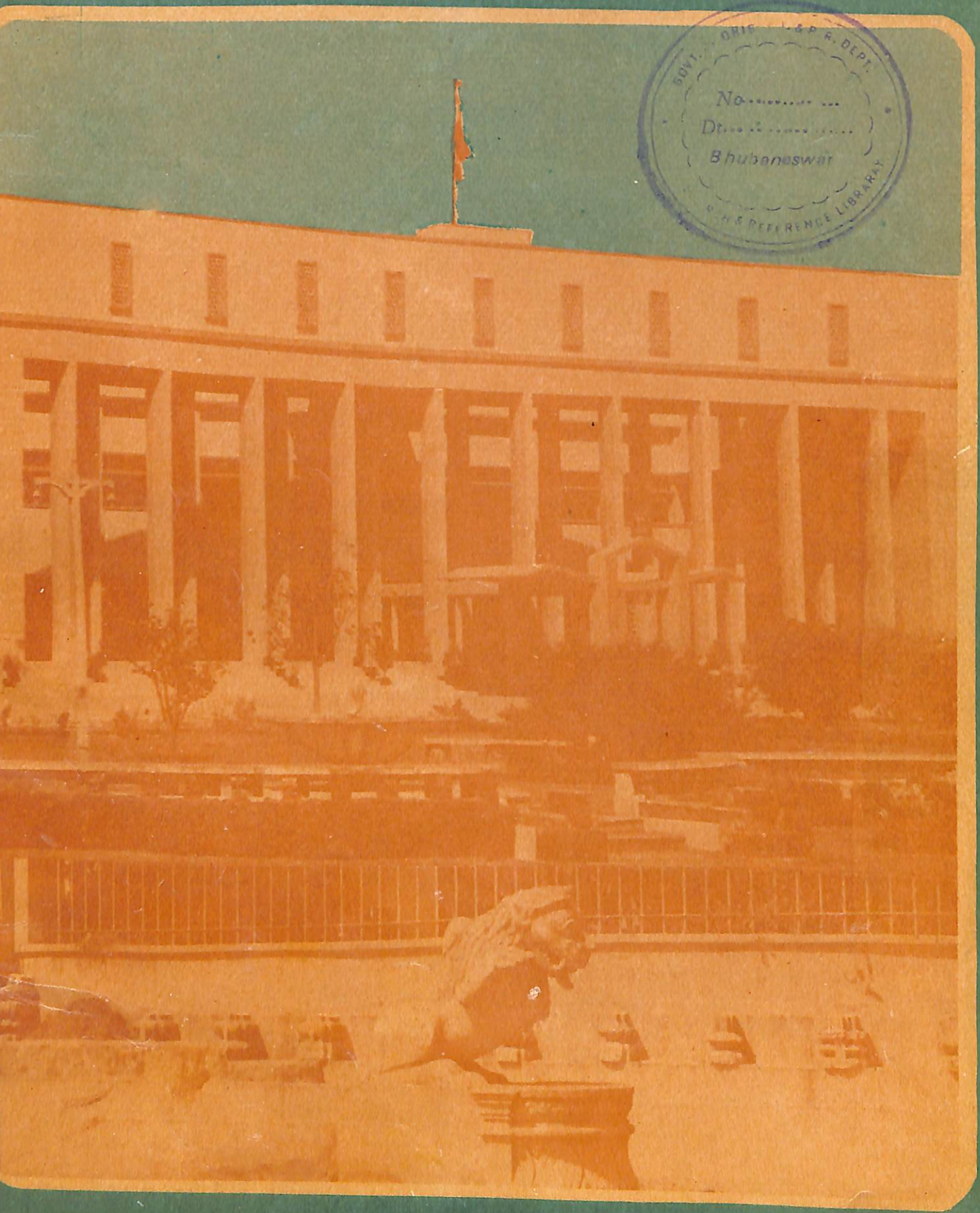
1962

ORISSA REVIEW

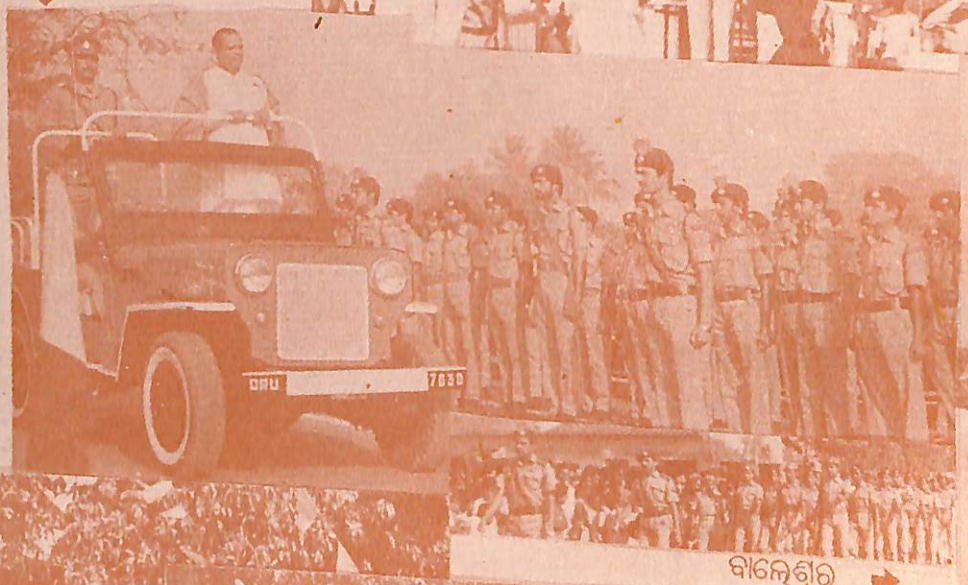


ଓଡ଼ିଶାରେ ଜନ୍ମରଜ୍ୟ ଦିବସ ପାଳନ

କୋରାପୁଟ

ଭାଭୁବନେଶ୍ୱର

କଟକ



ବାଲେଶ୍ୱର

Magha-Phalguna
1903 S. E.
Vol. XXXVIII, No. 7

Orissa Review

February
1982

Published by :
INFORMATION & PUBLIC RELATIONS DEPARTMENT
Government of Orissa, Bhubaneswar

ORISSA REVIEW seeks to provide a condensed record of the activities and official announcements of the Government of Orissa and other useful information. Many items appear in summarised form. Such items should not be treated as complete and authoritative versions.

Subscription :
Annual—Rs. 6·00
Per copy : Re. 0·50

Content

Plus Two—Action Programme

Dr. M. K. ROUT

Introduction

(1) *Historical Development*—The structural pattern of Education (10+2+3) was first recommended by the Calcutta University Commission (1917—1919). It was implemented in only one province, namely, U. P. and that too in a mutilated form, the duration of First Degree Course being limited to two years instead of three years as recommended.

The University Education Commission (1948-49) under the Chairmanship of Dr. S. Radhakrishnan, reiterated the earlier recommendation of Calcutta University Commission for adopting an uniform pattern of (10+2+3) for schools and colleges.

The Secondary Education Commission under the Chairmanship of Dr. A. L. Mudaliar suggested that an Uniform pattern of education (10+2+3) for all States emphasised by the Radhakrishnan University Education Commission (1948-49) could be easily achieved by adding one year to the First Degree Course and transferring the two-year Intermediate Course to the School stage. Solely on grounds of financial constraints, this reform was not undertaken and instead, the recommendations of the Sergent Report of an 11-year Higher Secondary School followed by a 3-year First Degree Course was adopted. The Intermediate Course was, therefore, split up into two parts. The first year was either added on to the School stage or was converted into Pre-University course of one year. The second year of Intermediate was tagged to the 2-year Degree Course and thus the 3 year Degree Course emerged.

The Kothari Education Commission (1964—66) emphasised the need for adoption of an Uniform Pattern of (10+2+3) for Schools and Colleges in all parts of the Country.

(2) *Objectives of the Recommendations of the Kothari Commission*—The Kothari Commission had formulated the following goals and objectives:

(*a*) Vocationalisation of Secondary Education (Plus Two Stage).

(*b*) Reduction of the pressure on University education by introduction of a number of terminal courses at the Plus Two Stage in the School.

(*c*) Lengthening of the duration and upgrading the standard of the First Degree Course to bring it on par with international standard. This recommendation aimed at excellence and parity with international standard.

(3) *Suggestions by the Kothari Commission for vocationalisation of the Higher Secondary stage*—The Kothari Commission has suggested the organisation of a variety of terminal courses, the duration of which

may vary from 1 to 3 years. Some of the terminal courses suggested are the following:

(*a*) Courses for the training of primary and pre-primary teachers.

(*b*) Courses conducted by the Industrial Training Institute for a variety of trades.

(*c*) Courses in Agriculture and Industry which will train the middle level personnel needed.

(*d*) Courses for training para-medical health personnel.

(*e*) Courses for Secretarial work

(*f*) Courses in Home Science

Implementation of Plus Two in Orissa

(1) *Situation in other States*—In West Bengal, this change-over was only a mathematical exercise. Following Government of India policy based on the recommendations of the Sergent Report, the West Bengal Government had converted most of their Schools into Higher Secondary Schools. These Higher Secondary Schools were designated as 10+2. In Maharastra, the structural pattern was 11+2+2 as in Orissa. In some cases (nearly 30—40) percent one class of Intermediate has been transferred to Schools resulting in 10+2 in Schools. In other cases, one more class has been added to the Colleges making 2+3.

(2) *Merging of two classes—An unfortunate decision*—Orissa should have followed the Maharashtra pattern. But an unfortunate decision was taken in 1979 merging into one two classes of students (Class VIII and class IX). This has thrown up a number of academic and administrative problems which perhaps were not foreseen at the time of taking the decision. The problems are briefly outlined below:

(*i*) Since two batches of students will be appearing at Matriculation examination in 1983, by a conservative estimate one lakh-sixty thousand students will be passing the Matriculation examination and at the minimum eighty thousand students will be seeking admission into +2 stage. The present intake in Colleges (including the new Colleges) is only forty-five thousand. The problem is to find seats for another forty thousand.

(*ii*) The Board of Secondary Education cannot conduct examination of nearly 2·4 lakh students in one single examination. There has to be two separate examinations.

(*iii*) If both the batches are allowed to get into Plus Two in 1983, the following consequences will follow:

(*a*) There will be no graduate in 1987 as there will be no fresh students for B. A. B.Sc., etc. examinations of 1987.

(*b*) The V-year class in 1987-88 will consist of low calibre students of the previous year who bad failed to secure seats.

(*c*) The VI-year in 1988-89 will consequently have the same batch of indifferent students of previous years.

(*d*) Students passing M. A., M. Sc, etc. in 1989 will be naturally students of low calibre.

The seriousness of these far-reaching consequences can be easily imagined.

(*iv*) To open +2 in schools, two classes have to be added instead of only one class, had the Maharashtra pattern been followed. The financial implications will be doubled.

Perhaps the overriding consideration of finance which weighed with the Government of India in accepting the recommendation of Sergent Report which indirectly implied non-acceptance of the recommendation of Radhakrishnan Commission, was last sight of Radhakrishnan Commission's Report envisaged transfer of two classes to school to institute Plus Two'',.. Sergent's Report, however, suggested splitting up of intermediate, one class going to school and one remaining in college resulting in 3-year Degree Course.

(3) *Corrective measures suggested by the author*—I was a member of Dr. Sadasiva Misra Committee. I argued vigorously in favour of some corrective measures to

meet the dangerous situation and insisted on acceptance of the following propositions :

(*i*) Since the merging of two batches was unfortunate, the resolution (splitting up) into two batches at a suitable time would offer the most straight-forward solution.

(*ii*) This resolution or splitting up into two batches can be done most appropriately at the time of holding the H. S. C. examination. Since the Board of Secondary Education canont conduct the examination of 2·6 lakh students in one single examination, the senior batch who have 11-year schooling should appear in February, 1983 and the junior batch who have 10-year schooling should appear in May, 1983.

(*iii*) The senior batch of students whose results will be published by May, 1983 will take admission in the 1st year of 2-year Intermediate class (Session may start from 15th June) and the junior batch of students whose results will be published in July, 1983 will join the 1st year of Plus Two Course, which is to be started from the session 1983-84.

(*iv*) New materials may be introduced into the existing 4-year College (2+2) Course to upgrade it and bring it on par with the course content of 2+3 (Plus Two and 3-years Degree Course). By this strategy, the senior and junior batches of students will be of the same academic standard by the time they pass B. A., B. Sc., etc. examinations.

(4) *Merits of the above suggestions*—These suggestions will have the following advantages :

(*i*) The question of finding seats for two batches of students passing in 1983-84 and for the next five years not only in General Colleges but also to a certain extent in Medical and Engineering Colleges will not arise, as the abnormal combination of two batches will be resolved into two normal batches in 1983-84. The scheme described later will indicate that the seats created in 1983 (except 10—15% in Junior Colleges) will be on a permanent basis.

(*ii*) The senior batch will read 11 years in the school and 4 years (Intermediate 2 years and B. A., B. Sc., etc. 2 years) in the College, i. e., total period of 15 years.

The junior batch will read 10 years in the School and 5 years (2 years in Plus Two and 3 years in 3-year Degree Course), i.e., a total period of 15 years.

Since no batch will be at a disadvantage, it will provide a just and equitable proposition.

(*iii*) The anomalies which might have emerged by spelling out definitely equivalence of +2 with Intermediate will not arise. One example will illustrate the point. A student passing +2 from D. M. Schools will take 3 years for graduation (excluding 1 year for B. Ed.), if he continues his studies in Regional College, while as student who will study in one of the General Affiliated Colleges will take two years for graduation, even though both the colleges are under the jurisdiction of the Utkal University. This kind of ridiculous anomalies will not arise. The Utkal University was involved in a High Court writ case on account of one such anomaly.

I am sure, the State Government will accept these recommendations to resolve the dangerously confusing situation, the seriousness of which had not been unfortunately anticipated earlier.

(5) *Location of Plus Two*—(i) *Recommendations of Kothari Commission*—Location of Plus Two has become a highly sensitive and controversial issue. It is true that the Kothari Commission had suggested that Plus Two stage should be attached to the Schools so that the students enter the University at the age of eighteen and not

earlier. In the opinion of the Commission, students below the age of 18 should be taught by methods appropriate to the school stage.

(ii) *My own views*—In an article "New Structural Pattern of Education (10+2+3)" published in 1977 on the occasion of the 64th Session of the Indian Science congress, I had mentioned as follows:—

> "Personally I do not agree with this recommendation of the Kothari Commission. Firstly, it will not be feasible to attach the Plus Two Stage entirely to the Schools, since the expenditure involved will be enormous, Secondly, it is my experience which is shared by most of my colleagues that students passing out the P. U. Examination from the Colleges have a much broader outlook than the students passing out the Higher Secondary Course from the schools. In the Colleges. the Pre-University students have the benefit of teaching from several qualified teachers who are at least M. A. or M, Sc. in different subjects., while in the Higher Secondary Classes, there may be hardly one teacher with M, A. or M. Sc., qualification to teach even all the Arts or Science subjects in the top-most class."

(iii) *Preference of students for reading in Colleges instead of +2 in Schools.*—It is now a known experience that students who pass from Central School, D. M. School, etc. show preference to study in Colleges rather than in +2 Stage attached to their schools.

