energising batteries when necessary. ISRO are also doing some research and evaluation work for studying the impact of Television Programmes on various aspects of the rural life. These studies will help bringing about continuous feed back and improvement of the Programmes.

Out of 354 Television Centres, in 211 cases the Television Sets will be operated by electricity and in 143 cases the Television Sets will be operated by battery. The battery sets are provided by ISRO and the

Education Department have provided a sum of Rs. 1,55,000 for electrification. General Electrical Division have done internal wiring and Orissa State Electricity Board are giving service connections and doing external wiring. The consumption charge will be borne by Community Development & Panchayati Raj Department.

The Television Base Production Centre, Cuttack have already produced programmes for more than one month and they are now busy in producing morning programmes for children and evening programmes for adults. There has been the Educational Technology Committee headed by the Secretary Education and consisting of educationalists, educators, producers and inspecting officers. This Committee suggest topics for production of Educational Television Programmes and give their opinions on the programmes already made after viewing some capsules. In brief this committee work as an advisory body on the SITE Programme as far as education is concerned.

ROLE OF THE USER TEACHERS

One Custodian and one Additional Custodian have been appointed in each Television Centre from among local school teachers by the Education Department. Although most of them are Primary School Teachers, there are some Custodian from Ashrams, Basic Schools, Middle Schools and High Schools. They are also called "User Teachers" as they are to operate the Television Sets both in the morning and evening programmes and conduct pre-telecast and post-telecast activities with Primary School children during the morning programmes and introduce community programmes to the adults in the evening. They have a number of important responsibilities as regards safe-custody of the sets, their timely operation and adequate utilisation of the programmes. The duties of a User Teacher as regards

educational programmes are as follows :—

- (1) To look at the date schedules of the Television Programmes for the morning and read the teacher guidance notes mindfully.
- (2) To bring the children to the Television room or hall to make them sit properly so that each one of them is able to see the Television Programme clearly.
- (3) To undertake pre-telecast activities before the Television Programme begins so that children are motivated to look at the Television Programme.
- (4) To watch the Television Programme along with the children and also take notes of the reactions of the children and points in the Television lesson which the children may have found difficult or which need further emphasis or clarification.
- (5) To undertake post-telecast activities, so that the Television Programme goes related to the class-room work and impressed in the young minds.
- (6) To conduct the children in their own class-rooms after the Television Programme is over.

There might be some difficulties on account of inadequate accommodation, heavy rush of children and varying socio-economic and psychological background of pupils. The teachers have to maintain a congenial atmosphere with their resourcefulness, sympathy and understanding.

AID TO THE TEACHERS

In order to equip the teachers for such duties with requisite knowledge and skills 9 (nine) User Teachers' Training Camps are being organised in our State at different places simultaneously on the 4th and 5th August 1975. Resource person given orientation by the Centre for Educational Technology, N.C.E.R.T. New Delhi, at the Film Institute, Poona, will conduct these training camps. Participants of these training camps will be given theoretical as well as practical knowledge in handling the Television Sets and conducting pre-telecast discussion with children.

The User Teachers are being given guidance notes on each of the Television Programmes in order to enable them for conducting such pre-and-post-telecast activities successfully. They will be supplied with other useful support materials in the matter along with date schedules of Television Programmes much earlier. They should go through these papers mindfully and do the necessary preparation for the job.

Similarly, it has been proposed to organise inservice training centres through multi-media packages consisting of Radio and Television Programmes and many kinds of printed materials. These training courses will usually be held at Television Centres for local primary school teachers, during ensuing Puja vacation. These inservice training courses will be organised in science for 12 days. Teacher-monitors selected from among Science Teachers of the High Schools and Secondary Training Schools will be given training earlier. They will conduct Inservice Training sources at Television Centres during the month of October 1975 (Puja-Vacation). Such training will equip Primary School Teachers with knowledge and skill in science in which they are usually deficient and they hardly do justice to their teaching work in the subject.

TEACHER FROM THE SKY

On the whole it is evident that a large number of persons in the different strata of the society are involved in the multifarious aspects of the S. I. T. E. Programme. Various organisations and agencies like I.S.R.O., A.I.R., N.C.E.R.T. are doing their part of the work in connection with the project. Thus personnel both technical and non-technical or administrative and academic are busy to make the experi-

ment a success. The satellite which is rightly called the "Teacher from the Sky" with immense versatility is the main agent in the "Asia's" first mass experiment in educational television. This S. I. T. E. project really holds "fascinating possibilities for the future". We as committed participants in it should make all out efforts to the success of this ambitious experimental and solve the pressing educational problems standing on the way of our national development.

PROGRAMME FOR IMPLEMENTATION OF SCHEMES IN RESPECT OF THE CULTURAL AFFAIRS DEPARTMENT FOR THE YEAR 1975-76

Orissa presents an absorbing Kaleidoscope of rich cultural heritage. History almost lies littered in its soil. The Department of Cultural Affairs is making an earnest bid for development of Art & Culture and conservation of its ancient monuments in consonance with its meagre resources.

An idea of the programmes to be taken up in the year 1975-76 is given below:—

STATE MUSEUM

The State Museum is making rapid strides in enriching itself in collection of various antiquities and specimens. This year Keonjhar, Jorada Badagada, Dhenkanal and Mayurbhanj areas have been selected to collect rich antiquities. Officers of the State Museum have already spotted important places where valuable antiquities are available.

An important aspect for the programme is to introduce audio-visual system in the Musical Gallery of the Museum. Work order has already been given for

purchase of necessary tools and machines. A new Gallery will be opened with the display of the portraits of illustrious sons of Orissa. Besides there is programme to open new Branch Museums at Salepur, Bhawanipatna and Khariar. There is provision of Rs. 1.17 lakhs for development of Museum.

STATE ARCHAEOLOGY

This gives challenging experience for the students of Archaeology. Conservation of ancient monuments and excavation of historical sites are important functions of the State Archaeology. The current year programme for conservation will cover the districts like—Cuttack, Dhenkanal, Kalahandi Koraput, Mayurbhanj and Balasore. Similarly the excavation programme has to be implemented covering the districts like—Puri, Kalahandi, Balangir, Balasore etc.

As usual the maintenance of the conserved monuments will have to be taken during the year. Besides

Publication, surveys are to be undertaken during the year. The Indralal Temple in Ranipur Jharial complex is an unique Brick temple of 9th Century A. D. Steps are being taken to conserve the temple and beautify the vicinity area to make it a place of Tourist interest. A sum of Rs. 2.99 lakhs has been earmarked for development of State Archaeology.

With a view to stopping the theft of the illegal removal of Art objects, Government of India have enacted a legislation styled as "Antiquities and Art Treasure Act, 1972". That scheme has already been introduced in our State from the current year. The whole State has been divided into 5 (five) zones to be manned by a Registration Officer. Three Registration Officers have already joined and started working. For this scheme, Rs. 1.50 lakhs has been provided in the Budget.

STATE ARCHIVES

It is still in its infancy and needs development. An important aspect of development will be setting up of a micro-filming unit for preservation of old records for future generation. Collection of important historical records from Board of Revenue and ex-princely States is in progress. Record management, compilation of reference-media and setting of reprography division being the important aspects of the State Archives are to be taken up during the year. An amount of Rs. 0.73 lakhs has been earmarked for the purpose.

SPORTS & GAMES

With a view to giving much needed fillip to the Sports activities in the State, four Regional coaching centres have been started for imparting training in various games. 13 District Sports Organisers have been appointed to look after developmental aspects of the Sports in rural area and to organise sports & games activities in the State.

Emphasis is being given on rural sports for which attention is being concentrated on rural areas to spot-out best Athlets and Sports-man. An important programme for the year will be to depute the women's team to National level in the Inter-National Women's year.

To explore high potentiality from the budding sports-man 'Kharvel Award' is to be given with a stipend of rupees twenty per month. For development of Sports in the State programme has been drawn up to conduct and organise Sports competitions at Block level, district and State level. Rs. 3.85 lakhs have been earmarked for the purpose.

Correct edition of Sarala Mahabharat will be completed during the year including the compilation of encyclopaedia undertaken by Utkal University for which a sum of Rs. 0.50 lakhs has been provided in the Budget.

CULTURAL ACTIVITIES

The State continue to extend its patronage to Cultural Associations and individual Artists. There has been programme to organise Cultural Festival at different districts for exchange of cultural ideas. Orissa Sangeet Natak Akademi which is financed by Government has already organised drama-festival at Balasore this year. Other programmes are being chalked out to be organised at Phulbani and Sambalpur. In honour of great sons of Orissa who have already expired Memorials will be put up during the year. An important step taken during

the year is for bringing out commemoration volume to perpetuate the memory of late lamented Chandra Sekhar the great Astronomer of Orissa. This will be published during the year.

The writers and budding artists will continue to get financial assistance from the State for their copious contribution to the Art and Literature. A sum of Rs. 2.25 lakhs has been ear-

marked for different programmes during the year.

DEVELOPMENT OF STATE LIBRARY

For promotion and development of Libraries in the State there is an allocation of Rs. 2.60 lakhs. This year there is proposal for opening of libraries in four districts and to finance other public libraries under Raja Ram Mohan Roy foundation programme.

PM'S 21—Point Programme Promises Prosperity

[In yet another determined bid to boost Indian economy, Prime Minister, Smt. Indira Gandhi in her broadcast to the nation on July 1 spelt out a 21-point programme which her Government proposed to undertake soon. The economic measures include raising the exemption limit of income-tax from Rs. 6000 to Rs. 8,000, summary trial for grossly undervaluing urban property and confiscation of smugglers' property.

Smt. Gandhi said some of the economic measures which the Government proposed to follow "are new" and others were "set forth earlier but require to be pursued with greater vigour and determination".

Decrying the campaign of law breaking, paralysing national activity Smt. Gandhi called for concerted efforts to achieve economic objectives.]

Pointing out that the vast majority of the people lived in the rural areas, the Prime Minister said that "we must implement ceiling laws and distribute surplus land among the landless with redoubled zeal".

She added that we 'want the help of the local people in completing land records", taking special care that tribal people were not deprived of their land.

The Prime Minister said that the practice of bonded labour was barbarous and would be abolished. "All contracts or other arrangements under which services of such bonded labour are now secured will be declared illegal", she added.

Sm. Gandhi said that the Government proposed to "liquidate rural indebtedness by stages". While new schemes will be drawn up to devise alternative agencies to provide institutional credit to landless labourers for rural artisans and small and marginal farmers who own less than two

hectares "there will be a moratorium on suits and execution of decrees for the recovery of debts from such groups".

But, the Prime Minister added, "debts from co-operatives, commercial banks and Governments will be excluded from this scheme".

Talking about further measures on the agricultural front, Sm. Gandhi said that "a review" of the existing legislation on minimum wages for agricultural labour would be undertaken and action would be initiated for suitable enhancement of minimum wages, wherever necessary.

Stating that the handloom industry was next only to agriculture in the number of people employed, Sm. Gandhi said that a separate development commissioner for handlooms was being appointed.

Coming to problems on the urban side, the Prime Minister said that "fortunes have been made out of urban land at the nation's expense". What the Government proposed to do was "legislation to impose ceilings on the ownership and possession of vacant land, to acquire excess land, to restrict the plinth area of new dwelling units and to socialize urban and urbanizable land".

The Prime Minister said that a great deal of black money had gone into luxury housing and urban property had been grossly undervalued. Therefore, "special squads will be set up forthwith to take up property valuation", and not only punishments would be stern but there would be summary trials.

Pointing out that the campaign against smugglers had been intensified, Smt. Gandhi said that "the properties of smugglers will be confiscated whether held in their own name and benami".

The Prime Minister said that people with fixed income needed immediate relief and "the minimum exemption limit for income-tax will be raised from Rs. 6,000 to Rs. 8,000".

Students from poor families faced special difficulties if they pursued higher studies away from their homes. To help them, essential commodities be supplied at controlled prices to all hostels and approved lodging houses—in other words, poor students studying in hostels will get an indirect subsidy in hostel charges.

Another measure contemplated in the educational field was to ensure supply of textbooks and stationery at reasonable prices at all schools, colleges, and universities. Prices would be controlled and book banks established.

To increase employment opportunities for the educated, Sm. Gandhi said the Apprenticeship Act would be suitably amended so that managements in the organized sectors took larger number of apprentices for specified period.

These were in brief the "various parts of the new programme". Other matters were being looked into and further measures "will be announced from time to time".

But, Sm. Gandhi told the people "not to expect magic remedies and dramatic results". "There is only one magic which can remove poverty and that is hard work sustained by clear vision, iron will and the strictest discipline", she added.

The measures Sm. Gandhi listed included streamlining of distribution of essential commodities. Simplification of licensing procedures and continuation of credit controls and anti-inflationary programme.

Describing the controlling of prices as the first and foremost challenge, Smt. Gandhi said in the last five days, prices of many articles had shown a

downward trend. This trend would have to be maintained. To this end, the Government would take a series of steps to stimulate production and streamline distribution of essential commodities.

She also described the foreign exchange resource position as "reasonably satisfactory" and said necessary imports would be arranged to ensure sufficient supplies.

The Prime Minister also said inessential expenditure would be cut out by Government departments and public enterprises.

The Prime Minister asked the nation to shake off any sense of helplessness.

Outlining the new economic programme she said "the worst feature of the crisis, which was building over the last few months, was that it spread cynicism and spread national self-confidence".

"There is a chance now to regain the nation's spirit of adventure. Let us get on with the job."

She said the emergency provided "a new opportunity to go ahead with our economic tasks".

Earlier, the President Shri Fakhruddin Ali Ahmad, declared a state of emergency on account of threat to the security of the country due to "internal disturbances".

The Prime Minister, Sm. Gandhi, in her broadcast to the nation referred to the incitements to the military and police by "certain persons" and their proposed programme of action "to disrupt normal functioning" to justify the emergency. She said, however, there was "no need for panic". Sm. Gandhi said: "The nation's integrity demands firm action".

The Prime Minister said in her unscheduled broadcast to the nation that the proclamation of emergency was to meet "the threat to internal stability".

She spoke of "certain people inciting our armed forces to mutiny and our

police to rebel", and said that the fact that "our defence forces and the police are disciplined and deeply patriotic and therefore, will not be taken in, does not mitigate the seriousness of the provocation.

No Government worth the name could stand by and allow the country's stability to be imperilled when "forces of disintegration were in full play" and communal passions were being aroused threatening the country's unity.

Smt. Gandhi said the proclamation was "nothing to panic about" and that it would in no way affect the right of law-abiding citizens.

The Prime Minister referred to "a deep and widespread conspiracy" brewing since she began introducing "certain progressive measures of benefit to the common man and woman of India" and said agitation had surcharged the atmosphere leading to violent incidents.

Smt. Gandhi said the Government now learnt of new programmes challenging law and order throughout the country with a view to disrupting normal functioning". Any situation which weakened the capacity of the national Government to act decisively was bound to encourage dangers from outside, she pointed out.

The Prime Minister said it was "our paramount duty to safeguard unity and stability. The nation's integrity demands firm action.

She was sure internal conditions would speedily improve to enable the Government to dispense with the proclamation as soon as possible.

Smt. Gandhi indicated that the Government would soon announce measures to strengthen the economy and relieve the hardship of various sections, "including the poor and vulnerable and those with fixed incomes", which she did in her broadcast of July 1.

The Prime Minister did not name any parties or individuals in her brief address. Striking a personal note, she said all her life she had been in the service of the people. "It is not important whether I remain Prime Minister or not. However, the institution of Prime Minister is important and the deliberate political attempt to denigrate it is not in the interest of democracy or of the nation".

TEXT OF BROADCAST

The following is the text of the Prime Minister, Smt. Indira Gandhi's broadcast :

The President has proclaimed emergency. This is nothing to panic about.

I am sure you are all conscious of the deep and widespread conspiracy which has been brewing ever since I began introducing certain progressive measures of benefit to the common man and woman of India. In the name of democracy it has been sought to negate the very functioning of democracy. Duly elected Governments have not been allowed to function and in some cases force has been used to compel members to resign in order to dissolve lawfully elected assemblies. Agitations have surcharged the atmosphere, leading to violent incidents. The whole country was shocked at the brutal murder of my Cabinet colleague, Mr. L. N. Mishra. We also deeply deplore the dastardly attack on the Chief Justice of India.

Certain persons have gone to the length of inciting our armed forces to mutiny and our police to rebel. The fact that our defence forces and the police are disciplined and deeply patriotic and therefore, will not be taken in, does not mitigate the seriousness of the provocation. The forces of disintegration are in full play and communal passions are being aroused threatening our unity.

All manner of false allegations have been hurled at me. The Indian people have known me since my childhood.

All my life has been in the service of our people. This is not a personal matter. It is not important whether I remain Prime Minister or not. The institution of Prime Minister is however, important and the deliberate political attempt to denigrate it is not in the interest of democracy or of the nation.

We have watched these developments with utmost patience for long. Now we learn of new programmes challenging law and order throughout the country with a view to disrupting normal functioning. How can any Government worth the name stand by and allow the country's stability to be imperilled? The actions of a few are endangering the rights of the vast majority. Any situation which weakens the capacity of the national Government to act decisively inside the country is bound to encourage dangers from outside. It is our paramount duty to safeguard unity and stability. The nation's integrity demands firm action.

The threat to internal stability also affects production and prospects of economic development. In the last few months the determined action we have taken has succeeded in largely checking the price rise. We have been actively considering further measures to strengthen the economy and to relieve the hardship of various sections, including the poor and vulnerable and those with fixed incomes. I shall announce these soon.

I should like to assure you that the new emergency proclamation will in no way affect the rights of law-abiding citizens. I am sure that internal conditions will speedily improve to enable us to dispense with this proclamation as soon as possible.

I have been overwhelmed by messages of goodwill from all parts of India and all sections of the people.

May I appeal for your continued co-operation and trust in the days ahead?

Note on the Activities of the Directorate of Export Promotion and Marketing, Orissa

The Directorate of Export Promotion and Marketing formerly known as "State Purchasing Organisation" was originally created in the year 1963 with the main objective to centralize all major purchases of Government, but this has been deferred for the time being. It is now mainly assigned to find markets for the products of local industries both in and outside the country besides rendering other promotional services which are essential for growth of local small-scale industries.

In arranging markets, the Directorate adopts various promotional measures like enforcing price preference circulars among the Government Departments/Offices, disseminating the tender enquiries among the units, fixation of rates when approached and attending to the specific grievances of such units so as to enable them to participate more and more in Government purchases. It also concludes rate contracts with the local manufacturing firms in the pattern of D. G. S. & D. for supply of store items to Departments of Government & Offices subordinate to them. Such Rate Contracts have already been concluded in respect of 14 items and attempts are being made to cover more items. Apart from these, it keeps constant liaison with the Central Government Purchasing Agencies such as D. G. S. & D., Railways in order to remove the difficulties encountered by local small scale industries in the matter of supplying their products to such Departments. The Director being a member in various Purchase Committees viz. Health & Family Planning Department, Education (Text Book Press) Department, Fisheries, Director of Agriculture and Food Production etc. and attends to the problems of mutual interest.

The Directorate also adopts various promotional measures to boost export by way of setting up of "EXPORT HOUSES" in the State disseminating overseas market intelligence among the local industries, attends to the difficulties faced by the exporters, liaison with the various Government of India offices, Export Promotion Councils/Commodity Boards etc. in the matter of export promotion of Orissa, launching a publicity campaign, establishing a Central "Show Room" at the State's Headquarters to exhibit the raw material/resources and industrial products available in the State, as all these methods are considered to be the best media to attract the attention of traders and foreign buyers.