(iv) *Enrolment pattern of Students at +2 stage in Schools and Colleges in Andhra Pradesh.*—It may be interesting to study the figures in respect of the students in +2 stage in Schools and Colleges in Andhra Pradesh. I got these figures from Dr. V. Ramachandran, Director of Higher Education, Andhra Pradesh, in his letter No. 1387, dated the 31st October 1981—

(*a*) Number of students in +2 stage each year in the State.	I Year	1,09,947
	II Year	80,293
(*b*) Number of students in Higher Secondary Schools in +2 stage in each year.	XI Class	537
	XII Class	407
(*c*) Number of students in +2 stage in Composite Colleges (Degree College).	I year	42,637
	II year	34,912
(*d*) Number of students in +2 stage in Junior Colleges.	I year	66773
	II year	45974

One can see that the number of students in +2 stage in upgraded Schools is significantly low, much less than even one thousand.

(v) *Goals of Community Colleges in U. S. A. very much similar to that of +2 Colleges.*—The proposed Plus Two Colleges have the same objectives as the 2-year Community Colleges in the U. S. A, which I had opprotunity to visit as a member of a team of six educationists who visited nearly 100 Colleges and Universities in U. S. A. during April-June, 1977. In 1977, there were thirteen hundred 2-year Colleges—one Community College in each of 426 of 435 congressional districts.

(vi) *Trend Clearly discernible*—One can see clearly the trend that students after passing Matriculation examination show preference to study in colleges rather than in +2 stage attached to High Schools. Therefore, there will be much less number of +2 students in Upgraded Schools than in Colleges in Orissa. The pattern will be more or less same as in Andhra Pradesh, unless restrictions are imposed.

(vii) *Expenditure for starting +2 in Schools—Total responsibility of Government*—It has also to be kept in mind that the expenditure to be incurred for starting +2 stage in Schools has to be the total responsibility of the State Government, while the Government will have no financial responsibility for at least five to seven years for opening of +2 stage in the new Colleges where Arts and Commerce can be started without much difficulty.

The final pattern which will emerge is that there will be many more students in +2 stage in the Colleges than in the Schools.

(6) *Conduct of +2 Examination*—In a cyclostyled note circulated to all members of

the Senate, a copy of which was also sent to the Honourable Chanceller, Chief Minister, and the Education Minister, I had mentioned as follows :—

"If the conduct of the examination of the Plus Two Stage is fully made over to the plus Two Board, the finances of all the three Universities, Utkal, Berhampur and Sambalpur will be seriously jeoparadised. Utkal University will lose net revenue to the extent of Rs. 40·00 lakhs. I have, therefore, requested that while the +2 examinations in the Upgraded High Schools and Junior Colleges be handled by the Plus Two Board, the examinations of the plus Two stage in the Integrated Colleges be conducted by the respective Universities. There should be no objection to this. The plus Two examinations in O. U. A. T. (Orissa University of Agriculture & Technology), Central Schools, Convent Schools and Stewart Schools, etc. are being conducted by the O. U. A. T. and the respective All-India Agencies'

(7) *Course offering for the Vocational Stream in +2 Stage*—The number of students in +2 stage in Vocational Stream is the highest in Tamilnadu. Out of a total strength of 91,334 students, 31,978 students are in Vocational Stream roughly corresponding to 35 per cent. I got the data from Prof. J. Ramachandran, D. P. I., Madras, vide his letter No. 126076, dated the 26th November 1981.

It may be relevant to mention the Vocational courses which have been introduced in Tamilnadu.

Diarying, Poultry, Small Farm Management, Agro-based Industries, Farm Mechanic and Post-Harvest Technology, Rural Construction Technology and Soil Conservation, Sericulture and Apiculture, Plant Protection (Pests, Disease and Weeds), Vegetables and Fruits, Floriculture and Medicinal Plants, Agricultural Chemicals, Crop Production, Spices and Plantation Crops, Fisheries.

Home Science—Food preservation, Baking and Confectionery, Catering, Dietetics, Nutrition and Food preparation, Interior Decoration, Dress designing and Making, Designing, Dyeing and Printing, Textile and Designs, Child Welfare and Nutrition.

Commerce and Business—Office Secretaryship, Insurance, Accountancy and Auditing, Banking Assistant, International Trade Marketing and Salesmanship, Material Management, Business Management for Small-Scale Industries, Co-operative Management.

Engineering and Technology—Building Maintenance, Electrical Domestic Appliances —Repairs and Maintenance, Domestic Electronic Equipment/Projection Equipment—Servicing and maintenance, Radio and Television—Maintenance and Repairs, General Machinist, Electrical Motor Rewinding, Textile Technology, Leather Technology, Maintenance and Servicing of Textile Machinery, Foundry Technology, Knitting Technology, Printing and Composing Technology.

Health (Foundation Sciences)—Medical Laboratory Assistant, E. E. G., E. C. G. Audiometry, Opthalmic Technician, Dental Mechanic, Dental Hygienists, Radiological Assistants, Nursing Course, Hospital Housekeeping.

Fine Arts—Music, Bharatha Natyam

Miscellaneous—Tourist Guide, Photography, Advocates, Assistants, Cotton Classifier.

(ii) *Vocational subjects introduced by the Utkal University*—Utkal University has already prepared printed syllabus for the following vocational subjects:—

Applied Electronics, Library Science, Sanitation and Public Health, Mineralogy, Food Canning and Processing, Secretarial Practice Including Short-hand and Typewriting, Automobile Mechanism, Banking and Accountancy, Poultry and Dairy Farming, Journalism, Photography, Tailoring, Agriculture, Horticulture Pisciculture, Museum Management.

Some of these are already being tought in some Colleges.

(iii) *Opening of a New Faculty in Vocational Subjects in Utkal University*—Utkal University has already instituted a Faculty (Intermediate in Vocational Subjects) and the students of Niali College will be taking the first examination this year. Next year three other Colleges will be offering students in this course. This course pattern is different from the traditional Intermediate Course. The essential features of this course are given below :

Compulsory	:	English ..	100
		M. I. L. ..	100
		Foundation Course ..	100

Optional vocational subjects—A student has to take three vocational subjects out of the following : —

(*a*) Agricultural Practices, Manures, Fertilisers and their proper uses.

(*b*) Dairy Husbandry, Poultry farming

(*c*) Vegetable and Fruit-growing, fruit and Vegetable preservation, seed collection technique and practices.

(*d*) Fishery technique and practices

(*e*) Bee-keeping, sericulture, Endi worm rearing treatment of cocoons, spinning thread, colouring, weaving and marketing.

(*f*) Office management and secretariat practice.

(*g*) Banking theory and technique, Modern trends, trends of banking facilities.

(*h*) Stenography and typewriting intensive practice.

(*i*) Accounting and auditing

(*j*) Dress making and designing

(*k*) Home Science and Practices

(Storing of food products. cooking, food processing and preservation, Cleaning and preservation of clothings, Elementary Interior Decoration Planning, Home management).

(*l*) Hotel Management and Catering Technology.

(*m*) Basic Electronic Technology and Practices.

(*n*) Photography technique and Practices

(*o*) Automobile Repair and Maintenance

(Diesel and Petrol Engineering, Transmission of power, Principle of Internal Combustion Engine Gears and Clutches, Hydraulic pressure, Repair and maintanance of Body, Ball bearing, roller bearing and needle bearing, suspension, lubrication, welding and painting Jacks uphestry, Effect of centrifugal and centripetal forces).

Anotner essential characteristic is that the proportion of theory and practical is 50 : 50.

I strongly urge that M. A., M. Sc. qualifications need not be insisted on for teachers who will conduct the practicals or take classes in vocational schemes. In U. S. A., a tailor, a photographer, a washer man, etc. can become a Professor.

These courses were prepared after protracted discussions during 1978-79 in a High Level Committee of Educationists in which Prof. B. C. Das, Professor B. Das, Professor B. Misra (Ex-Vice-Chencellor), Dr. J. C. Rout and myself were members. The recommendations of this Committee were discussed three times in the Senate and also in the Academic Council before the courses of studies were finalised. These recommendations should form the nucleus guide line without any further exercise on course offerings and location, etc.

Further exercise should be directed solely at action programme aimed at execution and implementation. In the scheme given below indicating distribution of Plus Two students, I have underlined emphasis on (i) construction of hostels in Established Colleges (item c), (ii) establishment of pace-setting schools in Plus Two stage in Vocational Streams (item a). I earnestly request the Government to accept these priorities,

Proposed scheme of distribution of students at the Plus Two stages in Schools and Colleges in 1983-84 is given below :

(a)	By upgradation of High Schools in to Higher Secondary Expenditure of at least one crore which will be incurred for upgradation of those schools will be the total responsibility of the Government. *All these schools should have vocational streams. There should be at least one pace-setting School in each district in Vocational Stream.*	12,000 seats
(*b*)	Nearly one hundred Colleges established after 1976 (if there is only Intermediate, it will be converted to +2 and therefore, there will be no problem. Problem will arise only in case of those colleges which have started B. A. Either they will convert themselves into +2 or go in for 3-year Degree. There will not be much expenditure on this head. They are all private Colleges.	At least 25,000 seats
(*c*)	Addition of one more class to the established Colleges which existed before 1976. This includes 38 Government Colleges and 52 aided Colleges—by adopting shift system. Since this will be a permanent feature, nearly one crore of rupees may be necessary to add one more class in those Colleges. *Construction of Hostels should be started this year for the students who will join the new class which will be added. This should be the highest priority.*	25,000 including 5,000 (Science) and 7,000 (Commerce).
(*d*)	New colleges in the pipe-line or expected to come within the next two years—nearly 100 colleges. There will be no expenditure on this head since the Colleges will not be entitled to grant-in aid.	15,000 seats

This should be emphasised that this additional accommodation for nearly eighty thousand seats will be a permanent feature and not an abnormal phenomenon, since the Intermediate and B. A., B. Sc, Course will be 5 years (2+3) and not four years (2+2).

N. B.—The next article will deal with PLUS THREE STAGE

Vice Chancellor

Utkal University

—×—

RESOLUTION

Due to introduction of 10-year schooling there was a need for restructuring of grades into classes in the High Schools. Accordingly Government in Resolution No. 16867-E.Y.S., dated the 8th May 1979 decided that the students who were reading in grade VI in 1978-79, after appearing at the Middle School Common Examination in 1979 would be promoted to Class VIII of High School in 1979-80. It was also decided that the students reading in Grade VII in 1978-79 would be admitted to Class VIII without appearing at the Middle School Common Examination. Thus the students readings in Grade VI and Grade VII in the year 1978-79 were admitted in Class VIII in the academic session 1979-80.

2. Subsequently it was decided in Government Resolution No. 33473-E.Y.S., dated the 24th September 1979, that the class containing students promoted from Grade VI would be Class VIII (Junior) whereas the class containing the students promoted from Grade VII would be called Class VIII. It was further provided that the students reading in Class VIII in the year 1979-80, after passing the annual examination, would be admitted to Class IX in the year 1980-81. where as the students reading in Class VIII (Junior) would get remedial teaching and be admitted to Class VIII in the year 1980-81. The students who were reading in class VII in the year 1979-80 also got promotion to Class VIII in 1980-81. The distinction of Class VIII and Class VIII (Junior) was abolished in the academic year 1980-81. Thus two batches of students of two different years were amalgamated in Class VIII in the year 1980-81. These students will take the H. S. C. Examination at the end of the academic session 1982-83. Their strength will almost be double of the strength of candidates normally appearing in the H. S. C. Examination every year. Therefore it will be difficult to conduct the annual H. S. C. Examination in the year 1983 in one batch.

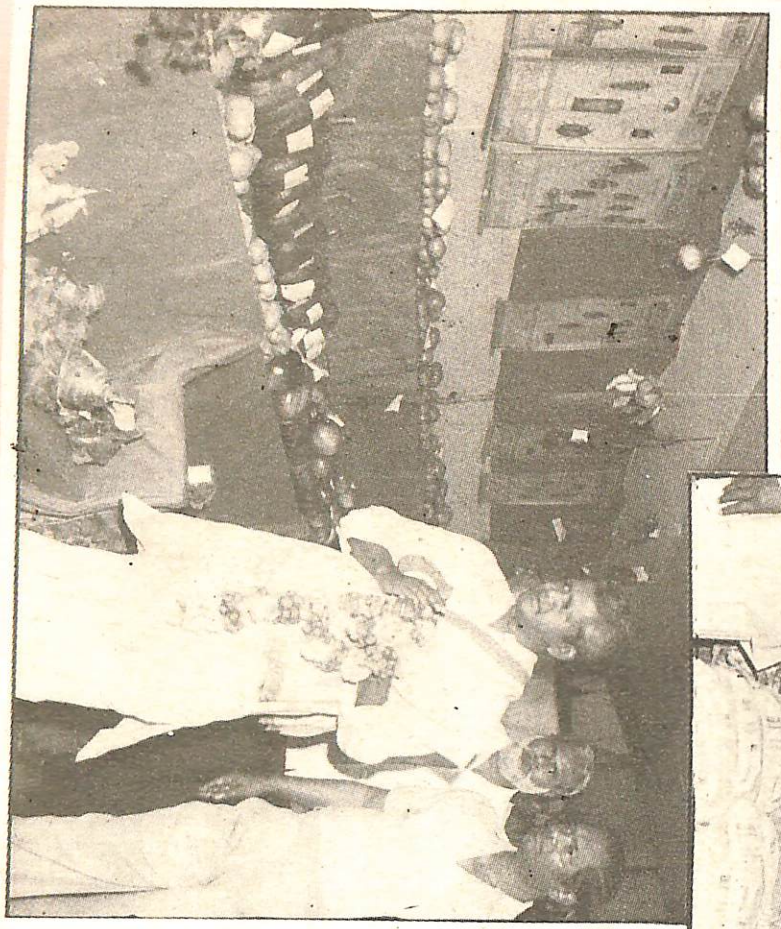
3. It is apparent that the students who were reading in Class VIII (Junior) in 1979-80 will be completing four years of High School studies by the end of 1982-83 whereas students reading in Class VII during the year 1979-80 will be completing 3 years of High School studies by the end of 1982-83. It has been decided to introduce Higher Secondary Course (+2 stage of 10+2+3 pattern of education) from the academic session 1983-84. It will not therefore be desirable to admit two batches of students having different years of schooling to the same Higher Secondary Course (+2 stage). Moreover, if all the students passing the H. S. C. Examination in 1983 are admitted to +2 stage in the academic session 1983-84 to be followed by 3 year degree course, there will be no degree examination in the year 1986-87 which means that there will be no admission to Post-Graduate classes in the academic year 1987-88. This will affect University education and create consequential complications.

4. The twin problems of holding the H. S. C. Examination during the year 1983 and admitting the successful candidates in Intermediate and Higher Secondary Course (+2 stage) have been engaging the attention of Government for some time past. Government after careful consideration have decided as follows :—

(*a*) There will be two annual H. S. C. Examination in 1982-83 one in February-March, 1983 and the other in April-May, 1983.