It regularly analyses the production and consumption trends of different store items so as to suggest to Government for setting up of new industries or expanding the capacity of the existing ones on the one hand and enabling the existing units to plan their production on the other.

In order to maintain the quality standard of the manufactured goods, the Directorate takes steps to promote quality consciousness among the industrial units by way of conducting regular routine and pre-delivery inspection as well as rendering laboratory test services so as to help these industries to get both their raw materials and finished products tested. For this purpose, the Government have set up two testing laboratories one at Cuttack providing facilities for physical, chemical and paper testing and the other at Rourkela with facilities for physical, chemical and metallurgical testings. The Directorate takes all possible steps to equip these laboratories with proper men and machineries in a phased manner.

GAZETTEERS: THEIR NATIONAL IMPORTANCE

Shri Durga Charan Kuanr

STATE EDITOR, GAZETTERS: ORISSA

Literally gazetteer means a geographical index or dictionary, but the term has now acquired a wider connotation and meaning. The growth of gazetteer literature in Europe was a part of the intellectual awakening that followed the Renaissance and the Industrial Revolution. The Renaissance spirit of adventure, thirst for knowledge and new experience impelled the Europeans to seek 'pastures new' and they spread to far corners of the world. The Britishers who came to India had little knowledge of this ancient land and her people over whom they were destined to rule for more than two hundred years. The exigencies of administration and scholarly curiosity led them to conduct various surveys and to write the gazetteers with a view to have an intimate knowledge of the country. The twenty-six volumes of the Imperial Gazetteer of India, the Provincial Manuals, and a large number of District Gazetteers compiled and published during the British regime were the results of years of fruitful labour and research on the part of the British administrators and scholars. These early gazetteers while giving a detailed account of the physical features, the flora and the fauna of the country also

present valuable studies of the social, economic and cultural life of the people. But the scope and outlook of these Gazetteers were very much limited. Insufficient knowledge of the tradition and culture of this ancient land coupled with an imperialistic bias blurred the vision of the authors of the old gazetteers and prevented them to see things in their proper perspective. With the passage of time and under changed circumstances much of the information they contain have become obsolete and out of date.

After the achievement of independence the necessity for revising the old gazetteers or writing of new ones where necessary was widely felt. The life of a people never stands still. A lot of revolutionary changes have taken place in India and outside in the course of last fifty years. The great empires have crumbled into pieces and the Afro-Asian countries have emerged as a major force in world affairs. Science and technology are transforming the old economic pattern of the society and man's sense of values is undergoing a sea-change. Against this background of a changing world the whole fabric of Indian life has changed considerably. India's successful struggle for national

independence, the progress made in the field of agriculture, industry and other spheres, the enormous expansion in education, and the spread of democratic ideals and institutions that have changed the outlook of the people are subjects to find place in the gazetteers.

In the context of these new developments the Government of India in consultation with the State Governments and the Union Territories sponsored a scheme for the writing of new gazetteers. The work has been taken up as a national project and it is designed to bring out the gazetteers in three series, viz., The Gazetteer of India The State Gazetteers and the District Gazetteers. The Central Gazetteers Unit functioning under the Union Ministry of Education and Social Welfare have taken up the responsibility of compiling the Gazetteer of India in four volumes and Vols. I and II dealing respectively with the topics 'Country and People' and 'History and Culture' have already appeared. Gazetteers Units with substantial financial aid from the Government of India are now functioning in different States and Union Territories and the work of the compilation of District Gazetteers undertaken by them has made a great headway. With a view to maintain a general uniformity in pattern and standard the Central Gazetteers Unit in consultation with the State Units has designed a common plan of contents for the District and the State Gazetteers. The responsibility of planning and co-ordinating the work of the State Units, has devolved on the Central Gazetteers Unit. The District Gazetteers presently written, besides giving a description of the physical and natural features of a region also provide a broad narrative of the social, political, economic and cultural life of the people inhabiting that region. An objective and authentic presentation of facts

concerning the state of Education, Agriculture, Industry, Forest, Revenue Administration, Medical and Public Health etc., in the district are distinctive features of a District Gazetteer and it is designed to be the most comprehensive single source of knowledge about the district. It is hoped that when all the District Gazetteers of India and the State Gazetteers are published they would present a true and comprehensive picture of Indian life in all its richness and variety.

Gazetteers were written during the British regime primarily with a view to give some basic knowledge of the country to the young British administrators. The new Gazetteers are written not only to benefit the administrators but also to educate the people in whose hands power in a democratic set up ultimately rests.

The Scheme of compilation of District Gazetteers was taken up in Orissa in 1957 by the State Gazetteers Unit functioning under the Revenue Department. Under the able guidance and supervision of the veteran civilian Shri Nilamani Senapati, I.C.S. (Retd.), the Honorary Chief Editor, the work is progressing well. Six District Gazetteers have already been published and one is now in the Press. A scheme to bring out the Oriya version of the District Gazetteers has been undertaken. In conformity with the Central Plan the Decennial Supplements to District Gazetteers, and the State Gazetteer of Orissa are to be compiled during the 5th Plan period.

(Courtesy : A. I. R., Cuttack)



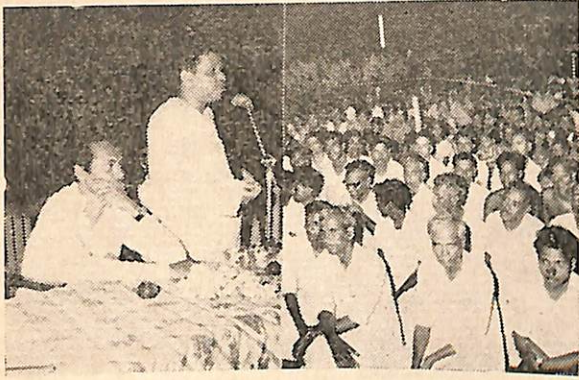
NEWS
IN
PICTURES



The Tribes Advisory Council in session under the chairmanship of Shrimati Nandini Satpathy, Chief Minister, Orissa on July 7, 1975.

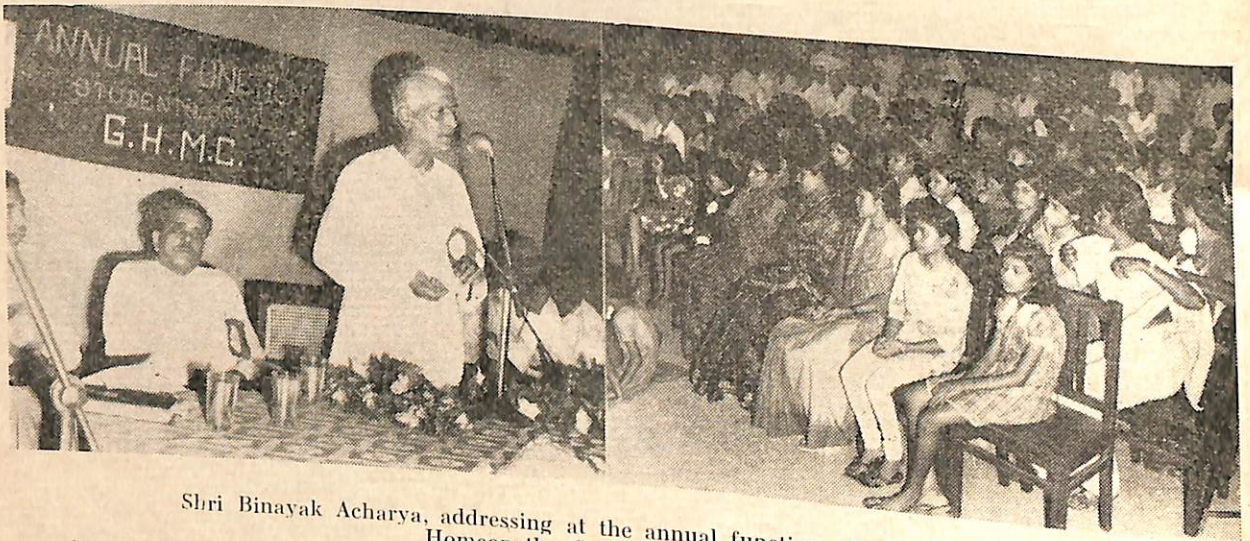


Shrimati Nandini Satpathy, Chief Minister, addressing the meeting of the State level Natural Calamities Committee at State Secretariate, Bhubaneswar.

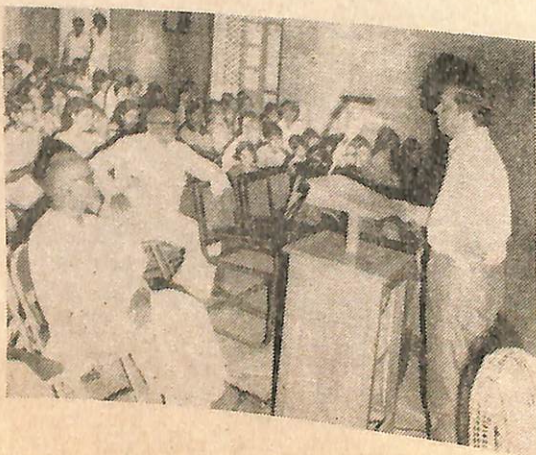


NEWS IN PICTURES

Shri Brahmananda Biswal, Minister of State for Law & Forests, addressing a public meeting at Erkana in Mahanga Block on the occasion of celebration of Raja festival & Bhanja Jayanti. Shri Matlub Ali, Deputy Minister, Cultural Affairs Presided over the meeting.



Shri Binayak Acharya, addressing at the annual function of the Government Homeopathy College, Bhubaneswar.

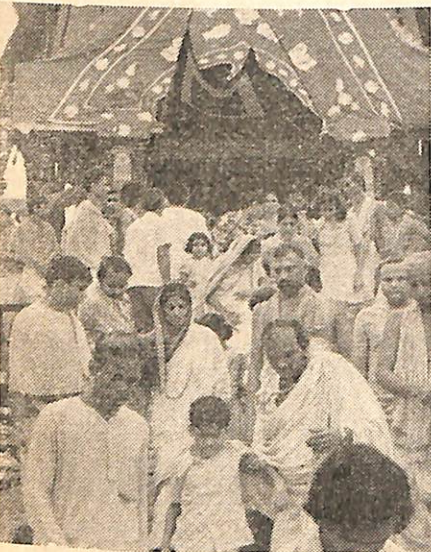


Shri A. N. Tiwari, Secretary, Tourism and Cultural Affairs, addressing the audience at Kala Vikas Kendra, Cuttack on the occasion.

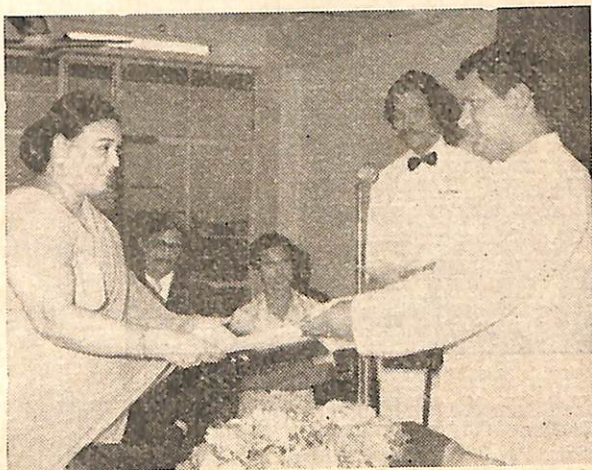
NEWS IN PICTURES



Shri Akbar Ali Khan, Governor of Orissa, addressing at the installation meeting of the Rotary Club, Bhubaneswar.



Chief Minister, Shrimati Satpathy stepping down from 'Nandighosh' after having a Darsan of Lord Jagannath on Car Festival day.



Shri S. Panigrahi, Minister Food & Civil Supplies, distributing certificates to the successful candidates at the Annual Day function of the Food Craft Institute.

Picture shows : Shrimati Urmila Matthews receiving the certificate.



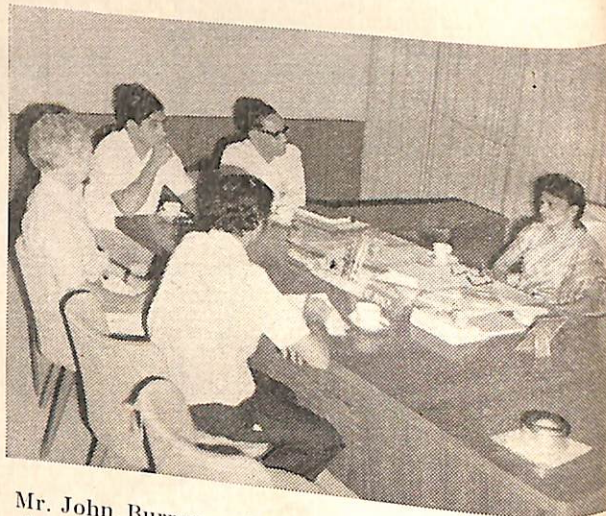
Shri Akbar Ali Khan, Governor of Orissa, addressing at the inaugural function of the Summer Institute on 'Refresher Course on the appreciation of Fine Arts' at the Regional College of Education, Bhubaneswar.

NEWS IN PICTURES

Shri J. B. Patnaik, Union Deputy Defence Minister, distributing Prizes to the cadets at the All India Annual Training Camp of Sainik Schools organised at Puri.



Shri D. N. Sharma, District Manager, Indian Oil, presenting a Demand Draft for Rs. 38,772 contributed by the Petrol & Kerosene dealers of Orissa, to the Chief Minister's Relief Fund.



Mr. John Burrows of World Bank, in course of his visit to Orissa, discussing with the Chief Minister, Shrimati Satpathy on July 5, 1975.



Shri K. Brahmananda Reddy, Union Home Minister, being received by the Chief Minister, Shrimati Satpathy at Bhubaneswar Airport on his transit halt at Bhubaneswar enroute Port Blaire.



Shrimati Satpathy, Chief Minister, addressing the students of the Agricultural College, who organised a social service camp at Sakhigopal.

WELFARE OF THE LABOUR COMMUNITY

The State Labour Directorate is in charge of administration and enforcement of the following labour legislations.

- (1) Industrial Disputes Act, 1947
- (2) Minimum Wages Act, 1948
- (3) Payment of Wages Act, 1936
- (4) The Trade Union Act, 1926
- (5) Workmen's Compensation Act, 1923.
- (6) Employment of Children Act, 1938.
- (7) Industrial Employment (S. O.) Act, 1946.
- (8) Maternity Benefit Act, 1961
- (9) Motor Transport Workers Act, 1961.
- (10) Payment of Bonus Act, 1965
- (11) Bidi & Cigar (Conditions of Employment) Act, 1961.
- (12) Payment of Gratuity Act, 1972
- (13) Contract Labour (Regulation & Abolition) Act, 1970.
- (14) Working Journalists (Condition of Service) and Misc. Provisions Act, 1955.
- (15) Factories Act, 1948
- (16) Indian Boiler Act, 1973
- (17) Inland Steam Vessels Act, 1917
- (18) Indian Boiler Regulations, 1950.

- (19) Orissa Industrial Housing Act, 1966.
- (20) Orissa Shops & Commercial Establishment Act, 1956.
- (21) Fair Wages Clause and Contractor's Labour Regulation.
- (22) Orissa Industrial Establishment (National and Festival) Holiday Act, 1969.

Industrial Relations

The State Industrial Relations Machinery which is primarily responsible for maintaining healthy industrial relations in the State was active and alert throughout.

At the beginning of the year, 1975, 106 industrial disputes were pending for disposal and 148 fresh industrial disputes were received by the Industrial Relations Machinery. Thus, out of 254 disputes, 48 disputes ended in settlement and 100 disputes on which conciliation proceedings were initiated, ended in failure and 11 disputes were referred to Industrial Tribunal for adjudication.

In various industrial establishments 28 Works Committees were formed to promote measures for securing and preserving harmonious relations between the employers and employees and 50262 workers were benefited.

106 Industrial Establishments employing 100 or more workers are

required to have Certified Standing Orders, defining the condition of employment of workmen under the provisions of the Industrial Establishment (S. O.) Act. Accordingly 76 Draft Standing Orders were certified by the Certifying Officer of the State and 18 Draft Standing Orders are in process of certification. The rest 12 establishments have been advised for submission of Draft Standing Orders.

Registration of Trade Unions and acceptance of Code of Discipline in Industry.

There were 380 Trade Unions and Federations of workers registered under the Trade Union Act at the end of the year, 1974. During the year, 20 Trade Unions were registered, thus bringing the total number of Trade Unions and Federations to 400. All the 20 new Trade Unions have accepted the code of discipline in industry.

Welfare:

Welfare facilities outside the factory are being provided through M. L. W. Centres and Reading Room-cum-Recreation Centres. At present there are 27 M. L. W. Centres and 11 Reading Room-cum-Recreation Centres in different industrial pockets in the State which provide recreational, educational and cultural facilities to the workers and their family members.

Subsidised Industrial Housing Scheme:

Under the Subsidised Industrial Housing Scheme, 1,270 houses in public sector and 1,664 houses in private sectors have been constructed to provide housing facilities to eligible industrial workers. During the year 1974-75, Government have sanctioned loans and subsidy to the following Industries of the State to the extent as noted against each for construction of tenements.

(1)	Loan (2)	Subsidy (3)
	Rs.	Rs.
1. M/s. Straw Products Ltd., Rayagada ..	19,600	81,000
2. M/s. Bhaskar Textiles Ltd, Jharsuguda ..	..	64,938
3. M/s. Jayshree Chemicals Ltd., Ganjam ..	80,250	80,250
4. M/s. Orient Paper Mills Ltd., Brajaraj-nagar.	57,000	..

Some of the houses constructed in public sector were unauthorisedly occupied by ineligible persons. Steps have been taken to evict from those houses so as to make room for the eligible industrial workers. A good number of tenements evicted so far has been allotted to the eligible workers.

Implementation of Contract Labour (Regulation & Abolition) Act.

The object of this Act is to regulate the employment of contract labour and to provide for its abolition in certain circumstances and for matters connected therewith. This Act has just come into force in the State.

Implementation of various Labour Laws:

The Inspectors appointed under various labour laws have conducted inspections and launched prosecutions under each Act during 1975 as mentioned below :

Name of the Act (1)	No. of inspections conducted (2)	No. of prosecutions launched (3)
1. Factories Act ..	260	9
2. Payment of Wages Act ..	366	34
3. Payment of Bonus Act ..	219	3
4. Minimum Wages Act ..	729	85
5. Orissa Shops and Commercial Establishment Act	1161	19
6. Fair Wage Clause and Contractor's Labour Regulation.	97	1
7. Motor Transport Workers Act ..	38	Nil
8. Employment of Children Act	12	Nil
9. Maternity Benefit Act ..	16	Nil
10. Industrial Employment (Standing Orders) Act ..	4	Nil

Improvement of Labour Statistics Training Programme.

108 representatives of different industrial establishments and Trade Unions of the State have been imparted training in compilation and submission of various statutory reports and returns under various labour laws.