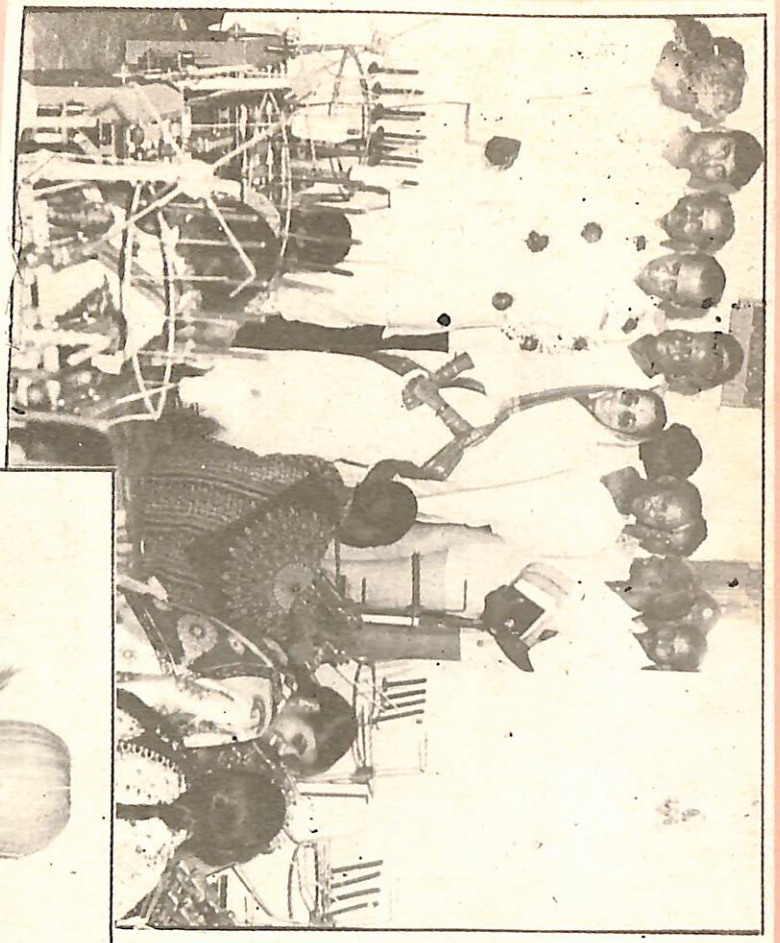
(*b*) The students who were reading in Class VIII (Junior) in 1979-80 and have completed four years of High School studies by the year 1982-83 will appear in the annual H. S. C Examination to be held in February-March, 1983. The successful students will be admitted to the existing Intermediate course to be followed by two-year degree course.

(*c*) The students who were reading in Class VII in 1979-80 and have completed three-year of High School studies by 1982-83 will appear in the Annual H. S. C. Examination to be held in April-May, 1983. The successful candidates will be admitted to Higher Secondary Course (+ 2 stage of the 10+2+3 pattern of education to be followed by three year degree course.



Shri Rama Chandra Ulaka, Minister, Tribal and Rural Welfare is going round the District Development Exhibition at Baripada on the 22nd January 1982.

Shri Janaki Ballav Patnaik, Chief Minister of Orissa, inaugurating the Exhibition in the Adivasi Exhibition Ground at Bhubaneswar on the 26th January 1981.
Photo shows: Shri Patnaik going round the exhibiton.



Shri J. B. Patnaik, Chief Minister of Orissa, inaugurated the Charkha Kendra at Gurudijhatia, organised by Orissa Khadi and Village Industries Board on the January 21, 1982.

Meeting of the Co-ordination Committee of Vice-Chancellors of the Universities of Orissa being held under the Chairmanship of Shri C. M. Poonacha, Governor of Orissa and Chancellor of the Universities at Raj Bhavan, Bhubaneswar on the 6th February 1982.

Shri Basant Kumar Biswal, Minister of State for Works, Housing, Mining & Geology and Urban Development Orissa, is addressing the public as Chief Guest on the 31st January 1982 at Atithi Bhavan, Rourkela in the 3rd Annual function at Rourkela Press Club.

Aspects of Female Education in British Orissa : 1905—1936

Dr. J. K. SAMAL

In 1905, the female education in Orissa presented a picture of extreme backwardness. After 1905, under the impact of the National Movement for freedom and the Utkal Union Movement for the unification of the Oriya speaking areas, it received greater attention from the Government than before.

Secondary education of the girls by 1905.

In 1905 there were four aided Middle English Schools under the management of American Baptist Missionaries in Orissa. There had never been any high school for girls in Orissa by 1905. Of the 15,993 female pupils, only, 224 were in the secondary stage thisyear.

The extremely unsatisfactory progress of secondary education among girls was chiefly due to the following causes. Firstly, there was almost complete absence of any desire on the part of the parents to keep their daughters at School for a longer period. Outside a small and wellmarked class in the society, the demand for female education was much less active ond spontaneous. In fact, the people at large encouraged or tolerated the education of their girls only upto an age und upto a standard" at which it can do little good or according to their point of view little harm". The difficulty of inducing the parents to send their girls to schools was a continued bar to real progress. Secondly, the material considerations which had formed a contributory factor in the spread of boys' education were inoperative in the case of girls. Thirdly, the lack of trained female teachers and the alleged unsuitability of the curriculum which was said to have been framed more with a view to the requirements of the boys than the girls, no doubt, formed important factors against the rapid progress of female education. Fourthly, the most important factor which prevented secondary education from progressing satisfactorily among girls was the extremely inadequate funds allocated for the purpose. Among the subsidiary factors which retarded the progress of female education were the rigid seclusion of women and the system of the early marriage of girls[2].

Ravenshaw Girls' School

In 1906 a higher class Girls' School was opened by Mrs. Reba Roy in Cuttack, The school was a very promising institution. The enterprising and philanthropic spirit shown by the lady founder deserved praise. At the outset, the higher section of the school consisted of two classes corresponding to the 4th and 3rd class of a High English School. Subsequently, the institution became a full-fledged High School and was named as Ravenshaw Girls' School. This continued to be the only High School for girls till the end of the period under review[3].

The control of the Revenshaw Girls' School was assumed by the Government with effect from 1st March 1913. The former school committee undertook to place at disposal of Government the old school building and the property of the value of some Rs. 10,000 in all. An unusually large committee was formed with the purpose of enlisting popular sympathy with the school. After the transfer of the school to Government, it was divided in to two sections, a senior section or high school proper. and a junior section consisting of the primary and infant classes. A lady Principal on a salary of Rs. 400-20-600 had been placed in charge. She was assisted by seven mistresses for the senior section of whom one was in the provincial Educational Service. one on Rs. 120-3-150. 2 on Rs. 100, three on Rs.45, on Rs. 35, and on Rs. 30. The Junior Section was in charge of head teacher on Rs. 100—2—120, and 6 assistants each on salary of Rs, 30. It was hoped that when new school and hostel building would be provided in the near future, a successful future would be assured for the school[4].

The Ravenshaw Girls' School had 45 pupils in the High School classes and 112 in the Middle and primary Classes on the 31st March 1917. In January 1917 it was moved to a building acquired for the purpose by the Government. The new building was admirably adapted for the school. The playground was large and the children thoroughly appreciated the space[5].

In 1919 a hostel and principal's quarters were built for the Ravenshaw Girls' High School. The cookery class which was opened here in 1920. proved to be very popular[6].

Music and domestic science were taught in the Ravenshaw Giris' High school as subjects for the matriculation examination from 1933-34[7].

Recommendation of the Female Education Committee.

In June 1914, a committee was appointed to examine the question of female education in the province of Bihar and Orissa. They made following recommendations regarding the secondary and collegiate education of the girls. Firstly, Intermediate classes should be opened in connection with the Girls' High School at Cuttack. If the number ot girls rose to 10, the question of seeking applications to the Intermediate standard should be considered. If it rose to 29, the establishment of a separate college should be taken up. Secondly the Headmistress of every school should be empowered to exclude pupils whose admission was likely, for social and other reason, to be prejudicial to the progress of the school, in consultation with the school committee. Thirdly, considering that purdah system was a great barrier to the progress of higher education among girls, conveyance should be provided at all secondary schools. It was suggested that a small fee might reasonably charged for the use of school conveyance. They were inclined to regard favourably a system of providing a reserve carriage for the exclusive use of those children whose parents were ready to provide a considerable share of their cost.

The above recommendations of the Female Education Committee were accepted by the Government of Bihar and Orissa. Steps were taken to give effect to them without delay[8].

The pardah system which was so strong' in most parts of Orissa made respectable families unwilling to send their grown-up girls to secondary school, except in closed conveyances, which were extremely expensive. In accordance with the recommendation of the Female Education Committee, the employment of a motor bus in place of horse bus was tried at Cuttack with encouraging results. This helped a great deal to solve the conveyance problem. It could at least reduce the waste of time that was formerly involved and provide a better service at little more cost.[9]

The most important recommendation of the Female Educational Committee was carried out when I. A. classes were openedl in connection with Ravenshaw Girls' School at Cuttack in 1915.

Collegiate classes attached to Ravenshaw Girls' School.

During the year 1915-16, a commencement was made in Orissa with the colle-

giate education of women when I. A. classes were opened in the Ravenshaw Girls' School at Cuttack. The subjects taught were English, Logic, History, Sanskrit and the Vernacular. The number of pupils was 8 in 1916-17 and 2 girls were sent up for the Intermediate Examination of whom one passed[10]. The number of girls attending the Intermediate classes in Arts at the Ravenshaw Girls' School continued to increase. By 1922 the number rose to 22.

These classes could not be placed on a permanent footing owing to the expense involved for a long time. Consequently, the teachers were discontented and one of them was likely to resign. In the opinion of Lady Principal, contented work could scarcely be expected from teachers who were kept on a temporary footing for so long as seven years. Some persons of influence suggested that it was better to close the collegiate classes rather than to keep it in a fluid and uncertain condition indefinitely. The D. P. I. wrote that it would be a blunder to close these classes, which had been doing very good work[11]. It was placed on a parmanent footing in 1925,

In 1930, the number of girl students in the collegiate classes attached to the Ravenshaw Girls' School fell from seven to three. But it was extremely pleasing to note that five women students took their admission into the Ravenshaw College thus beginning a movement among girl students to join a college for men. This was welcomed as a healthy sign of progress[12]. The two and three candidates sent up in 1931, and 1932 respectively in college classes attached to Ravenshaw Girls' School had been successfull[13],

Since the Intermadiate classes at the Ravenshaw Girls' School provided the only opportunity of college education for only girls in the province of Bihar and Orissa. it attracted girl students from Bihar division occasionally. In 1934, of the 8 students in the collegiate classes, one came from Ranchi, one from Patna and one from Rajshahi. The institution badly needed a more modern footing[14]. The appointment of a qualified teacher recruited from the Lady. Irwin College at Delhi provided facilities for the study of Domestic Science in the college classes from 1936[15].

There was no degree college exclusively for women. The paucity of women students had so far not warranted the establishment of such an institution. The very limited number of women students in the I. A. classes, which had never exceeded a dozen by 1936, indicated that all students who passed the matriculation did not come up for collegiate education. A very small number of women who wished to take a degree course were having co-education in colleges for men where they had greater choose of subjects, efficient staff and an academic atmosphere [16].

Since the girls were beginning to attend the Men's college, the necessity for the small but expensive classes at the Ravenshaw Girls' School was considered doubtful by some officials. In opposition to this view, the Lady Principal argued that the classes were definitely useful for some girls. Because, they matriculated at an age when they would be too shy to join a college for boys although they might join the degree classes at the Ravenshaw College later on [17].

Vocational education

The curriculum for girls' schools remained much the same as that for boys' schools. The desire for a separate curriculum with more stress on subjects such as music, domestic science and needdle-work was found growing. In due course, facilities were provided in elementary schools for training girls in needle-work, domestic science, music and hygiene. The Cuttack District Board employed a peripatetic tailor for its girls' schools. The Balasore District Board and the Municipalities of Puri and Balasore employed sewing mistresses[18]. The techinical and industrial schools, imparted training to 38 girls and widows in useful subjects like weaving, basket making, spinning and embroidery work in 1936. The school known as "The Shelter" at Cuttack was managed by the chu ch of God American Missionary Society. The part played by missionary bodies in the furtherance of female education in this country undoubtedly deserved all praise. The example set by these bodies was indeed actively helped in breaking down the 'purdah' system and in rooting out money

prejudices which hindered the progress of female education [19].

Training institution for women

There were two training institutions for women, viz., the Hindu Women's Institute at Cuttack and the Secondary School at Cuttack which undertook to train both junior and senior teachers and was managed by the Baptist Missionary Society with substantial aid from Government. In these institutions 48 mistresses were under training in 1936. The paucity of middle passed teachers for undergoing training necessitated admission of candidates of lower qualifications into training classes[20].

Resume

By 1936, the secondary education among girls was in its infancy. There were only one High School at Cuttack and four Middle English schools at Cuttack, Puri and Balasore and Sambalpur. The Middle English Schools at Puri and Sambalpur were directly managed by the Government while Middle English Schools at Cuttack and Balasore continued to be maintained by the Baptist Missionary Society with aid from Government. There were six Middle Vernacular Schools for girls. They were all aided. The number of girl students in these ten Middle Schools was 1,561 in 1936. The number of girls attending Boy's Middle School rose from 124 in 1905 to 2,231 in 1936. This fact clearly indicated that the prejudice against the co-education was gradually vanishing[21].

With the opening of I. A. classes in the Ravenshaw Girl's School, a new chapter began in the history of the collegiate education for women in Orissa. The number of girls receiving instruction in college classes was 7 in 1907 and 10 in 1936. This fact showed how little the oppurtunities for higher education were availed of by those for whom they were intended.

No doubt, the progress made in the sphere of secondary and collegiate education among girls had been slow. It was greatly hampered by want of funds and of qualified women teachers as well as by social custom.

Reader in History, Berhampur Univercity, Berhampur.

REFERENCE

1. Report on the progress of Education in the Orissa Division for the quinquennium ending 31st March 1907.
2. H. W. Orange, Progress of Education in India, 1902—1907, part 789.
3. Report on the progress of Education in the Orissa Division for the quinquennium ending 31st March 1907.
4. The 1st quinquennial Review on the Progress of Education in Bihar and Orissa during the year, 1912—1917, part 4.
5. Ibid, Para. 268
6. The second quinqennial Report on the progress of Education in Bihar and Orissa, 1917—1922, Para. 229.
7. Report on the Progress of Education in Bihar and Orissa, during the year 1933-34, P. 169.
8. 1st quinquennial Review on the Progress of Education in Bihar and Orissa, during the year, 1912—1917, Para. 266.
9. Report on the Progress of Education in Bihar and Orissa, 1931-32, Para. 256.
10. The 1st quinquennial Review on the Progress of Education in Bihar and Orissa, during the years, 1912—1917 Para. 268.
11. The second quinquennial Review on the Progress of Education in Bihar and Orissa, 1912—1922, Para. 229.
12. Report on the Progress of Education in Bihar and Orissa, 1930-31, Para. 146-147.
13. Report on the Progress of Education in Bihar and Orissa, 1931-32, Para. 256.
14. Rai Sahib Kalaspati, Bihar and Orissa, 1935-36, P. 63.
15. Rai Sahib Jadu Nath Mahapatra. Orissa in 1936-37 to 1938-39, P. 57.
16. Ibid
17. The fourth quiquennial Review of the Progress of Education in Bihar and Orissa, 1927—1932 Para 258.
18. R. L. Gupta, Bihar and Orissa, 1932-33 P. 50.
19. Rai Sahib Jadu Nath Mahapatra, Orissa in 1936-37 to 1938-39, Para. 65-66.
20. Ibid P. 65
21. Ibid

A Study on Productivity of Important Crops in Orissa

*SHRI C. SATAPATHY
SHRI R. K. RAJ

Orissa s one of the underdeveloped States in India. Its backwardness is characterised by its low level of income, dependance of a very large segment of the population on poorly managed Agriculture, larger proportion of tribal population, lack of urbanisation and inadequate infrastructure. Orissa is predominatly an agricultural State, and the State as a whole, constitutes approximately 4·5 per cent in production as well as area of the foodgrain crops of the country. Of the total geographical area of 15·54 million hectares, about 39 per cent is covered under net sown area (1978-79). Out of the total gross cultivated area, foodgrain crops occupy about 73 per cent and non-food crops about 27 per cent. Despite large area, suitable agroclimatic condition and growing season, the productivity of most of the crops in Orissa has remained low. The per hectare yield of different crops in the State is far behind than the States like the Punjab, Haryana, Uttar-Pradesh and West Bengal. Table 1 below indicates the proportionate area of some selected important crops of the State of the year 1978-79.