Fixation and Revision of Minimum Wages:

Minimum rates of wages under the M. W. Act, 1948 have been fixed/revised by Government in Labour, Employment & Housing Department in respect of following scheduled employments as indicated below:

1. Employment in Rice Mills, Flour Mills or Dal Mills	Notification No. 11300 L.E.H., dt. 7-8-1973.
2. Employment in Tobacco (including Bidi and Gudakhu making) manufacturing.	Notification No 11300-LEH, dt. 7-8-1973.
3. Employment in Municipalities and Notified Area Councils.	Notification No. 7290-L.E.H., dt. 25-6-1965.
4. Employment in construction or maintenance of roads or building operations.	Notification No. 3615-L.E.H., dt. 18-3-1974.
5. Employment in stone breaking or stone crushing ..	Ditto
6. Employment in agriculture ..	Ditto

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|--|---|
| 7. Employment in Public Motor Transport | .. Notification No. 7290-L.E.H.,
dt. 28-6-1965. |
| 8. Employment in Salt Pans | .. Notification No. 11310-L.E.H.,
dt. 16-8-1973. |
| 9. Employment in Printing Presses | .. Notification No. 2647-Lab.,
dt. 4-3-1964. |
| 10. Employment in Hotels, Eating Houses and Restaurants. | Notification No. 3407-L.E.H.,
dt. 15-3-1974. |
| 11. Employment in Shops and Commercial Establishments | Ditto |
| 12. Employment in Cinema Industries | Ditto |

The recommendations of the M. W. Advisory Committee for further revision of the minimum wages in respect of Public Motor Transport and Municipalities and N. A. Cs. are under consideration of Government.

Besides the above, the following employments have also been added to the schedule to the M. W. Act, 1948 with a view to fix minimum wages for various categories of workers employed therein.

- (1) Employment in Tile and Brick making.
- (2) Employment in Private Road Transport.
- (3) Employment in Distilleries
- (4) Employment in Metal Industry (except cottage & village scale units).
- (5) Employment in Saw Mills
- (6) Employment in Timber Trading (excluding felling and sawing).
- (7) Employment in Handloom & Hosiery.
- (8) Employment in Bamboo Forest Establishments.

(9) Employment in Timber Trading (including felling & sawing).

(10) Employment in Kendu Leaf collection.

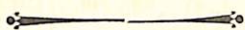
M. W. Advisory Committees have been constituted under section 5 (1) (a) of the M. W. Act, 1948 in respect of all above employments except item No. 2 above (the total strength of employees of which in the State is less than 1,000) to hold enquiries and advise Government in matters of fixation of minimum rates of wages. Some of the above committees (8-10) have submitted their recommendations to Government which are under their consideration.

Steps are being taken now to include various other sweated employments in the unorganised sector in the schedule to the M. W. Act, with a view to fix minimum wages and required surveys in this regard have already been started. Vigorous steps are also now being taken to enforce the provisions of the said Act including payment of minimum wages fixed and necessary directions on this score have also been issued to the field Officers of this Directorate who have been declared as Inspectors under the said Act except in respect of employment in agriculture for which the local officers of the Revenue Department in Block or Subdivisional

levels are the Inspectors. All District Collectors are therefore being requested to take all possible steps to see that provisions of the said Act are properly

enforced by the said officers of the Revenue Department.

Steps are being taken to give wide publicity regarding the minimum wages fixed for the working persons.



WEIGHTS AND MEASURES

1. All Weights, Measures and weighing and measuring instruments are required to be checked periodically by the Inspector of Weights & Measures under the Law. Ensure that the same have been duly verified in time.

2. Selling articles in old units of "Pao", "Seer", etc., is not permissible under the Law. Always sell in terms of Metric units of Weights and Measures.

3. Ensure that the net content is legibly marked at a prominent place on the packaged commodity. This is obligatory under the Law.

4. Look for the stamp of verification on the Weights & Measures, weighing and measuring instruments. This is your guarantee that these have been tested and found accurate.

5. Petrol pump measuring instruments are being periodically checked by the Inspector of Weights & Measures for accurate delivery of petrol. In case of suspected short delivery, report the matter to the Inspector of Weights & Measures of your area.

6. The price of a commodity is judged not only by its quality but also by the quantity. If you get less of a commodity than you pay for, you are in a way paying more for it in terms of money. So be cautious that you get the full quantity so that you get your money's worth in these days of rising prices. Weights & Measures Department provides you protection in this regard.

WEIGHTS & MEASURES
Orissa, Bhubaneswar

THE 21-POINT ECONOMIC PROGRAMME AND ORISSA

- * We have taken steps to take over the surplus land beyond land ceiling and distribute these among the landless, especially Scheduled Castes and Schedules Tribes.
- * We have distributed 2.46 lakh acres of surplus Government land among 1.5 lakh landless including 83,000 Scheduled Tribes and over 34,000 Scheduled Castes.
- * Rs. 15 lakhs allocated for developing house sites distributed to rural workers in eight districts. 4,000 such sites have been developed. We have decided to provide developed sites and houses to 5 lakh families during the 5th Five-Year Plan.
- * The difference existing in the wage rate of male and female labourers has been removed. The minimum wage rate for both has been fixed at Rs. 3 per day. Steps already taken to ensure payment of minimum wages to labourers.
- * 50,000 dug-wells having irrigation potential for more than 50,000 hectares financed through Co-operatives and Commercial Banks.
- * Legal provisions being made to protect the interest of small agriculturists from exploitations by money-lenders.
- * Supply of controlled commodities at reasonable price for students residing in hostels and approved lodging houses ensured.
- * Arrangements made for supplying paper and exercise books at concessional rates to students. Supply of free text-books and writing materials to newly enrolled needy students including supply of free uniform for girl students is proposed.
- * Text-Book Banks to be set up in 600 High Schools and 70 Colleges this year.
- * Stringent measures taken against black-marketeers, hoarders and smugglers. Distribution system of essential commodities streamlined.

Note on the Achievements of the Directorate of Mines, Orissa, during 1974-75



The one year period ending in March 1975 is marked by greater emphasis on expeditious development of mineral resources and speediest execution of mineral development programmes.

As a result of intensive mineral investigations conducted in different parts of the State, there has been significant additions to the reserves of chromite, bauxite, iron-ore, chinaclay, fireclay, limestone and beryl. The Directorate of Mines in collaboration with the Coal Mines Authority Ltd. (A Government of India undertaking) have taken up an ambitious programme for proving the coal reserves in the Ib Valley of Sambalpur district. The result of this investigation may prove to be quite significant in the context of setting up a Super Thermal Power Station in the region. Investigation at the end of 1974-75 field season finally established the existence of sufficient reserves of vanadiferrous magnetite ore of required grade for the proposed Ferro-Vanadium Plant in Mayurbhanj district.

The period ended with the Directorate disposing of as many as 309 Mineral Concession applications as against 226 in the preceeding year. Disposal during the last 3 months reached an all time high of 116 applications.

The tempo of mineral production was maintained in spite of fluctuating off take by the steel mills and M. M. T. C., non-supply of adequate number of wagons for most part of the year and strikes by the port workers and truck-owners. In spite of these difficulties mining revenue of the State during 1974-75 was the highest over, reaching Rs. 3 crores for the first time and thereby recording an increase of Rs. 62 lakhs over the previous years collections. Production of chromite recorded the highest figure of 3.84 lakh tonnes constituting 99 per cent of the total production of the country. The previous year's production was 2.74 lakh tonnes.

The record collection of Rs. 3 crores during 1974-75 was achieved largely due to vigorous efforts made by the Directorate in collecting almost the entire current dues and a large chunk of arrear dues, which were outstanding over a number of years past. The State was the leading producer of chromite, manganese ore, graphite and dolomite in the country.

The State Government took all possible measures to augment mineral production and revenue. Effective steps were taken to activate all the idle mines and solve the problems relating to movement of mineral/ores from the mines and other infrastructural needs. Due to persistent efforts of the State Government, the position regarding supply of wagons to Bansapani sector improved considerably towards the later part of the year. The M. M. T. C. of India Ltd., agreed to increase the off-take of iron-ore from Bansapani Sections. Iron-ore mining activities in Badampahar - Gorumahisani Sector, which was almost dormant since 1968 was resumed with the M. M. T. C. of India Ltd., agreeing to purchase iron-ore from this sector and the Railway authorities also agreeing to provide required number of wagons. This was made possible as a result of persistent efforts of the State Government.

SCOPE OF SPINNING MILLS IN ORISSA

In Orissa there are 1,04,188 Handlooms engaged in producing fabrics of artistic designs as well as of ordinary varieties. Most of the products are finding its way also to outside market. But these weavers have to depend mostly on the basic raw materials, i.e., yarn coming from outside the State. The monthly yarn requirement of our weavers comes to 10.92 lakh Kgs. per month. The counts of yarn required by them are of 20s, 26s, 30s, 40s, 60s, 80s and 120s. At present there is only one Co-operative Spinning Mill of 12,000 spindles capacity engaged in producing 1.40 lakh Kg. of yarn per month. Total production is distributed to our weavers inside the State. Mostly this Co-operative Spinning Mill spins 20s count of yarn and sometimes according to the requirement the Mill also spins 30s and 40s counts. The balance requirement of 9.52 lakh Kgs. of yarn are met out of the imports from various Spinning Mills working outside the State. It has also been seen that most of these are of sub-standard quality.

Similarly, also there are at present 600 Powerlooms working in Orissa and recently 1,791 powerlooms have been licensed to individuals to set up in the State. Few more will come up by end of September 1975 being the last date for issue of such licence. Further, 300 looms lying idle in a mill will start

working shortly. A Powerloom Unit working on two shifts basis will require 8 Kg. of average 20s yarn per day. Hence the existing 600 powerlooms are requiring 1.20 lakh Kgs. of yarn per month. The new powerlooms, say 2,300, will require 4.60 lakh Kgs. of yarn per month. Thus in the Powerloom Sector in course of next one year the requirement will be to the tune of 5.80 lakh Kgs. of yarn per month. At present the existing powerlooms working meet their yarn from outside the State. Thus, both Powerloom and Handloom Sectors require yarn to a tune of 16.70 lakh Kgs. per month whereas the present production of the Co-operative Spinning Mills and the Spinning Mills of the National Textile Corporation, Government of India, working in the State together comes to 2.00 lakh Kgs. of yarn per month. The Co-operative Spinning Mills at present is under expansion programme to increase the spindleage to 18,400 and it will be completed by the end of current year. In the beginning of the next year its additional production capacity will be 0.60 lakh Kgs. per month. Thus, the shortage in availability of yarn will be still to a tune of 14.10 lakh Kgs. per month. At present there is also another Spinning Mill working in the Private Sector, but this Mill only produces coarse counts of yarn which is not required here and they market their yarn outside the State. But sometimes

they also spin synthetic yarn which is supplied to the State through them as per the allotment made by the Textile Commissioner. Thus except the above three Spinning Mills no other Spinning Mill is there to meet the yarn requirement. The weavers have got no other course than to run to private traders and also different Spinning Mills Agent in Orissa to get their yarn. They supply the yarn to the weavers sometimes at higher price also. The weavers find it difficult also to go and get their required counts of yarn at the time of need and sometimes they have to pay more for it.

Thus there is a scope in Orissa to have more Spinning mills to meet the increasing requirement of yarn of the weavers in the State. An economic unit of 25,000 spindles-capacity Spinning mill working on three-shift basis can produce 2.50 lakhs Kg. of yarn per month. Such an unit with average 20s spinning capacity will cost in the present time Rs. 5.00 crores. Such a Spinning mill if goes spinning finer counts or average 40s counts will cost Rs. 3.75 crores. But the requirement of the weavers in Orissa are mostly between the count range of yarn of 20s to 30s and gradually the demand is less on the higher counts of yarn. Hence, the plan for setting up of a Spinning Mill would be very cautiously decided to meet the internal requirement of weavers when the project cost for medium counts of yarn will be high.

Thus there is scope for setting up six Spinning mills of 25,000 spindles-capacity in Orissa. Considering the above factors, already one license for a 25,000 spindles has been obtained and it has been decided to set up the Unit near Dhenkanal. This Plant when commissioned will produce 2.50 lakhs Kg. of yarn per month. Already orders

for machinery has been placed. Attempts are being made for commissioning the Plant as quickly as possible. Further, Orissa State Handloom Weavers' Co-operative Society have applied for another licence of 25,000 spindles-capacity spring mill.

When six Spinning mills are expected to come up by the sixth plan period, steps should have to be taken up from now by State Agricultural Department vigorously to increase cotton production to feed these new mills from within the State. At present the Spinning Mill is meeting their cotton requirements from other States and mostly from Maharashtra. From time to time cotton growing States are putting restriction to sell cotton to other States without meeting their own requirement. The Agriculture Department for the last two years have made an attempt to grow cotton and the cotton produced are MCU5, Krishna, L147, and 1007 varieties. These varieties are of very good quality and suitable for our purpose. About two years back cotton was not grown in Orissa. It is quite gratifying to note that during the last season, cotton to a tune of Rs. 4.00 lakhs have been produced in Orissa and the same has been fully purchased by the Co-operative Spinning Mills working in Bargarh. The Mill has paid almost the same rate at what they are getting from outside the State. Hence to meet the requirements of seven Spinning Mills, raw Kapas to a tune of 7.62 lakhs quintals are required to run the Mills round the year. Hence, attempts are also to be made to plan out the cotton cultivation programme in a phased manner in the State, so that at least in due course our State will be self-sufficient in cotton growing so that the spinning mills to be set up should be able to meet their whole cotton requirements from inside the State easily.

AGRARIAN REFORMS IN ORISSA

In India from time immemorial, it has been customary for the King or Raja and Zamindar to adopt the policy of absentee landlordism. Long before independence the Indian National Congress had committed itself in favour of progressive land reforms. The report of the Agrarian Reforms Committee of the Congress published in 1949 crystallised views of the party on various aspects of the subject.

Prior to publication of the said report, it has been engaging serious attention of the Government of Orissa since 1947 for implementation of land reforms measures with a view to ameliorating the socio-economic conditions of the actual tillers of the soil and to ensure security of tenures in lands held by the cultivating tenants and weaker sections of the society. In order to achieve this object, the State Government have enacted a series of legislation with a view to protect the share-croppers against arbitrary eviction. The Orissa Tenants Protection Act was passed in the year 1948 and the provisions of the Act were made

applicable retrospectively from 1st September 1947. This Act remained in force till 1955 when it was replaced by the Orissa Tenants Relief Act. These Acts in addition to making provisions against eviction of share-croppers and other temporary tenants, also regulated the rent payable by them.

Jagirs and service tenures were of two types, namely those rendered to the rulers, intermediaries, etc. and those rendered to the community. The first type of jagirs were freed from the obligation to render services by virtue of provisions of the Orissa Estate Abolition Act, 1951 and the lands were settled with the Jagirdars on payment of fair and equitable rent. Jagirs of the second type have been abolished by a series of notifications and Press Notes issued by Government on condition of settlement of the lands on payment of fair and equitable rent and in some cases on condition of reservation of a fraction of the land under the Jagirdar for community purposes. Hereditary village offices in the State have also been abolished. The legislation which are relevant with context are the Orissa Merged States (Laws) Act, 1950, Orissa, Hereditary Village Offices (Abolition) Act, 1962, Orissa Merged Territories (Village Offices Abolition) Act, 1963, Orissa Village Police (Abolition) Act, 1964 and Ganjam and Boudh (village offices Abolition) Act, 1969.

The State Government were also alive to the need for protection of rights of Scheduled Tribes living in scheduled areas of the State. The Orissa Scheduled Areas Transfer of Immovable Property (by Scheduled Tribes) Regulation of 1956 (Regulation 2 of 1956) was framed for this purpose.

The first authoritative outline of the National Policy on Land Reforms, including ceiling on agricultural

holdings has to be found in the First Five Year Plan which described the broad objectives of the land policy. The enactment of the Orissa Estate Abolition Act, 1951 is considered to be the first significant step in introducing land reforms in the State by elimination of intermediaries. This Act provides for abolition of all intermediary interest existing between the State and the raiyats and for release of the service tenure holders free from the obligation of rendering service and conferring occupancy status on them in respect of the land under their occupation. At present all the intermediary interests have been abolished since March 1974.

To introduce uniformity in tenures and consolidate the rights and benefit accruing under various legislative and executive measures preceding it, the Orissa Land Reforms Act was passed in 1960. This Act was subsequently amended by the Orissa Land Reforms (Amendment) Act, 1965 and the parent Act along with the amendment was brought into force throughout the State with effect from the 1st October 1965 excluding the provisions of Chapters III and IV of the Act. Subsequently with effect from the 9th December 1965 the provisions of Chapter III dealing with conferment of occupancy right on un-recorded tenants was enforced Chapter IV of the Act dealing with fixation of ceiling and settlement of surplus lands could not be brought into force then as the said Chapter was declared *ultra vires* of the Constitution by the Orissa High Court. Against this order of the High Court, the State Government filed appeals in the Supreme Court which have since been disposed of setting aside the above order of the Orissa High Court soon after disposal of these appeals in the Supreme Court, Chapter IV of the Orissa Land Reforms Act, 1960 has been brought into force with effect from the 7th January 1972.

A series of amendments were taken up by the meeting headed by Smt. Nandini Satpathy in the light of National Guidelines indicated in the Chief Ministers' Conference in July 1972 and as a result O. L. R. (Amendment) Act ultimately came into force in the 2nd October 1973.

After assumption of power, the present Ministry has taken further steps to meet the progressive needs of the time and to reflect the socialistic impact on agrarian reforms and also to remove the hurdles which impedes its smooth implementation. They enacted the O. L. R. (Amendment) Act, 1974.

Ceiling on land holdings has been reduced from 20, 30, 60 and 80 acres to 10, 15, 30 and 45 acres of Class I, Class II, Class III and Class IV lands respectively for a family of 5 members within addition of two standard acres for each member in excess of 5 subject to a maximum of 18 standard acres. The time limit for acquisition of raiyati right by temporary lessees, recorded tenants and un-recorded tenants including Bhagchasis has been extended by two year i.e., from the 2nd October 1973 to the 1st October 1975. The time limit for *suo motu* action by the Revenue Officers for settlement of such lands with un-recorded tenants is for one year from the expiry of the date the tenant has option to apply for acquisition of raiyati right. According to the said Amendment Act, the tenant can acquire raiyati right over the entire extent of land held by him. Provision has been made to settle 70 per cent of the surplus lands vested in Government with persons belonging to S. C. or S. T. since more amendments are still under active consideration which would further buttress the interest of Bhagchasis.

In order to check the flow of lands from the hands of S. T. and S. C. to persons not belonging to such trans-

fers has been made more rigid. The Limitation Act, 1963 has been amended to provide for the time limit for establishing title on the lands transferred by raiyats belonging to S. C. and S. T. up to 30 years.

For efficient and expeditious implementation of the Revised Ceiling Law, detailed programme has been drawn up covering four phases, namely (i) strengthening the administrative machinery, (ii) up-dating R. O. R. (iii) fixation of ceiling and (iv) distribution of ceiling surplus lands.

As a result of implementation of this Law, as many as 5199 returns have been filed by the surplus land holders in respect of their surplus lands by the end of March 1975. Besides the above, *suo-motu* proceedings have been started by the Revenue Officers for determining the surplus lands held by other surplus land holders who have defaulted in filing returns and for vesting of such surplus lands with Government. 19,862 *suo-motu* proceedings have been started for the purpose. All these proceedings are in different stages of statutory operations. About 4,000 acres of surplus lands stand vested in Government. Collectors have been asked to take over possession of these lands immediately. Steps are being taken to settle these lands in a defined order of priority. However, it has been estimated that about one lakh acres of

surplus lands would be available in the State as a result of implementation of the revised ceiling law.

Besides two statutory bodies namely Land Commission and District Executive Committee contemplated under the law to advise in the matter or proper implementation of the land reforms measures at State and District levels, the Tahasil Advisory Committee in each Tahasil consisting of persons belonging to the weaker section of the community as well as those dedicated to land reforms measures have also been constituted. These Tahasil Committees will advise in the matter of implementation of land reforms measures, distribution of ceiling surplus lands as well as other Government lands.