TABLE 1

Area under different selected crops of Orissa (1978-79)

Crops	Area coverd ('000 hect.)	Percentage to net sown area
Rice ..	4401·87	72·20
Wheat ..	61·54	1·01
Total cereals ..	5113·572	83·87
Arhar ..	69·953	1·15
Gram ..	44·624	0·73
Mung ..	628·965	10·31
Biri ..	346·263	5·68
Kulthi ..	340·045	5·58
Cowpea ..	25·159	0·41
Total pulses ..	1566·099	25·69
Groundnut ..	143·877	2·36
Til ..	162·516	2·66
Castor ..	37·229	0·61
Mustard ..	152·033	2·49
Linseed ..	32·827	0·54
Total oilseeds ..	528·482	8·67

*C. Satapathy, Assistant Professor, Extension, Education, College of Agriculture. R. K. Raj, Programme Officer, Lab to Land Programme, Orissa University of Agriculture & Technology, Bhubaneswar-3.

The figures in table above reveal the propertionate area covered under some selected important crops of the State. Among the crops grown, cereals top the list followed by pulses and oilseeds.

Orissa, though an unerdeveloped State, still it contributes to the national food production to an appreciable extent over the years. Table 2 given below indicates the per cent share of Orissa in national food production over a period of 10 years.

TABLE 2

Percentage share of Orissa in National Food Production

Period	Foodgrain production	
	Percentage area	Percentage to production
1969-70 ..	4·65	4·75
1970-71 ..	4·61	4·48
1971-72 ..	4·85	4·14
1972-73 ..	4·95	5·01
1973-74 ..	4·91	5·02
1974-75 ..	4·94	4·37
1975-76 ..	5·05	4·60
1976-77 ..	4·85	3·66
1977-78 ..	5·11	4·39
1978-79 ..	5·12	4·39
Average ..	4·90	4·48

As indicated in Table 2, the per cent share of State in foodgrain production remains approximately same in area as well as production. Despite the contribution of Orissa to National Food Production, the productivity of the crop like cereals, pulses and oilseeds of the State is much less in comparison to National average and the average of the other States.

A. Cereal crops

The cereal crops in Orissa constitute Rice, Wheat, Jowar, Bajra. Ragi and small millets. In this paper, attempt has been made to find out the yield gap with respect of two important cereal crops of the State—paddy and wheat. The yield gap between the possible yield as claimed by the scientists, the experts and the actual State average yield has been calculated to indicate our position with respect to achievement of yield potential.

TABLE 3

Yield gap of Rice and Wheat in Orissa

Year	Kharif Rice		Rabi Rice		Wheat	
	Yleid	Gap in percentage	Yield	Gap in percentage	Yield	Gap in percentage
1974-75 ..	6·94	84·58	7·14	87·02	15·73	47·57
1975-76 ..	9·49	78·91	9·67	82·42	17·10	43·00
1976-77 ..	7·03	84·38	7·35	86·64	17·73	40·90
1977-78 ..	9·61	78·64	9·81	82·16	18·86	37·13
1978-79 ..	9·96	77·87	10·07	81·69	18·47	38·43
Average .	8·61	80·88	8·81	83·99	17·58	41·40

Standard yield as claimed by Scientist
High yielding rice (Kharif=45 qtls./hact.
High yielding rice (Rabi)=55 qtls./hact.
Wheat=30 qtls./hact.

As indicated in Table above, the yield gap with respect to high yielding rice both in kharif and rabi season is more than 80 per cent, impling that we have hardly achieved 20 per cent of the yield potential. On the other hand, it reveals that, we have yet to go a long way in order to exploit potential yield as claimed by our scientists. In case of wheat, which is a recently introduced cereal in the State, the average gap over a period of 5 years is about 42 per cent. In other words, we can conclude that, about 58 per cent of the potential yield has been achieved in Orissa. It may be a point of question as to why there is more gap in rice yield over wheat, though Orissa is traditionally a rice-growing State in the country.

On comparing the relative position of Orissa in relation to other States of the country with respect to difference between average yield of rice and wheat, the gap expressed in percentage appear in Tabie 4 given below and the figure covers for the period 1978-79.

TABLE 4

Difference in yield of Orissa in relation to other States

States	Average yield of rice in qtls./hect.	Difference in percentage	Average yield of wheat in qtls./hect.	Difference in percentage
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh ..	18·61	45·89	6·49	—184·59
Bihar ..	9·86	—2·13	13·93	—37·94
Gujrat ..	11·64	13·49	19·24	4·00
Haryana ..	26·80	62·42	23·00	19·69
Karnatak ..	20·10	49·90	6·49	—184·59
Kerala ..	15·39	34·57	..	..
Madhya Pradesh ..	7·36	—36·82	9·52	—94·01
Maharashtra ..	14·69	31·45	8·02	—130·30
Panjab ..	29·18	65·49	27·15	31·97
Rajasthan ..	11·12	9·44	14·44	—27·91
Tamil Nadu ..	22·51	55·26	..	..
Uttar Pradesh ..	11·57	12·96	15·46	—19·47
West Bengal ..	13·59	25·90	19·16	3·60
India ..	13·39	24·79	15·74	—17·34
Orissa ..	10·07	..	18·47	..

An examination of the data given in Table above discloses the fact that the average yield of rice in Orissa is much behind than many of the States of the country except Bihar and Madhya Pradesh. It is heartening to observe that though we are proud of producing rice since time immemorial, still the productivity level of paddy is much less than our neighbouring States. The yield gap in case of wheat in Orissa in relation to other States reveals that; we are much ahead of many of the States like Andhra Pradesh, Bihar, Karnatak, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh, whereas behind the States like Gujrat, Haryana, Panjab and West Bengal. Though

our production level is comparatively less, still our farmers are adopting recommended package of practices to a satisfactory level in case of wheat as a result of which we are ahead of many States on productivity level of wheat.

B. Pulse Production in Orissa

Orissa is traditionally a pulse growing State in the country. It constitutes about 5 per cent of the area as well as production of the pulses of nation. In the State, pulses cover about 14,66,099 hectares in area which accounts for approximately 10 per cent of the area under foodgrain crops. Although high yielding varieties like those in cereals are still to be evolved in pulses, there are location-specific improved varieties available in most of the pulses. Unfortunately the yield potential of even the available variety have not been fully exploited. The possible yield as claimed by the scientist and experts in different pulses of the State has been shown in the table below along with the yield gap in relation to State average for a period of 5 years covering from 1974-75 to 1978-79.

TABLE 5

Yield gap in some selected pulses in Orissa
(Yield in qtls./hect.)

Crops	Possible yield in Orissa	State mean average 1974-75 to 1978-79	Gap in per cent
(1)	(2)	(3)	(4)
Greengram ..	15·00	4·68	68·80
Blackgram ..	20·00	4·90	75·50
Pigeon pea ..	25·00	4·91	80·36
Bengalgram ...	25·00	4·96	80·16
Cowpea ..	20·00	4·37	78·15
Field pea ..	25·00	4·75	81·00
Horsegram ..	10·00	4·62	53·80

As can be seen in table 5 that ; the yield gap in seven crops in Orissa varies from 53·80 per cent to 81·00 per cent. Among these, field pea has highest gap followed successively by pigeon pea, Bengalgram, Cowpea, Blackgram and Greengram. The analysis presents the fact that even we are not able to exploit more than 50 per cent of the potential of available varieties in pulses.

On determining the difference between average yield of pulses in Orissa and other States of the country, the results were obtained are given in table below: —

TABLE 6

Gap in yield level of Orissa and other States for the year 1978-79 (Total Pulses)

States	Average yield in qtls./ hact.	Gap in per cent in relation to Orissa
Andhra Pradesh ..	2·70	—84·44
Bihar ..	4·87	—2·26
Gujurat ..	4·23	—17·73
Haryana ..	9·53	47·74
Karnataka ..	4·24	—17·45
Kerala ..	4·36	—14·22
Madhya Pradesh ..	4·53	—9 93
Maharasthra ..	3·69	—34·96
Punjab ..	7·68	35·16
Rajsthan ..	5·23	4·78
Tamilnadu ..	3·16	—57·59
Uttar Pradesh ..	8·00	37·75
West Bengal ..	4·77	—4·40
India ..	5·17	3·67
Orissa ..	4·98	..

Data in Table 6 reveal that, Orissa is in a better position in productivity level of pulses. The per hectare yield of pulses in Orissa is ahead of many States except Haryana, Panjab, Rajsthan and Uttar Pradesh. But as compared to national average, the yield performance is very low in Orissa. But it does not mean that we should lose heart. We shall have to go a long way in order to bring the average yield level of Orissa at par with Haryana and the Punjab.

Next perhaps to sugar, it is the edible oils which, of late have been witnessed a serious upswing in prices. In last two years, the whole-sale price index of edible oils have been risen nearly 80 per cent. Making this essential commodity totally out of reach of the common man, it is surprising to observe that we are importing edible oils to meet our home demand about worth of 600 crores of rupees (1978-79). The share of Orissa in oilseed production constituting 5 major oilseeds namely groundnut, mustard, sesamum, linseed and castor is about 3·3 per cent of the total production of the nation. These group of crops occupy approximately 8 per cent of the net sown area of the State. The yield level of oilseeds in Orissa has been very much low and a vast gap exists between potential and actual yield level which can be seen from the data given in table below.

TABLE 7

Yield gap in major oilseeds in Orissa from 1974-75 to 1978-79

Crops	Possible yield in qtls./ hact.	Mean average of the State	Gap in percent
Groundnut	20·0	12·56	37·20
Sesamum	7·5	4·44	40·80
Mustard	10·0	4·30	57·00
Linseed	12·0	3·94	67·17
Castor	20·0	5·29	73·55

It has been observed from the Table 7 that, the yield performance of 5 major oilseeds in Orissa is far from satisfactory. A yield gap as high as 73·55 per cent is observed in case of castor production followed by linseed, mustard, sesamum and groundnut. So this needs intensive care and recommended package of practices to be followed for increasing the yield as well as to make the State and country self-sufficient in oilseed production and its by-products.

Further, attempts have been made to determine the relative position of Orissa, in productivity of these 5 major oilseeds with other States. The results so obtained are given in Table 8.

TABLE 8

Gap in yield level of total major oilseeds in Orissa and other States for the year 1975-76

States	Average yield in qtls./hact.	Gap in per cent in relation to Orissa
(1)	(2)	(3)
Andhra Pradesh ..	7·05	—5·96
Bihar ..	5·10	—46·47
Gujurat ..	11·53	35·21
Haryana ..	5·15	—45·05
Karnataka ..	5·94	—25·76
Kerala ..	9·12	18·09
Madhya Pradesh .	4·21	—77·43
Moharasthra ..	6·05	—23·47
Punjab ..	8·29	9·89
Rajasthan ..	3·95	—89·11
Tamilnadu ..	10·78	30·71
Uttar Pradesh ..	4·96	—50·60
West Bengal ..	3·95	—89·11
India ..	6·58	—13·53
Orissa	7·47	..

Data in table 8 reveal that, the highest per hectare yield is obtained in Gujurat followed by Tamilnadu, Kerala and Punjab and the lowest is in Rajsthan, West Bengal, Madhya Pradesh and Uttar Pradesh. The average yield of Orissa is much ahead than many of the States whereas behind in only the States of Gujurat, Kerala, Tamilnadu and Punjab.

The yield gap analysis as a whole reveals that, there exist a wide gap between potential yield of different crops in Orissa as claimed by the scientists and actual State average. This implies that even though, we have good varieties, adequate

research and better agroclimatic conditions, still our farmers are not able to exploit the potential yield as advocated by the experts. This needs a detail analysis which perhaps come to the field of extension. In other words, intensive extension apprach is needed by all concerned not only to feed our farmers with available tecnnology but also to motivate them to adopt for higher level of production. Therefore, it can be stated that productivity of crops depends to a greater extent on extension education activities rather than research. Our State can excel other States in productivity level of atleast some important crops provided an all-out effort is made at various levels.

REFERENCES

1. Fertiliser Statistics. The Fertiliser Association of India, New Delhi. 1979-80 PP II 24—29 P III 66
2. Estimates of Area and Production of Principal Crops in India. Director of Economics and Statistics Government of India. 1975-76 P 66
3. Orissa Agricultural Statistics .. 1978-79 PP 96—115
4. Agricultural Guide Book, Orissa .. 1981 PP 286—326

—+—

Gandhian Thoughts of Social Change

SHRI HIMANSU KUMAR PATRA

In the dawn of Twentieth Century, Gandhiji played an important role in the social, political and economic life of India. His theory is not only accepted by the present Indian politicians but also by the eminent experts of different disciplines all over the world. He dedicated his life to the quest for truth. For Gandhiji life and its problems presented scope for many experiments in the practicality of truth and non-violence. He held that truth and non-violence were two fundamental principles to be adhered to. But of these, truth always had the first place. He was of the view that non-violence and truth are two faces of same coin. After reading either of the way of the coin spelling may differ but the overall value is the same. Gandhiji did adhere to certain truth firmly and without compromise. He was a practical idealist and endeavoured to find realistic solutions of different problems facing the country in the light of his rich and varied experience for which his thought is basically sound and relevant to our times. The method of his research is usual scientific method of observation, hypothesis and experiments. His approach to various problems was not only scientific but also-rational and pratical; it was not dogmatic and utopian as if often understood by different authors in India and abroad. At New Delhi in 1970, at the 'Inter National Seminar on Gandhian Thought', It was concluded that Gandhian thought has significant relevance for the modern world and that many things which have happened since he passed away have not diminished but heightened its relevance.

Apart from these fundamental principles of which he made a systematic attempt to apply to the practical problem of his time, it can hardly be said that Gandhi developed any special theory of social development. However just as the success of some experiments enables a scientist to present his assumption and conclusions in the form of a theory, the outcome of Gandhiji's experiments with Indian society may enable us to present his ideas on social reform in a systematic way, although not exactly in the form of a theory. They are important because they embody the principles of an ideal change in human society which in his opinion was a confinuous growth, an unfoldment in terms of spirituality.[3]

The word "Change" designates one of the most conspicuous and most pervasive features of our sensory and introspective experience, only the related feature of plurality or diversity is equally so. Change indeed is so pervasive that only after the antithetical concept of changelessness or immutability was developed in the different period of Greek philosophy, did change become a problem of Philosophical thought.4 As a term carrying definite scientific connotation the concept of social

(1) Shriman Narayan—India Needs Gandhi
(2) G. N. Dhawan—Philosophy of Mahatma Gandhi
(3) Young India—September 16, 1926
(4) Encyclopeldia of Philosophy—Vol. II P. 75

change bears certain relation to some what earlier ones. Social evolution had come to be identified fairly closely with dogma of inevitable successive stages of development based on biological determinants, and progress usually implied a faith or borrowed standards from current morals.[5]

The problems of social change in India are complex and difficult. The simultaneous existence of various centripetal and centrr-fugal and religious misconceptions not only make the problem of Indian society complicated but also retard its progress in some respects. As there are different factors responsible for dynamic or staticstates of change in the society there occurs 'natural' or 'planned' change. There has been some change in the practice of untouchability and in the social structure. The material position of the majority of population has not improved as yet to any appreciable extent. The main contribution of Gandhi is not so much in the region of effecting actual social changes as in awakening social consciousness about the necessity of change.