Further a separate cell on Land Reforms at the level of Board of Revenue has been created since the 21st May 1975 with a view to assess, *inter alia*, the extent to which the real objectives namely the benefit to the small farmers, landless, homesteadless or the Adivasi and the Harijans is achieved and enable the administration to take remedial measures wherever necessary.

In fine, the State Government are out to do all that is possible within their powers, to ameliorate the socio-economic condition of the weaker section of the society in conformity with 21-point economic programme announced by the Prime-Minister.

BRIEF RESUME OF OMC'S PROGRESS SINCE MARCH 1974

Keeping in view the objectives set by Government for development of minerals and mineral based industries in the State, as enunciated by the Chief Minister, action was taken by the O. M. C. Management to prepare programmes of work for the year 1974-75. During the intervening period of about one year, the Corporation has taken up with the Government of India development of two new projects, viz., Gandhamardan Iron-Ore Project in Keonjhar district and Bauxite Reserves in Koraput and Bolangir districts. Work for detailed investigations and for preparation of a detailed project report for Gandhamardan Iron-Ore Project has already made considerable headway. To provide employment on an extensive basis, manual mining of iron-ore from Gandhamardan reserves has been stepped up and, during the year ending 31-3-1975, 163,850 tonnes of ore were transported from Gandhamardan Iron-Ore complex to Paradeep by road for exports through M. M. T. C. of India.

Besides the above two projects, the Corporation successfully carried out trial runs of the mechanised handling plant at Daitari which were commenced in January 1974. Various difficulties were encountered because

of the deplorable state of the incomplete plant, which had suffered considerable damage in the previous years owing to the injunction issued by the Calcutta High Court restraining work on the incomplete O. H. P. for about 28 months. However, by 31-3-1975, 154,325 tonnes of washed ore was produced in the truncated plant through sustained efforts involving many rectifications and the production was exported from Paradeep through M. M. T. C. of India. The truncated plant is already yielding an average production of about 1,000 tonnes of washed ore per day. Completion of the remaining portions of the O. H. P., for which the Corporation has already submitted detailed proposals, has been engaging active consideration of the State Government. During the year ending 31-3-1975, the Corporation also despatched, in addition to the above quantities of washed ore, 512,005 tonnes of manually mined iron-ore from Daitari Project. This gave substantial employment to the local workers in Daitari and in its adjoining areas. Thus, the total despatch of 666,330 tonnes from Daitari Project have established an unparallel record of despatch from this project.

During the above period, the railway strike handicapped off-take of iron-ore and manganese ore for despatches from the Corporations iron-ore and manganese mines in Barbil region. The Corporation produced 125,098 tonnes of iron-ore and 32,940 tonnes of manganese ores of various grades from the Corporations mines in Barbil region for supplies to M. M. T. C., and for the two Steel Plants at Rourkela and Durgapur, etc. In order to provide additional employment in the State and to increase the States financial resources, the Corporation developed its capacity for production of iron-ore in the Barbil sector to about four times the erstwhile quota fixed by the M. M. T. C. of India for off-take of

iron-ore from this sector from the Corporations mines. After repeated negotiations, the MMTC have already agreed to off-take of double the erstwhile quantity of iron-ore from the Corporations mines in this sector during the year 1975-76, an extent of 0.3 million tonnes. The Corporation is fully geared to ensure supply of this off-take. Further, as per the negotiations conducted by the Corporation Management with the Iron-Ore Board, Government of India, the Corporation has offered, meanwhile, to arrange supply of about one million tonnes of high grade iron-ore annually from their mines in this sector, depending on arrangements by MMTC for despatch of the ore for export from Paradeep Port. In addition, the Corporation will also supply iron-ore from their mines in this sector as per the requirements of Durgapur Steel Plant and Rourkela Steel Plant.

During the year under report, the Corporation continued prospecting of some of their chromite leases. For the first time since development of chromite mines was taken up by the Corporation in 1967, the Corporation during the year ending 31-3-1975, have been able to clear up all backlogs of supplies under the previous contracts and are expecting to ensure targetted supplies under the existing contract by June, 1975.

JAKHAPURA-DAITARI-BANSAPANI RAIL LINK

The Corporation has assessed that provision of the missing rail link between Jakhapura and Bansapani (stretching over a distance of about 180 Kms.) will not only give a substantial fillip to mining activities and for establishment of mineral based industries in the minerally rich yet economically backward hinter land of Paradeep on sound economic basis but also ensure requisite traffic for the railways giving them suitable financial returns on their investment on this rail link. With active support

from the State Government Authorities (this was also taken up at Chief ministers level with the Railway Ministry and other Ministries concerned of the Government of India) the Corporation pursued with the Railways and other authorities concerned for establishment of this rail link. The Corporation have already held several inspections jointly with the Railway's team to suitably determine the alignment of the rail link so as to connect by rail the existing iron-ore mines at Daitari and Tomka and have also moved the Railways to organise a survey for a siding for connecting the Gandhamardan iron-ore reserves with the proposed rail link between Jakhapura and Bansapani.

The State Government have been actively concerned for enhancement of financial resources of the State to meet the various requirements for developmental activities under the State's Fifth Five Year Plan. The Corporation, during the period under report, have been able to contribute much more than in any of the previous years towards this endeavour. During this period, the Corporation gave Rs. 39.30 lakhs to the Directorate of Mines towards clearance of all arrear and current royalty/surface rent, etc. dues including an advance of Rs. 2.23 lakhs towards dead rent for the first half of 1975 ending 30th June 1975. From their own resources, the Corporation could also pay up Rs. 10.03 lakhs and Rs. 60.76 lakhs respectively towards loan and interest instalments to the State Government and the Government of India. With the addition of the expected financial

surplus during the year 1974-75. The Corporation has now undertaken to meet from its own resources a substantial portion of the requisite investments on its new Projects for development of Gandhamardan Iron-

ore reserves, completion of Daitari Project, besides development of Graphite reserves and a Manganese Dioxide Plant, for which feasibility studies are now on the active working list of the Corporation.

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Bucket Elevator, Table Feeder, Lifting and Lowering Ram, Tipping Tubs, Four Wheeler Platform Trolleys, Wheel Barrow, Transfer Car, Screw Conveyor, Vibrating Conveyor, Belt Conveyor.

HARI YANTRA UDYOG

RAJGANGPUR 770017, DIST. SUNDARGARH, ORISSA

PHONE: 69

Gram: HARIUDYOG

DEVELOPMENT OF SPORTS AND GAMES IN ORISSA

Shri I. M. Samantray

ASST. DIRECTOR (SPORTS)

In this State, 'development of Sports and Games' is the responsibility of both 'Education and Youth Services' and 'Tourism & Cultural Affairs' Departments. When the former looks after educational institutions, the later deals with voluntary Sports organisations and Youth Clubs. The Department of Cultural Affairs was created during the year 1963 with a view to give special attention to develop games and sports. Among other steps, it was then considered expedient to take up the coaching programme sponsored by Government of India. So, the scheme was introduced in the year 1964 by Cultural Affairs Department and three coaches in the games of Football, Volley Ball, Wrestling were appointed at the beginning. As per the conditions of the scheme, the National Institute of Sports, Patiala placed the services of similar number of coaches in Athletics, Cricket and Badminton at the disposal of Cultural Affairs Department. Thus, altogether six coaches started working in the State since 1964.

COACHING PROGRAMME

The coaching programme was so arranged that each of these coaches was being deputed to different district headquarters and other urban areas of the

State to impart coaching in his item. Other types of coaching organised were as follows:—

- (a) Residential coaching camp during Summer vacation—Physical Education Teachers and talented players from all the districts were given coaching in such camps. The coaching was designed to train P. E. Ts. in such a manner so that when they would go back to their respective schools, they could teach at least fundamentals of a particular items of sports.
- (b) Coaching was organised at District level and State level to prepare district and State teams for participation in State, National and other All-India Competitions. The above programme continued till 1972.

Subsequently after reviewing the working of the coaching scheme, it was realised that to make coaching effective it should be concentrated at particular centres. With the above view as well as to carry on intensive coaching programme in rural areas, the scheme was

revised during the year 1970. The revised scheme which is continuing till today envisages establishment of coaching centres in each district. This scheme was introduced in the State during the year 1972. To start with, two coaching centres were established at the district headquarters of Berhampur and Sambalpur and coaches on the following items were attached to the centres.

Berhampur—Basketball, Indigenous, Volleyball and Wrestling

Sambalpur—Athletics, Hockey, Football and Weightlifting.

As per the terms and conditions of the scheme, the Subash National Institute of Sports, Patiala established the Regional Coaching Centre at Cuttack under the supervision and control of the Orissa Council of Sports. The Institute placed the services of eight coaches at the centre. The coaches working at present are Hockey, Basketball, Gymnastics, Swimming, Wrestling, Table Tennis and Volleyball. The S. N. I. S. also supplied equipments worth Rs. 10,000 for use in the centre.

Presently, therefore, three centres are functioning. The coaching programme includes the following types of coaching

(a) Intensive coaching is imparted at different centres by inviting rising sportsmen and women. Such type of coaching is being conducted either in the morning or afternoon hours.

(b) Coaches also conduct coaching by visiting different educational institutions situated in the locality where the centres are functioning.

(c) Coaches attached to the centres are also deputed to different districts to conduct coaching organised by the District Athletic Associations/Sports Clubs.

(d) Coaching is also conducted to prepare the District and State teams preparatory to their participation at the State and National level competitions.

(e) Every year residential coaching camp is being organised by the Orissa Council of Sports during summer vacation to impart intensive coaching to young talents within the age-group of 14 to 18 years. The talents are drawn from the District Coaching Centres as well as from outside. Near about 200 trainees receive coaching in such camps every year. During the period of coaching free boarding and lodging are provided to the trainees.