The origin and development of Gandhij's idea on social change was originated from the influence of books and authors upon him, his personal sufferings, the success of his early experiments and the impact of socio-economic conditions and the trends. He had been influenced by christianity the *Bhagavadgita*, Buddhism, and the teachings of Tolstoy. From Christianity and Buddhism he learned the lessons of non-violence, renunciation, detachment, sacrifice and brotherhood for entire mankind irrespective of caste, creed and social status. He derived the source of utmost peace from the *Bhagvadgita*. In village reconstruction, decentralisation and *Satyagraha*, he much more influenced by Leo Tolstoy. Most of his ideas on social problems originated in the latter years of his life as a result of his own study and experiences in the contemporary social situations. Gandhiji himself was largely influenced by the social forces of his time, although he in turn tried to control and regulate them. The Gandhian ideals of peace and non-violence put forth some influence on present Indian Society. His ideas on *Sarvodaya*, education and status of women are highly accepted. Gandhiji's teachings against practice of untouchability constitute one of the important factors that have brought about some change in practice. Though the speed of social and economic change is very slow in Indian Society Gandhian doctrine of social change is universally appreciated.

The principal Gandhian means for bringing out Social Change rests upon the reformation of individual. Gandhi wanted the Improvement of all individuals internally, morally and spiritually. Gandhi measured progress in terms of happiness. He endroosed neither the utilitarian view of the greatest good of the greatest number nor the modern view of an affluent society in which material development is the sole criterion of progress. He wanted a social order which would secure the greatest of all, i. e., Sarvodaya.[6]

He wanted a society in which every man would have equal status, opportunity and freedom to develop. He was not opposed to material progress, as is often made out. But he did reject material progress which was inconsistent with progress in other spheres which was more durable and valued.[7] He knew that there cannot be equal distribution of wealth and power. He therefore advocated equitable distribution so as to narrow down economic disparities andpolitical disabilities. He evolved the doctrine of 'Trusteeship' through which he contemplated the transformation of capitalist society into a socialist one. His doctrine of trusteeship does not approve of Capitalism but instead of crushing Capitalists it gives them an opportunity to improve their outlook. Gandhi's adoption of the concept of trusteeship as a means of bringing about material advancement of the poor or economic equality probably rests on two factors; firstly that it provided the possibility of an extension of the principle of non-violence in the sense that it aimed at a smooth or harmonious

(5) Encyclopedia of Social Science—Vol. III P. 330
(6) Morarji Desai—Gandhi and the Destiny of Man. *Mahatma Gandhi 100 Years*, P. 65
(7) J. D. Sethi—*Gandhi Today*

transformation of society towards the ideal of equality, thus avoiding a violent 'Class war' and secondly that he himself was convinced of its practical feasibility as a result of his dealings and association with the rich and poor.[1] He also said that he would personally prefer decentralisation of power from the hands of the State through an emphasis on trusteeship.

Gandhiji was positively disposed towards the role of science. He wrote, "I would prize every invention of Science made for the benefit of all.... I am not aiming at the eradication of all machinery, but limitation because the supreme consideration is man. The machine should not tend to make atrophied the limbs of man". [2] He was neither a technopite nor a technophobe. Indeed a Gandhian view of technology out side the scope of economy, social justice and its important on man's value system, simply does not exist. He did not treat technology as neutral nor as an exogenous element. Though he opposed technological determinism, he did not disagree with material prosperity and the use of machines in all circumstances. He felt that machinery should save time and labour not for a fraction of mankind but for all. He did not want man to become a slave of machines and lose his identity altogether, he wanted machines to be for man, not man for machines.

Gandhiji's views on the practice of caste and education seem to be by far the most progressive. The people continued to give support to the practice of caste and untouchability partly due to the inadequacy of a proper social policy of the State. Caste and untouchability with all attendant evils constitute an important component of social heritage in India. The individual is born into a rigid social system in course of his development he eventually becomes over powered by the weight of the system and finally succumbs to it. As a result he involuntarily develops a stratified state of mind from which prejudices, sentimental feelings and resistances originate in regard to free intercommunication of the members of the different classes. The society is then stratified into the superior caste and inferior caste and gradually a social lag between the two stratas is observed which is the main cause of caste-conflict. The present picture of harassing lower caste people and very often the violent incidences done by the higher caste people to dominate is due to this nasty stratification of caste system. In this crucial moment Gandhiji's views on casteism is a light house to the sailors in the ocean of different caste people. Though he did not criticise the theory of casteism he condemned the system of caste practice.

Without attacking the principle that created the structure of caste system, he considered it practical to eliminate its vices by the reformation of individual. He observed that if all members of society did not observe the out of date caste regulations or untouchability the system would automatically cease to function. Gandhi always taught that education should cover entire field of life and must provide opportunities for the full development of the mental, moral, spiritual and physical attributes of man. It is for such an education that Gandhi laid down the foundation in his concept of basic education which is based on fundamental assumption. Gandhian ideas regarding the practice of untouchability and the adoption of universal basic education have contributed to a change in the stratified mind and the out look of the ordinary Indian. Improvement in education and material position no doubt are important factors but that indirectly help change. There is often a correlation between increased education, enhanced material status and certain changes that take place in social institution, like educated people tend to observe caste regulations and ritual's to a lesser extent than others. Therefore Gandhi was always of the view that a reduction in disparities of wealth and an increase In modern education are two important factors that might help to change the entire social system.

All the Gandhian teachings were based on the concept of individual perfection by a strict adherance to truth and non-violence. We read his own words : "follow the path

1. T. K. N. Unnithan—*Gandhi and Social Change*, P. 226
2. D. G. Tendulkar—*Mahatma* Vol. II, PP. 212—223, Vol. IV, P-34.

of non-violence in the pursuit of truth". He insists that non-violence is the best way and shortest cut to truth. He begins with the profession of faith in truth as the very basis of all life and all existence. The Indian word for truth is *'Satya'* which is derived from *'Sat* which means 'being'. From this Gandhi concludes that truth means that which exists and that in reality, logically nothing exists except the truth.[1] It is another name for God or the Omni present. Truth is God. One may deny God but not the truth. It also follows that all creatures are manifestations of the truth. truth is life that persists amidst all decay and death, all change and mutation. Man no doubt is the highest manifestation of God or Truth, for being conscious he can identify himself with entire creation, after completely wiping out his ego. So Gandhiji had given the highest position to truth and said "there should be truth in thought, truth in speech and truth in action".[2] Non-violence is the term which Gandhi himself coined to bring out the meaning of Sanskrit word *'ahinsa'* He declared that violence is the law of jungle and love is the law of human species. On questions or problem of life, he would invite a dialogue which would lead to truth, to find which ought to be common object of all human beings.[3] His concept of *'ahinsa'* is not confined to human beings but includes the entire creation. *Ahinsa* means not only refraining from killing any life out of anger or selfish purpose, but it meant the avoidance of injury to anything in thought, word or deed.[4] Ahinsa is a force which is more positive than electricity and more powerful that either. Thus his non-violence or love has a double derivation: One is on account of identity with all life, the other is positive disinclination to use violence even for imposing truth on others.

Changes in the practice of untouchability, of the caste-structure, of the status of women, of abolition of special previleges and monopolies of the introduction of democratic institutions are all in the direction of a Gandhian social order and may be called positive social changes. But the Gandhian concept of change is essentially voluntaristic and his ideas centre round: acceptance of 'Ahinsa' as an end and a means in all individual and social actions; of egalitarian values in social, economic and political Institutions in spite of contrary religico-cultural sanctions, simultaneously repudiating all bases of inequalities belief in God along with toleration of different faiths; continuous reformation of the individual in terms of moral values of non-violence; fearless, selfless action in pursuit of truth and non-violence with a capacity to identify ones own well-being and happiness with that of entire society.[5].

The changes that have occurred in our society are not because of any transformation of society in the direction of altruism but because of the coercive measures of the state. These changes are not only relatively less permanent but also incapable of producing more changes which will take the social order to higher levels of existence. With a vigilant look towards the present international situation and Indian social conditions the best path for social development and progress probably lies in proper economic and social planning by which undoubtedly a static society can undergo a change.

It is said that the Taj Mahal looks different to different people, depending on where they are standing and particularly what time of day it is. I feel rather like that about Bapu,[7] says an a apostle of Gandhi. Actually Gandhiji looks different to different writers, depending on what concept of Gandhi they are studying and particularly with what view point they wish to project Gandhi's multidimensional contribution. But his views are universally accepted because Gandhism presents a new dynamic revolutionary and traditional approach to our existing political and Socio economic problems.

(1) Gandhi M.K.—*Hindu Dharma*—P. P. 247—249
(2) *Ibid*
(3) R. R. Diwakar—*Truth and Non-violence*.—Gandhi 100 years.
(4) Harijan—7 September 1935 P. 234
(5) T. K. N. Unnithan—*Gandhi and free India*
(6) Quoted in Ved Mehta—*"Mahatma Gandhi and his apostles*.

Research Scholar, Department of Philosophy University of Jabalpur.

POLIOMYELITIS : Prevention is better than cure

SHRI R. B. L. GARG

According to a recent estimate nearly 60 thousand children in India get infected from poliomyelitis every year, which is certainly a staggering figure sufficient to cause worry to the health authorities in the country. The polio-crippled population in the country is estimated at 20 lakhs. There are indications that the incidence of the disease is on the increase in many parts of the country. From some of the recent reports it is evident that polio has hit children in states such as Haryana and Bihar. During the last 8 years the number of polio cases as reported in the hospitals has increased considerable in Delhi, Bombay, Bhopal, Chandigarh, Vellore and Patna. In Patna the incidence of polio was so high that nearly 50 cases were reported to the hospitals and private clinics almost daily. A good number of polio-cases has also come into light in many parts of Haryana—particularly in the countryside. Unfortunately 'Polio' still remains a 'mystery-disease' for many people both in Rural and Urban areas due to widespread ignorance and misconceptions about the disease. In several of Indian villages **'polio'** still remains a disease caused by 'God of winds' which affects the 'sinners of the previous birth'.

Poliomyelitis, commonly known as polio, is an acute viral infection. The polio-virus belongs to a group of viruses which enter the body through intestine. It may be carried by water, food, flies, etc. Sewage contamination of any food or drink is also one of the ways of getting polio, for virus is excreted in the stools of persons who have become infected. Most people are Infected with polio virus at one time or another in their lives but all of them may not show any sign of paralysis. Hence it is very difficult to know whether a person is or is not passing virus in the stool, unless it is examined by the specialist. Such people are carriers and they are a real danger, especially where population is not protected against polio myelitis. Once virus is swallowed it passes through into the blood stream, thence to the spinal cord and to the brain where it flourishes and attacks the nerve cells. While it is in the blood-stream, the patient may have a ' flu-like ' illness with fever, headache, bodyache and pains. This is called minor illness. But once it reaches the nerve cells the patient may experience stiffness of limbs, neck and back and finally comes down with ' paralysis '. This is the major illness.

In India a good number of cases occur between one and two years of age of the newly born by some cases under one year have also been reported. By five years of age a majority of children in the country becomes immune to the disease. According to a survey carried out by a team of doctors under Dr. K.H. Sancheti—a noted Orthopaedic Surgeon, it has been found that the first two children of a couple are normally vulnerable to polio. As many as 11,737 defective children came under the survey from

22 villages of Pune district on a pilot basis to cover 51,856 persons. It was found by the team that as many as 19 defects occurred among 1,000 persons, of whom more than 25 per cent were blind. The ratio of orthopaedically handicapped persons came to about 7 per thousand. According to another survey conducted recently by the Health Department of the Government of Haryana (with the assistance of world Health Organisation), the incidence of polio was so much pronounced in the rural areas that five out of every 1,000 were infected from polio virus as against two out of every 1,000 in the urban areas.

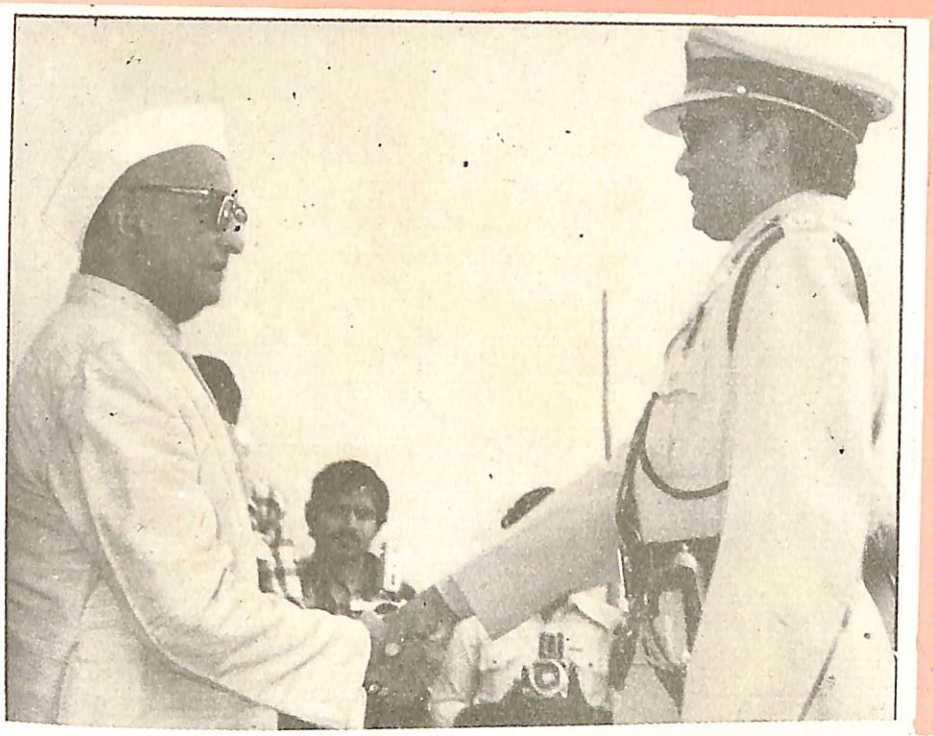
There is no specific drug to cure polio but proper medical care during illness can reduce the degree of paralysis. Some efforts have been made to cure the disease in certain parts of the country more particularly in Jaipur, by a special electromagnetic therapy. According to the reports, the therapy consists of application of calculated voltage of electric current and electromagnetic waves at different frequencies on the effected organs and muscles. This therapy treatment restores the magnetic force between the body cells, gives them fresh strength and increases blood supply in the polio-affected parts of the body. It may, however, be added that due to lack of medical facilities and longer period involved in the treatment, the emphasis is more on ' prevention of the disease '.

Polio can be prevented by vaccination with two kinds of vaccine—Salk and Sabin named after the discoverers. The Sabin vaccine or live polio vaccine is given orally and has been extremely successful in the developed countries. Salk vaccine has been found more useful in developing countries due to its advantages in mass immunisation programme. Being injectable it can be administered along with triple antigen which means considerable economy in terms of manpower and money. It may, however, be added that the cost of production of Salk vaccine is higher. In a country where more than 20 million babies are born every year and assuming a minimum three doses of the vaccine to be given to immunise a child, India would be needing import of 60 million doses every year which would mean considerable outflow of the previous foreign exchange for preventing a single disease. It is therefore, necessary to review the cost factor in relation to factors such as number of doses and scale of production.

The warning sounded by the Indian Council of Medical Research of an impending polio epidemic accross the country cannot be dismissed casually. Something will have to be done to contain the disease lest it should take a shape of epidemic which would be too difficult and too expensive to tackle. It may be gratifying to note that a world-wide campaign to eliminate the crippling and killing disease has been launched by the 'Save the Children Fund'—the London-based International Charity. The fund will run each country's campaign for five years. Later on the campaign wood be handed over to the respective Governments leaving the Fund free to move on the fresh territories. Similar efforts need be initiated by other international agencies particularly for the children of the less developed countries.

India is importing vaccine for immunisation—thus incurring huge amount to protect the children from the deadly infection. However, as a result of inadequate medical and storing facilities the vaccine is offering protection to the children much less than desired. Sabin oral vaccine which gave protection in more than 95 per cent cases in developed countries, at best gives protection only to 30 per cent of the children for these reasons. To be effective the vaccine has to be kept in deep-freeze but unfortunately this facility is utterly lacking in many parts of the country. Thus to make fruitful use of the costly vaccine such facilities need be extended on larger scale. But what is still more important is to educate the people on the need for timely immunisation of the new-born. Mass media has a unique role to play in enlightening the ignorant about the disease to help them seek timely medical aid to avoid serious repercussions. It must be adequately borne in mind that while immunisation is the only answer to the deadly infection, timely medical aid can save the children from disasterous effects. As has been noticed in some of the recent studies, the incidence of the

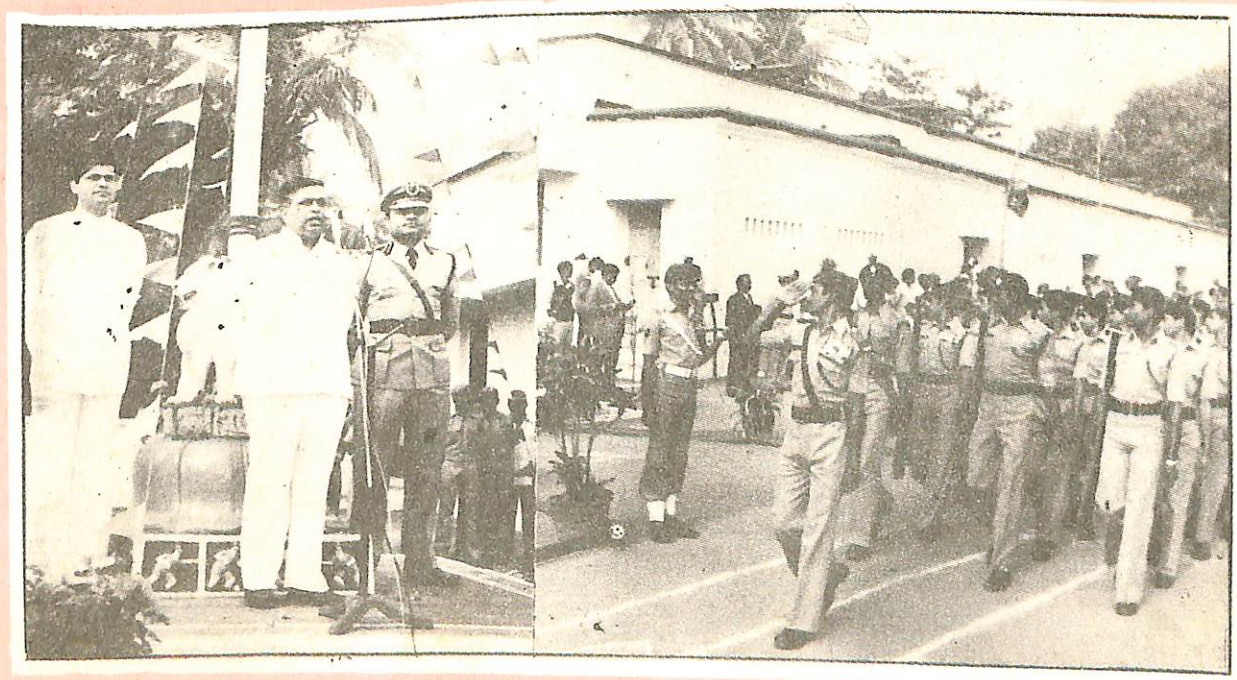
(See Page 32)



Award of Police Medal on Republic Day

On the occasion of the Silver Jubilee Celebration of Hirakud Dam Project on the 13th January 1982, Shri J. B. Patnaik, Chief Minister of Orissa, opened the function by pressing the buttom. In the picture Shri Patnaik is seen pressing the buttom, behind him, Shri Niranjan Patnaik, Minister for State for Power and Irrigation and Shri Aswin Kumar Guru, local M. L. A., are also Present.

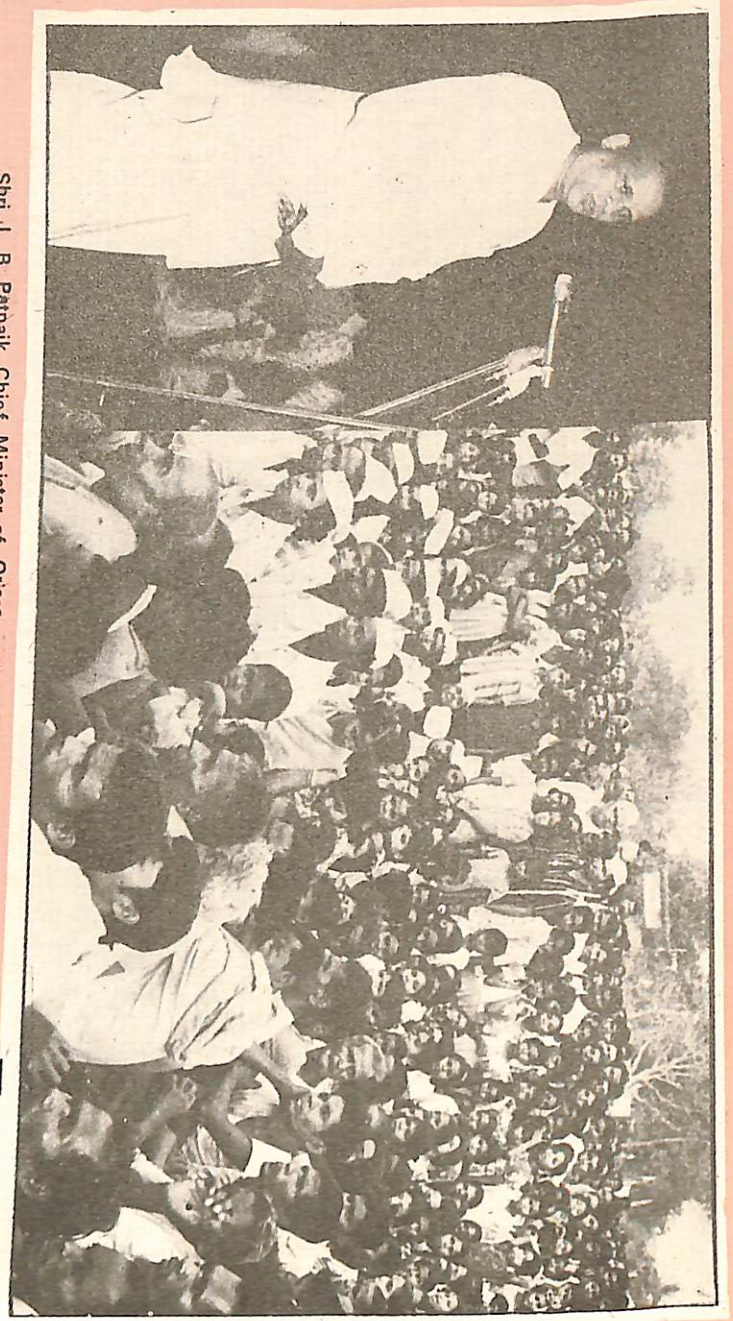
Shri Basanta Kumar Biswal, Minister of State, Works taking salute at Republic Day Parade, Puri.



Shri S. M. Pattnaik, Chief Secretary, is inaugurating the celebration of 23rd Birth Anniversary of Bhubaneswar Subdivision on the 26th January 1982.

Smt. Jayanti Pattanaik, M. P., inaugurated the flower exhibition at Adibasi Exhibition ground at Bhubaneswar on January 26, 1982.

Phato shows: Smt. Pattanaik going ground the exhibition with Shri S. M. Pattanaik,, Chief Secretary and others.



Shri J. B. Patnaik, Chief Minister of Orissa, addressing a public meeting after visiting Congress Sevadal camp at Gurudijhatia on January 21, 1982.

In the Service of Women and Children

Smt. USHA UPADHYAY

The 1981 Jamnalal Bajaj Award for outstanding contribution to the welfare and upliftment of women and children has been awarded to Shrimati Ramadevi Gopabandhu Choudhari of Cuttack (Orissa). The objective of the Award is to extend recognition to outstanding contribution in the field of constructive work, social service and rural development in the country.

The Veteran Gandhian, eighty-two year old Ramadevi Choudhari was chosen from among two hundred and fifty nominations and is known for her total dedication and deep involvement in the cause of women and children. She reveald a keen and sharp mind backed up by a near photographic memory as she recalled leaders and instances spanning her seventy odd years in socio-political work. Both her father Gopal Ballabh Das and uncle Utkal Gaurav Madhusudan Das were deeply involved in the movement for a free and independent Utkal. Her early memory of this movement was the Utkal Sammelan in 1918 and the many national leaders that participated in it.

Ramadevi attended the Nagapur Congress in 1920 and immediately came under the charismatic spell of Mahatma Gandhi. In the following year Gandhiji and Kasturba visited Orissa and Ramadevi organised many women's meetings, while generally looking after the Gandhi's. Gandhiji spread the message of khadi, non-co-operation with the British Government and resigning from Government positions. Ramadevi's husband, Gopabandhu Choudhuri resigned his first class Magistrate's post, while his home became a centre for the freedom movement with Ramadevi as the hostess—Many members of the family resigned from high Government positions while all the children gave up schools and colleges. To continue the education of these children, Ramadevi founded the "ALAKA Ashram", 30 miles from Cuttack in the Jagatsinghpur division. The Ashram activities, inspired by Gandhian principles, inculcated self-help among the inmates, while devoting to the spinning of Khadi, handloom, weaving, Cottage Industries and of course education.

Ramadevi vividly recalled the Salt Satyagraha in 1930 which was headed in Orissa by her husband, who led the march to Balasore. Naturally police wrath was aroused and their cows and buffaloes were taken away by the law and put up for public auction, after wide publicity. However expectedly there were no bidders at the auction and the animals were returned to the ashram by the authorities. Ramadevi also recalled how she successfully persuaded a local princess, the Rani of Ujung, to participate in the Salt Satyagraha adding much vigour to the movement. Her efforts at spreading prohibition gave rise to many instances of domestic discord among the people. There were cases when women left their

homes because their husbands did not agree to giving up liquor and their participating in picketing and demonstrations—Later many of them were persuaded and won over. There were so many arrests that the jails were over-flowing. Hence the police detained the volunteers in the police-station during the day and let them off in a far away jungle in the night, as a punishment.

After being arrested in 1930 and 1932 Ramadevi, under instructions from Gandhiji, took over harijan welfare work. She was appointed as the State Secretary for the Harijan Sevak Sangh and organised mass movements for drinking water facilities, temple entry and inter-caste meals for harijans. She recalled her movement to enable band parties, who were usually harijans, to join the wedding feast along with other guests.

To popularise the temple entry movement of harijans Gandhiji visited Orisse in 1934. The caste hindus organised a massive black flag demonstration at Puri and sensing possible trouble, Neelkanta Das a local leader, requested police protection for Gandhiji and his party. The mahatma was very angry at this arrangement and cancelled his scheduled programme. Instead he declared that he would tour only by foot and covered the distance by walk from Puri to Cuttack. He also instructed that the entire food and other requirements of the party must be from within a radius of five miles of the village where they were camping. While Gandhiji stayed in the village in the evenings, Ramadevi and a few women volunteers conducted a quick study of the Socio-economic conditions of the local harijans and prepared an action programmes for implementation.

Again at the instance of Gandhiji, Ramadevi took up flood relief work and set up an Ashram at Bari village in Jajpur subdivision. Basic education, which has been recently introduced, was implemented in Ramachandrapur school, 3 miles from Bari. Cottage Industries including a tannery, khadi, cleanliness, sanitation and women's organisations quickly took shape and were warmly appreciated by Gandhiji during his sabsequent 'padyatra'.

The Quit India Movement of 1942 again saw Ramadevi and other leaders in British jails and constructive activities were hindered.

Ramadevi has organised the relief and rehabilitation activities among East Bengal refugees in West Dinajpur, travelled extensively in the North-Estern states guiding women and children's welfare activities and has been among the first to reach areas affected by floods, tornados and other natural desasters.

Her activities are now confined to programmes for inculcating self-reliance among poor and destitute women, conduct of *Balwadis*, family planning and hostels for poor girl students. During a quick tour of these institutions in and around Cuttack, I was impressed by Ramadevi's personal involvement in the institutions and the warm and loving relations she had with the children and her workers.

Asked about the major constraints in spreading her work, Ramadevi mentioned the dearth of qualified and dedicated workers and the eternal problem of limited resources. "Government is conducting many welfare activities among women and children, though one misses the Gandhian touch among them", she said.

It was Independence Day and Ramadevi had many young women visitors offering her flowers and seeking her advice and blessings. Her advice to them was to organise, and generate *woman power* and learn to be self-reliant. As future mothers you have to mould a whole new generation, so prepare yourself for this noble and challenging task".

—*—

150, Sahid Nagar
Bhubaneswar—751007

Environmental Pollution and its preservation

Dr. P. C. PATTANAYAK

Environment is a product of three interrelated components, i. e., soil, water and atmosphere. These three components should, therefore, be congenial for the flora and fauna of this planet. This is an established relationship between the biological life and the environment since time immemorial. Later on certain norms of constitution for each of these components of the environment were derived by innumerable scientific analysis with ofcourse permissible deviations depending on various factors involved. Quantitatively speaking, this margin of deviation from the line of norms is too close. A little more deviation in the constitution poises a serious threat to the flora and fauna of this planet. Nevertheless, by the passing of time this deviation is extending away from the line of norms compelling the flora and fauna to adopt themselves to this changed environment. But for everything there is a limit. As such the capacity of adoption of flora and fauna to this everchanging environment has reached the point of saturation. So, the ecologists unanimously warned the world to prevent further pollution to the air, water and atmosphere so as to ensure the life to thrive. Lest this planet will perish.

Although the sources of pollution are almost common and interrelated yet for sake of convenience they are described separately. But suggestion for prevention is dealt together.

1. Water

The source of water for this planet is the unmeasurable oceans. But the amount of water has been measured statistically and all the five oceans of the planet have $1{\cdot}4 \times 10^{21}$ Kilogrammes of water and fed with $1{\cdot}4 \times 10^{9}$ Kilogrammes by the existing rivers. Before coming to the sources and effect of water pollution, Indian Ocean deserves a special consideration in view of its vulnerable shape and situation. That the Indian Ocean is the smallest ocean of the world so far as water space is considered. But one-third of the world population inhabit in its forty litteral countries. Their life have been intermingled biologically, culturally and commercially.

Now coming back to the point of pollution of water of the oceans, I want to clarify that this is not the instantaneous effect of a year or two but it is the cumulative effect of many thousand years. But the lethal effect of the pollution had been accelerated during the current century.