Since the introduction of Coaching scheme in the State, the standard of games and sports is gradually in the increasing trend. Winning of medals at the National level, which was once a dream, has come to reality. The notable performance of our young athletes in All-India competitions from 1970 onwards reveals that Orissa is rich with talents and with proper coaching and other facilities can bring honours to the State. So also the case with team games. The creditable performance of our junior teams in Football, Basketball, etc., in the past tournaments further strengthens the above belief and hope.

OTHER FACILITIES:

Though Government had initially given priority to the coaching programme, yet it had not failed to provide facilities like construction of Stadia at District headquarters, construction of Gymnasia at important places, provision of a swimming pool at Cuttack, supply of improved types of equipments to District Athletic Associations and Orissa Council of Sports, conducting State, National and International competitions in the State, participation of the State teams at National level.

Competitions, incentive to rural Youth Clubs—all of which were considered necessary to develop sports and games in the State. During the current financial year Government have already spent near about Rs. 6,00,000 on the above heads.

CONSTRUCTION OF STADIA

The District Athletic Associations started construction of stadium in their respective district headquarters with the assistance of the Orissa Olympic Association available for the purpose. The Orissa Olympic Association, however, discontinued assistance before completion of most of the stadia. As provision of play field facility is *since qua non* for the development of sports and games, Government considered it necessary to complete the construction of the stadia. At the first instance a sum of Rs. 90,000 (at the rate of Rs. 15,000 per stadium) was released during 1973-74 through Orissa Council of Sports in favour of the District Athletic Associations of Kalahandi, Balangir, Sambalpur, Sundargarh, Mayurbhanj and Koraput. After considering the progress of work, Government released during 1974-75 further amount of Rs. 50,000 to Sambalpur, Rs. 40,000 to Kalahandi, Rs. 35,000 to Balangir and Rs. 25,000 to Mayurbhanj. The Orissa Council of Sports has already moved the Central Government for consideration of cases of these stadia for central matching assistance envisaged in a scheme sponsored by them. It is thus expected that each of these districts will get central assistance of Rs. 50,000. With the availability of this money and the grants already released by State Government, the District Athletic Associations would be able to complete the work. Thus by the end of the year 1976 all these stadia would be completed and the long felt need of the stadia would be achieved.

FLOOD-LIGHTING OF PLAY AREAS

It is necessary to provide floodlight facilities in play fields of important

places, so that sports activities can also be carried on in the evening times. During the 4th plan period the play ground in Satyabrata Stadium, Cuttack were floodlighted. In the fifth plan period it is proposed to provide this facility in Sambalpur Stadium and Baripada Stadium. The total cost of the project at Sambalpur has been estimated at Rs. 38,600. Government have already sanctioned Rs. 20,000 during 1974-75 as the first instalment. This scheme is expected to fetch central assistance of Rs. 10,000. The rest of the amount of Rs. 18,600 is proposed to be released during 1975-76 considering the progress of work. The project is likely to be complete during 1975-76 after which the project at Baripada would be taken up.

GYMNASIA AND AKHADAS

Gymnasium is considered as the workshop to prepare physically fit person. These institutions stand to promote indigenous activities like Dands, Baithaks, Surya Namaskar, Wrestling, Combatives, Yogasan, etc. amongst the youth and adult populations. In order to encourage such institutions, Government have been giving financial assistance for construction of buildings, maintenance, purchase of improved equipments, etc. With the Government assistance as well as assistance from other sources, the Kalinga Gymnasium, Cuttack and Sree Beer Hanuman Circus and Physical Institute, Berhampur have already constructed Gymnasium at Cuttack and Berhampur respectively. Construction of buildings at Puri and Keonjhar are in progress and are expected to be completed during 1975-76.

SWIMMING POOL

Swimming pool with provision for diving and other modern facilities is very much necessary for development of aquatic sports in the State. Government have therefore taken up construction of a pool inside Satyabrata Stadium, Cuttack at a cost of Rs. 2.50 lakhs. The construction work has been

entrusted to the Orissa Council of Sports. An amount of Rs. 34,750 had already been released in the past and another sum of Rs. 1,00,000 sanctioned during 1974-75 will be released shortly. The Central Government is expected to release Rs. 50,000 for the purpose. The project is likely to be completed by the end of 1976.

RURAL SPORTS DEVELOPMENTS

About 80 per cent of the total population of the State reside in rural areas. It is felt that the basic improvement in sports and games cannot be achieved until all youth in important tribal and rural sectors are covered under sports programmes and they get an opportunity in taking part in them. With this in view, the State Government through the Orissa Council of Sports, established 46 rural sports centres during the fourth plan period. These centres have been opened in populated rural areas where a school and a suitable ground are available. The P. E. T. of the school has been kept in charge of the centre. He is to organise regular sports activities, conduct competitions and impart basic training in the popular games of the locality. For this additional responsibility, the P. E. T. is being paid an honourarium of Rs. 20 per month. Each centre is also provided with equipment worth Rs. 200 in the first year and Rs. 100 in subsequent years. This is a scheme sponsored by Government of India and it is expected that Government of India will bear 50 per cent of the total expenditure.

With the financial assistance available from Government of India, rural sports competitions were annually conducted during the 4th Plan period at the district and State levels. Youths actually residing in rural area were only eligible to participate in the competitions. State rural teams were

formed out of the best available talents and sent to take part in the All-India Rural Tournament conducted by Government of India through S. N. I. S. To provide scope in a larger scale, the State Government during the current financial year had decided to conduct competitions at Block and Subdivisional levels. For this purpose, each district had been sanctioned Rs. 5,000.

In planning the Sports Development Schemes during 5th Five-year plan period, Government have given special emphasis to popularise sports activities in the tribal and rural sectors. To activate different sports bodies, incentives in the form of grants have been distributed. During the first year of the fifth plan period, State Government have distributed financial assistance with Rs. 5,000 to each of the District Athletic Associations to conduct rural sports competitions in the Subdivisional and Block levels. Besides Rs. 5,000 was also released to each of the District Athletic Associations to conduct competition at the District level and send selected teams for participation in the State Level competition. Further, an amount of Rs. 36,000 was also distributed to registered youth clubs/sports clubs existing in rural areas for different purposes. With a view to organise sports activities effectively and in a wider scale among the rural areas, the State Government during 1974-75 had created 13 posts of District Sports Organisers, who will be attached to collectors to carry on their activities with the help of the District Athletic Associations. Among other duties, these organisers will visit different rural areas and try to activate the sports and youth clubs which are existing and will also try to form central bodies at the Block and Subdivisional levels so that there will be proper co-ordination among them.



SANJUKTA PANIGRAHI— ORISSA'S RENOWNED DANCER

Padmalaya Das

Her devotion and dedication to dance a form of art which earned more frowns than favour in orthodox circles in Orissa two decades ago when she stuck to her *ghungroos* against all opposition—have ultimately brought her recognition from the nation. The conferment of the 'Padma Sri' on Sanjukta Panigrahi, Orissa's renowned dancer, was announced in this year's Republic Day honours list. Her *guru*, Kelu Charan Mahapatra, was awarded a 'Padma Sri' earlier. What makes it unique in her case is the fact that she is the first woman in Orissa to be honoured thus. Male chauvinism all these years, we guess. However belated, it is a welcome sign and augurs well for the International Women's Year.

On January 31, I interviewed Sanjukta at the State Guest House, Bhubaneswar. Unpretentious, she arrived in a scooter, gracefully riding pillion behind her famous singer-husband, Raghunath Panigrahi. She looked gorgeous in magenta. It made

one feel good just to see this elegant young couple, bubbling with vitality and *joie de vivre*. They have earned a niche in the hearts of dance and music-lovers in various parts of the world.

They have captivated Belgrade, Budapest, Paris, Bucharest, Moscow, Manila, Osaka, New Delhi, Kathmandu, Cuttack and innumerable other cities and towns. Looking over press reviews in a babel of tongues spanning more than two decades, one feels relevant adjectives and phrases have well-nigh been exhausted, and some pen-chewing must be done to turn out fresh phrases. Here are some random selections:

"I have often heard of God-gifted talent. Sanjukta has that talent. (Sport and Pastime, Calcutta, 1953).

"It is no exaggeration to say that the wonderful dances displayed by this baby Sanjukta are entrancingly exquisite, like a budding blossom. (Teugul Journal Rupavani, 1953).



Shri Akbar Ali Khan, Governor of Orissa, visiting the Infections Disease Hospital, Puri

Shri Dibya Lochan Sekhar Deo, Minister of State for Irrigation and Power switching on the power line to the Talcher Fertiliser Plant



Shri V. S. Matthews, Chief Secretary, meeting the Press on drought relief programme at Bhubaneswar



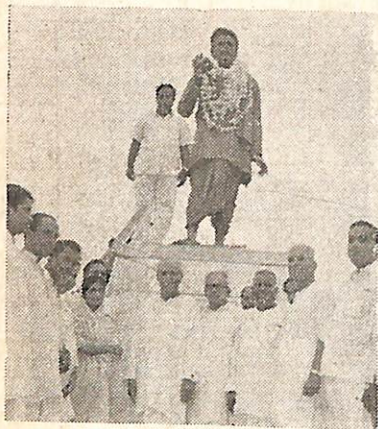
A Twelve-day Course in IKEBANA Flower Arrangement was organised at Bhubaneswar, Shri V. S. Matthews, Chief Secretary, addressing the convocation held on June 22, 1975



Shri D. L. Sekhar Deo, Minister of State for Irrigation and Power going round the main Power Station of the Talcher Fertiliser Plant after switching on the power line



Shri Akbar Ali Khan, Governor of Orissa, going round the Ayurvedic Hospital, Puri



On the occasion of death anniversary of Utkalmati Gopabandhu, Chief Minister, Shrimati Satpathy with other Cabinet colleagues and M. L. As laying wreaths on the statue of Gopabandhu in Unit-8 (Gopabandhu Nagar), Bhubaneswar on July 9, 1975



Shrimati Nandini Satpathy, Chief Minister of Orissa, laying the foundation of sixty-four crore Upper Kolab Hydro-Electric Project in the district of Koraput on June 11, 1975