The Chinese Scientist H. Y. Yan (1974) identified five categories of pollutants, i. e., (i) Industrial waste such as Sulphur-dioxide, Hydrogen-flouride, heavy metals, Cyanide wastes from electro-plating and many other types of wastes depending on types of Industries ; (2) Oil and Petroleum hydrocarbons ; (3) Toxic materials of Pesticides and food additives ; (4) Toxic products naturally aged or transformed

materials like rubber and plastics ; (5) Bacterial and Viral organisms in domestic sewage (Last two items have not been touched here).

Some of these above items though do not pollute the sea-water directly, they contaminate the sea in the long run as the sea-bed is considered to be the lowest level on the earth surface. Let us individually analyse the *modus operandi* of the pollution by the item described above and their effect on environment,

Oil

Oil is considered to be the measure source of pollution of the oceanic water. It has been estimated that approximately two million tons of oil is dumped annually into the oceans. This huge amount comes by the breakage and spillage of oil wells underneath the oceanic water, occasional wreckage of giant oil tankers during transportation from OPEC to different consumer countries. It is pertinent to point out here that India's situation is most vulnerable for the bad effect of this pollution by these sources as she lies on the main route of transportation of oil from Persian gulf to the countries situated in South-East Asia including Japan. As already pointed, oceanic bed being the lowest level of the earth, any oil put on the earth's surface comes to lie there in course of time.

The effect of oil pollution to the water is hazardous in hundred and one ways. On scientific analysis it was discovered that there are 265 different chemical combinations to form oil. Though a few of these combinations are not harmful, most of them do harm on various degrees to the oceanic flora and fauna. On scientific study it was found that the oil mixed with water helps to grow a toxic substance which is lethal to all sorts of oceanic life.

On furthur investigations the toxic substance was found to be "excited Oxygen".

The oil forms a slick over the surface of the water which is its typical physical property. It has been estimated that a ton of oil can cover twelve square kilometres. The oceanographers state that now twenty per cent of the visible water surface of the world oceans remain constantly under the cover of oil slick. In course of time this oil solidifies and forms globes which gradually sink and ultimately lie on the oceanic bed. Some of these globes have been found to be in size of a football. There is a large vegitation on the oceanic bed. This vegetation serves as the source of food for the fish population of seas. These globes effect adversely to the vegitative life, causing famine for the fish. This might be the cause of low-rate of catch in the fishing industries of the world in the present decade.

The oilslick hampers evaporation of water and this deprives the atmosphere to collect its quota of water vapour. That affects the rainfall. It also retards the exchange of gaseous materials between the water and atmosphere. Sipping of water mixed with oil by the fish has proved to be harmful. It causes fish to be timid, slow growth and deformity of body. The oil slick also prevents inhalation of air needed for the fish larvaae in want of which they perish in their juvenile stage. This may cause certain species of fish to extinguish from the oceans. In fact, herring fish has been totally disappeared from the oceans.

Pesticides

Quite a good number and different types of pesticides are now in use world over against various pests and insects. This has also polluted the oceans. D. D. T., amongst the other pesticides has taken the most villian role in this respect. It has been estimated that by 1970 A. D., 20,00,000 tons of D. D. T. has been used in this planet. The readers will not be surprised to know that a very conservative estimation states that one-fourth of this quantity is now lying on the oceanic bed. Like all the other pesticides, this non-biodegradable compound has affected adversely the faunitic life of the ocean. Allowed to continue this rate of pollution, with of course other unavoidable sources of pollution, will lead to conversion of these oceans to be dead ones.

Amongst other sources of pollutions of water, industrial effluents is a measure problem. I am such tempted to depict this

problem by a figurative statement. There are 140,000 factories and mills on the hinterlands of the Mediterranean sea to which industrial wastes one dumped. These industrial effluents contain sulphur dioxide, hydrogen flouride, heavy metals and many other toxic substances. These toxic substances flow in the form of solids, liquid or gasses. Further, Radio-active substances poise as the most dangerous to the oceanic life in the recent past. These substances come from testing of different deadly atomic weapons in the oceans and waste from different reactors.

Atmosphere

The cardinal composition of the atmospheric air was estimated as follows:—

1. Nitrogen	77·16%
2. Oxygen	20·60%
3. Water vapour	1·40%
4. Argon, Helium, Neon, Xenon, etc.	0·80%
5. Carbon dioxide	0·04%

Besides the above substances traces of sulphurdioxide ammonia, ozone and nitric acid are also found. In the year 1783, a scientist named Cavendish proved that in the atmospheric air, this candinal composition was almost constant uniformly throughout. But a recent analysis showed that the proportion of Nitrogen and carbondioxide in the air, collected from different places, varied. A little change in the composition effect the life seriously. The sources of pollution are as follows:—

Automobiles

Pollution of the atmosphere by automobiles has become the greatest hazard. From a statistics it is understood that the number of automobiles has reached the mark of three hundred million. The statisticians further estimate that this number will be doubled by the year 2000 A. D. In developed countries, the pollution of a atmosphere by automobiles only accounts for sixty per cent. An average car produces 800 Kilogrammes of carbon monoxide, approximately 40 kilogrammes of nitric oxide and more than 200 kilogrammes of various hydrocarbons in its time. life Lack of sufficient oil resources of this country, has however compelled our authorities to control the production of automobiles. But this position is likely to change in near future as the ONGC is toiling hard to make this country self-sufficient by 1985 so far as crude oil requirement is concerned, in collaboration with foreign assistance. If the estimated need of 38 million tonnes of oil is achieved as committed by the Commission, the authorities will be encouraged to be liberal in putting this control over the production units of these automobiles in this country to. All these vehicles when commissioned too traffic will poise a difficult task to tackle the problem of pollution which thitherto did not poise as a problem.

Industries

A serious statistics will be sufficient to show the hazards of health due to atmospheric pollution through different industries and to some up my point. In the United States alone about 30,000 people are affected by the toxic gasses released by the coaltar chemical industries, 600,000 by textile dusts, 835,000 by Lead, 1,600,000 by asbestos dust and more than 600,000 Americans with mercury containing substances. This figure is sufficient to concern my learned readers, I suppose.

Cooking

Rapid urbanisation compelled people to change the traditional method of cooking. Under the prevailing circumstances, coal became an universally accepted commodity for fuel. The bi-products of burning the coal became an additional burden to the atmosphere.

Besides the above categories of sources, there are number of other sources of pollution. But testing of atomic weapons on the surface of the earth needs special attention of the world authorities.

Soil

Ever-increasing population is putting pressure on the land. This has in turn compelled people to deforest the land indiscriminately giving way for many complex and diversified problems in this planet. It

is needless to stress on the contribution of the forest in maintaining a healthy ecological balance of this planet in more than hundred ways. But one thing needs to be emphasized that as a result of massive deforestation the oxygen-carbondioxide balance is impaired.

Soil erosion is taking place in this planet very fast. Here again a startling figure will substantiate my statement and spell bound the readers. The area of Sahara desert is extending at the rate of 100,000 hectares a year. It seems the desert is running to engulf everything existing on this globe.

Measures against pollution

This part of writing is most difficult and delicate on the part of this writer. Difficult because lack of thorough knowledge, experimental work conducted in this country and data thereof to back, feasibility and so on and so forth. Delicate because this may drift me to the depth of politics to which I am not to touch. However, basing on the facts and figures of other countries, some suggestions are made which are supposed to be feasible in this country.

A book *The Global Predicament, Ecological Perspective world Order*—Published by the North Carolina Press (1979) is a good reference book in this aspect. But one suggestion appears as a mystery that economic assistance to the underdeveloped and poor countries will help them economically and would protect the pollution of the environment of the donating country. However, for prevention of pollution to the environment, there is urgent need to invite attention of the parliamentarians at the National level for certain laws to be enforced in consultation with environmental scientists. But the problem being global in nature, naturally it needs the combined effort of authorities at International level. Many countries have adopted rules and regulations against such pollution. Article 18 of the Constitution of the U. S. S. R. is a good example before us which is quoted here. "In the interest of the present and future generation, the necessary steps are taken in the U. S. S. R. to protect and make scientific, rational use of the land and its mineral and water resources and plant and animal kingdoms to preserve the purity of air, water to ensure reproduction of natural wealth and improve the human environment". This has also reflected in the enforcement of the laws in that country. In the month of June, 1981, U. S. S. R. passed two Acts in the light of the above article.

(1) Atmospheric Air Protection Act

(2) Preservation and use of the Animal World.

In China, a National Conference on environmental protection was called by Chairman Mao himself which was held in Beijing in the year 1973. The resolution of the conference was published as State Council Directive resulting in the establishment of Environmental Protection office at National level in the year 1974. This modest beginning did tremendous job later censuring 167 industrial enterprises of the country.

Developed countries use air purification units which is not feasible in our country. Treatment and recycling of industrial waste and effluents may be looked into as a measure against pollution to the environment while setting up new industry either in public sector or private sector. The private sector units may be subsidised for this extra investment. This suggestion sounds simple but needs sophisticated technique and technological know-how. But is feasible and may be tried in some public sector units.

Massive programme of afforestation is definitely feasible in this country. Afforestation helps in purifying the atmosphere in many ways which is known to readers long long ago. But recent studies by the Pollution Research Laboratory of the College of Agriculture, University of Calcutta showed that plants are good filter of dusts. These scientists have also found out the individual capacity of different species of plant to filter dusts by controlled experiments. Urban areas should be decorated thickly with plants having good capacity to filter dusts. Similarly Scientists in China have found that a blue-green alga *Phomidium ambbiguum* can remove ammonia nitrogen from acrylonitrile waste water normally found in the effluent of synthetic fibre plants and this product is used as a fertiliser.

At present world-wide research is going on to find out an alternative fuel for the automobiles which will pollute the atmosphere the least. R. Stiriling, a British scientist discovered an internal combustion engine which is clean, runs noiselessly and can operate on any fuel including nuclear. But it has certain shortcomings for which it could not be commercialised. Similarly the electric car could not be used commercially. But scientists in USSR have made good progress in using mixture of hydrogen and ordinary fuel now used. This process reduces the consumption of fuel by about 40 per cent thereby reducing the pollution of atmosphere to that extent. This aspect need consideration in our country too. But for the prevention of pollution of environment it needs the combined and whole-hearted co-operation of all the nations of the world in view of its urgency and benefit to the ecology of the planet, at large. The last but not the least personal request to my readers that now it is high time to divert the attenrion towards this urgent item of the ecology so as not to allow this planet to perish.

Range Investigation Officer,
Clinical Investigation Laboratory,
Berhampur

—×—

M. C. H. DRIVE IN BHUBANESWAR

At the initiative of Maternity and Child Health wing of the Directorate of Family Welfare, Orissa, an intensive immunisation drive is being conducted at the State Capital from December 15, 1981, to protect children of 0-6 age-group against Diptheria, Whooping Cough, Titanus and Polio Myelitis. The drive, started in Bhubaneswar Municipality area with a target to cover all the children of the specified age-group who have not so far been immunised under regular immunisation programme. According to a rough estimate there are about 28,000 children who need such services. This programme has evoked good response from basti dwellers and sophisticated families as well.

The objective of such an immunisation programme is two fold. Firstly it would help clear the possible backlog in protecting all children and secondly it would generate a sense of confidence amongst the eligible couples to shelter under Family Welfare Programme to limit their family size and thus improve the quality of life.

The Family Welfare Directorate is considering a similar time-bound programme for expanding such intensive immunisation drive in the State in a phased manner.

Artificial Rainmaking : Prospects and Limitations

A breakthrough has been achieved in understanding the processes of rain-formation in monsoon clouds through extensive aircraft observations. The Indian Institute of Tropical Meteorology, Pune, has conducted extensive research in this field and cloud seeding experiment using common salt has been in progress since 1973 in Sirur and Baramati regions in Maharashtra. This is the only known on-going scientific experiment of its kind in the world.

As a result of salt seeding experiments conducted by the Institute, positive increase in rainfall has been observed. The technique involves seeding of clouds with massive dose of salt which results in swift growth of the clouds, leading to heavy rains. The release of large quantities of salt into clould helps to increase its buoyancy as latent heat is released due to condensation of water vapour on the salt particles. This results in large influx of moisture into the cloud and helps its explosive growth.

Application of this technique in increasing rainfall, according to the scientists, is yielding promising results. The scientists, however, say that conclusive results on the quantum of rainfall in relation to cloud seeding could be obtained only after conducting the experiment for some more seasons. They also feel that more studies are to be conducted for a complete physical understanding of the processes of weather modification before the technology becomes operational.

—×—

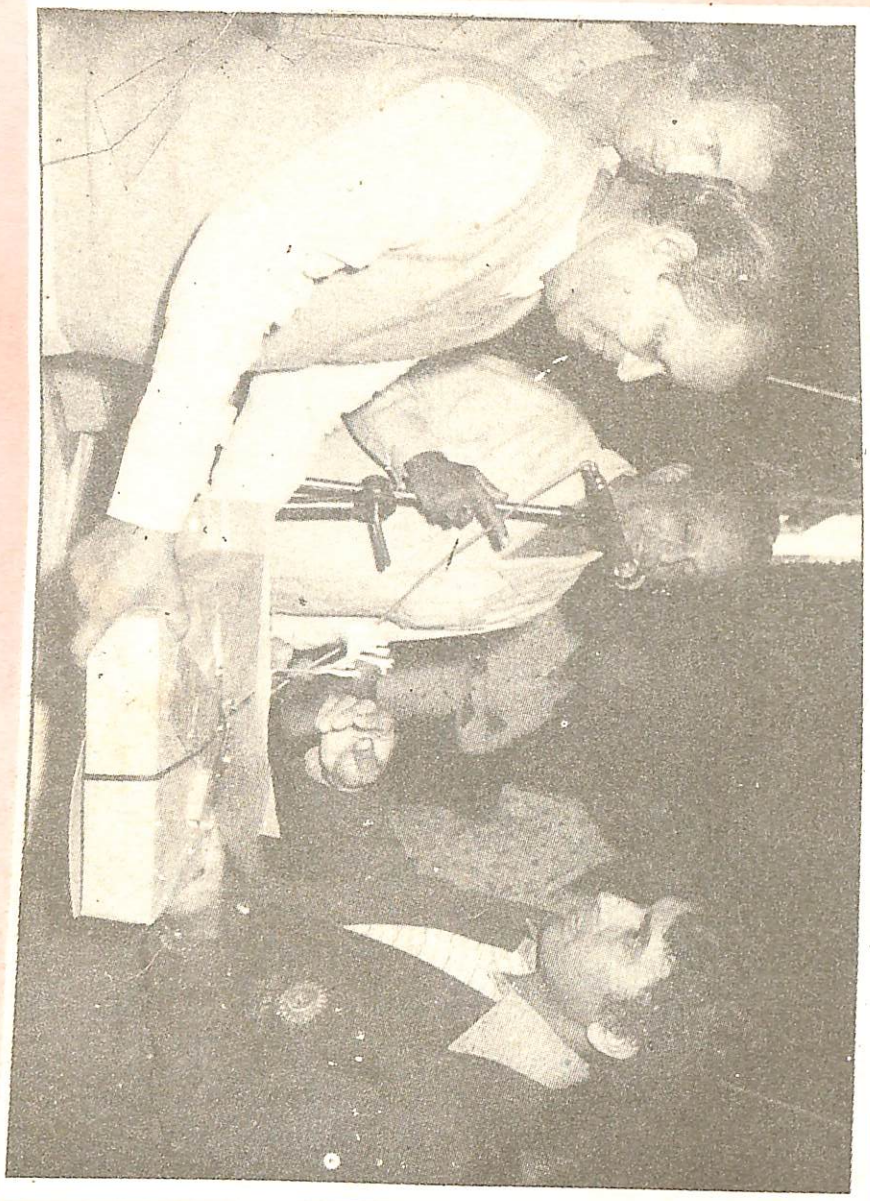
(From Page 24)

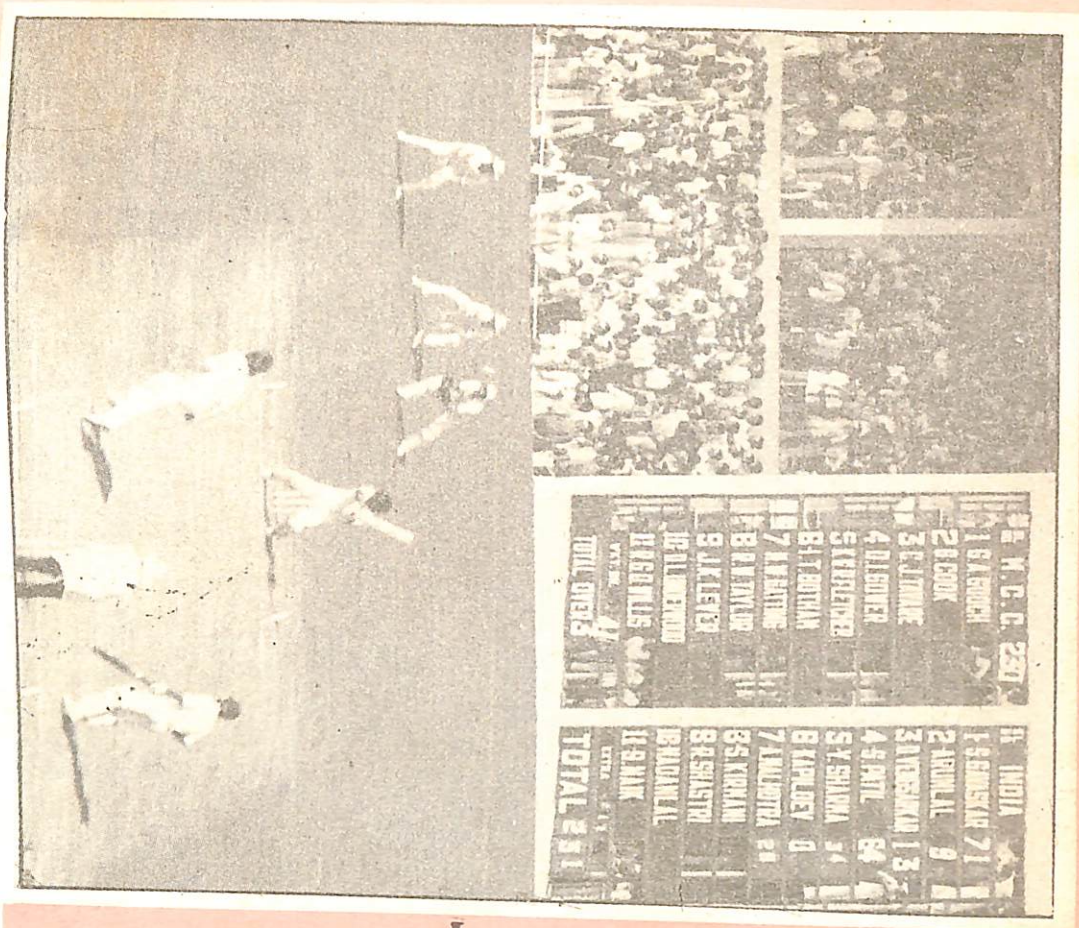
disease is more pronounced in the rural areas due to lack of adequate health and hygiene standards where sewage, contamination of food and drink is more likely due to reckless disposal of stool, etc. It is thus of equal importance to educate people on the advantages of improved hygiene and sanitation which will not only protect them from 'polio' but all other infectious diseases. An integrated rural health and sanitation programme will certainly keep such infections miles away.

Lecturer,
M. S. J. College, Bharatpur—321001

—+—

Shri J. B. Patnaik, Chief Minister of Orissa, presenting memento to Shri Sunil Gavaskar, Captain of the Indian Cricket Team at State Guest House on the January 27, 1982.





One-day International Cricket Match between India and England was held at Barabati Stadium, Cuttack on January 27, 1982.

Martyr's Day being celebrated at Bhubaneswar on the 30th January 1982.

Photo shows: Governor Shri C. M. Poonacha, Ministers and other public leaders paying homage to the Father of the Nation at Assembly premises.

Shri C. M. Poonacha, the Governor of Orissa, addressing the meeting at Cuttack on the occasion of the Netaji Birth Anniversary on the 23rd January 1982. Shri J. B. Patnaik, Chief Minister of Orissa, also attended the function.

The students of the Refresher's Course in Oriya Journalism conducted by the Indian Institute of Mass Communication, New Delhi, meeting the Governor Shri C. M. Poonacha at Raj Bhawan, Bhubaneswar on the 22nd January 1982.

The E. R. R. P. Programme in Orissa

The E. R. R. P. programme has been under operation from around the fourth quarter of 1980-81. Funds for 1980-81 could be provided only after approval of the Legislature was obtained in the Second Supplementary Demands sometime in February, 1981.

A large number of senior officers of C.D. & R. R. Department and A. & C. Department toured different districts to do detailed review by holding meetings at different District Headquarters attended by B. D. Os. and other field officers. Chief Secretary, Addl. Chief Secretary, Commissioner, Agriculture & Rural Development and the three Revenue Divisional Commissioners have also done detailed review of the E.R.R.P. programme in various districts both by field visits and by holding discussions at district headquarters. As a result of these detailed field checks, it is possible to present an overall picture of the programme which has been implemented from out of the funds provided by about the 4th quarter of 1980-81. The salient features are indicated below:

In 1980-81 though the State Government fixed a target of about 28,300 families, Collectors depending upon the progress of identification of beneficiaries and availability of assets, had fixed an operational target for 32,996 families. Sanctions were issued for about Rs. 4·8 crores. By the middle of 1981-82 38,380 families have been covered and an expenditure of about Rs. 3·25 crores has been incurred.

For 1981-82 the target beneficiaries under different schemes for different districts and amount sanctioned are indicated in table 'B'.

Against the target of 32,996 families of 1980-81 in 1981-82 the target will be more than double, i. e., 69,988 families. Funds provided is also almost double than the provision of last year.

Besides these figures, field visits also reveal that the land-based programme has done well in Sundargarh, Sambalpur, Dhenkanal, Puri, Mayurbhanj, Phulbani, Koraput and Kalahandi Districts. The patches of land which have been developed are not only benefiting the poorest families but also are serving as nodal points of modern agronomic practices. In districts like Cuttack, Balasore, Ganjam, etc., where not much land is available, substantial progress has been achieved in animal husbandry and village industries and artisan schemes. Under Dairy Scheme an income ranging from Rs. 1,500 to 2,000 per family per year has been reported. Provision of cycle-rickshaw has resulted in substantial income to the beneficiaries ranging from Rs. 2,500 to Rs. 4,000 per year. In some areas bullocks and bullock carts have become very popular giving an income of about Rs. 2,500 per year. Goatery schemes are no doubt very popular. The income per family is Rs. 1,000 per year. Hence in 1981-82 the size of the goatery unit which had 5 goats in 1980-81 has been doubled in 1981-82 consisting of 10 goats. Large areas of Departmental Cashew Plantations have been transferred to the E.R.R.P. beneficiaries so that the beneficiaries can take more active interest in maintaining and developing these plantations.

The programme covering approximately 40,000 families achieved in a short period of

about 12 months is bound to have difficulties. In some places good animals are not available in adequate number. In fact when the implementation started there were complaints about the quality of animals and inadequacy of good animals. So in August 1981 the Director, Animal Husbandry issued instructions to all the field officers to take special care to procure good quality animals. The well prescribed procedure adopted for the I. R. D. schemes implemented on All-India basis, is being adopted for E. R. R. P. scheme also. Under this procedure a Purchase Committee consisting of a representative of the administrative agency (Blocks), a representative of the Animal Husbandry and Veterinary Services Department, the actual beneficiary and a representative of the financing Institution has been made responsible for purchase of the cows. All animals under this programme as well as the I. R. D. programme are insured. Special instructions have been issued for medical check up of the animals at periodic intervals.

This has restricted the scope of the programme. In some places adequate funds were not available with animal Husbandry Department for purchase of medicines to ensure health coverage for the animals. Orders have been issued that ERRP scheme funds will provide medicines. As already stated the size of the goatery units have been doubled to ensure a more substantial income. Statutory provision has been implemented in ensuring transfer of dafayati rights over Government plantations. For the Blocks one more V. L. W. and one Progress Assistant have been made available, besides additional funds for P. O. L. charges of vehicles. Sanction flexibility has been ensured authorising the Collectors to transfer funds from one scheme to another depending on local response. Encouraged by local enthusiasm a new scheme of providing buffaloes has been started.

An important aspect of the programme is the selection of 10 poorest families in each village not by Government servants but by a Committee of the villagers themselves. A poor family has been defined as one who has no income earning asset and the annual income does not exceed Rs. 1,200 per family. Collectors have also been requested to find out from out of the 10 families selected by each village, families of bonded labourers and give priority attention for their rehabilitation. Thus in a sense the selection of bonded labourers in each village is backed by the opinion of all the villagers as well as official scrutiny of the status of bonded labourers. The Planning Commission sent a few officers from the Indian Institute of Public Administration for independent evaluation of our attempts to identify bonded labourers and rehabilitate them under the ERRP Programme. They have submitted a report indicating that the principle of identification and methodology adopted for rehabilitation is one of the best in the country. This report has been submitted to the Planning Commission by the experts of the Indian Institute of Public Administration.

Thus, this massive programme has caught the imagination of the people. The Administrative structure is also able to correct itself by a quick feed back of the field problems.

—X—

1980-81 ERRP SCHEME

TABLE A

District	Target families	Amount sanctioned (Rs. in lakhs)	Achievement	
			Families covered	Amount spent (Rs. in lakhs)
(1)	(2)	(3)	(4)	(5)
Balasore ..	931	18·61	1,317	17·37
Balangir ..	2,225	34·44	2,527	9·46
Cuttack ..	3,508	51·30	4,633	62·41
Dhenkanal ..	2,699	46·33	5,729	32·59
Ganjam ..	1,694	26·49	1,355	15·00
Kalahandi ..	1,292	21·78	3,459	25·85
Keonjhar ..	1,077	11·81	1,051	10·77
Koraput ..	4,903	43·70	4,992	25·17
Mayurbhanj ..	2,089	20·34	2,557	16·79
Phulbani ..	1,795	33·78	1,053	18·60
Puri ..	4,137	50·99	4,869	37·54
Sambalpur —	5,192	92·32	2,837	28·89
Sundargarh ..	1,594	27·52	2,091	24·98
Total ..	32,996	4,79·42	38,380	3,25·42

about 12 months is bound to have difficulties. In some places good animals are not available in adequate number. In fact when the implementation started there were complaints about the quality of animals and inadequacy of good animals. So in August 1981 the Director, Animal Husbandry issued instructions to all the field officers to take special care to procure good quality animals. The well prescribed procedure adopted for the I. R. D. schemes implemented on All-India basis, is being adopted for E. R. R. P. scheme also. Under this procedure a Purchase Committee consisting of a representative of the administrative agency (Blocks), a representative of the Animal Husbandry and Veterinary Services Department, the actual beneficiary and a representative of the financing Institution has been made responsible for purchase of the cows. All animals under this programme as well as the I. R. D. programme are insured. Special instructions have been issued for medical check up of the animals at periodic intervals.

This has restricted the scope of the programme. In some places adequate funds were not available with animal Husbandry Department for purchase of medicines to ensure health coverage for the animals. Orders have been issued that ERRP scheme funds will provide medicines. As already stated the size of the goatery units have been doubled to ensure a more substantial income. Statutory provision has been implemented in ensuring transfer of dafayati rights over Government plantations. For the Blocks one more V. L. W. and one Progress Assistant have been made available, besides additional funds for P. O. L. charges of vehicles. Sanction flexibility has been ensured authorising the Collectors to transfer funds from one scheme to another depending on local response. Encouraged by local enthusiasm a new scheme of providing buffaloes has been started.

An important aspect of the programme is the selection of 10 poorest families in each village not by Government servants but by a Committee of the villagers themselves. A poor family has been defined as one who has no income earning asset and the annual income does not exceed Rs. 1,200 per family. Collectors have also been requested to find out from out of the 10 families selected by each village, families of bonded labourers and give priority attention for their rehabilitation. Thus in a sense the selection of bonded labourers in each village is backed by the opinion of all the villagers as well as official scrutiny of the status of bonded labourers. The Planning Commission sent a few officers from the Indian Institute of Public Administration for independent evaluation of our attempts to identify bonded labourers and rehabilitate them under the ERRP Programme. They have submitted a report indicating that the principle of identification and methodology adopted for rehabilitation is one of the best in the country. This report has been submitted to the Planning Commission by the experts of the Indian Institute of Public Administration.

Thus, this massive programme has caught the imagination of the people. The Administrative structure is also able to correct itself by a quick feed back of the field problems.

—X—

1980-81 ERRP SCHEME

TABLE A

District	Target families	Amount sanctioned (Rs. in lakhs)	Achievement	
			Families covered	Amount spent (Rs. in lakhs)
(1)	(2)	(3)	(4)	(5)
Balasore ..	931	18·61	1,317	17·37
Balangir ..	2,225	34·44	2,527	9·46
Cuttack ..	3,508	51·30	4,633	62·41
Dhenkanal ..	2,699	46·33	5,729	32·59
Ganjam ..	1,694	26·49	1,355	15·00
Kalahandi ..	1,292	21·78	3,459	25·85
Keonjhar ..	1,077	11·81	1,051	10·77
Koraput ..	4,903	43·70	4,992	25·17
Mayurbhanj ..	2,089	20·34	2,557	16·79
Phulbani ..	1,795	33·78	1,053	18·60
Puri ..	4,137	50·99	4,869	37·54
Sambalpur —	5,192	92·32	2,837	28·89
Sundargarh ..	1,594	27·52	2,091	24·98
Total ..	32,996	4,79·42	38,380	3,25·42

TABLE B

Districts	Target beneficiaries					Amount sanctioned (Rs. in lakhs)
	Land based	Animal Husbandry	Fishery	N. A. K.	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Balasore ..	40	2,022	620	637	3,319	35·88
Balangir ..	1,226	2,247	127	1,250	4,850	47·77
Cuttack ..	2,557	4,282	1,140	3,170	11,149	114·91
Dhenkanal ..	716	1,917	224	798	3,655	34·75
Ganjam ..	597	4,798	381	627	6,403	66·26
Kalahandi ..	81	2,768	71	92	3,012	28·12
Keonjhar ..	584	1,094	17	379	2,074	37·81
Koraput ..	3,817	3,752	290	1,807	9,666	178·14
Mayurbhanj ..	312	4,095	81	913	5,401	79·60
Phulbani ..	740	1,680	20	310	2,750	44·30
Puri ..	783	3,000	240	2,500	6,523	66·36
Sambalpur ..	1,432	3,834	488	1,592	7,346	83·06
Sundargarh ..	608	1,165	46	1,121	2,940	56·61
Total ..	13,493	36,654	3,745	15,196	60,088	8,73·57

—X—

FROM THE EDITOR

The February issue of Orissa Review greets the advent of spring in Orissa. Spring has set its royal feet on this beautiful land of ours and nature has taken a memorable turn.

On January, 14 our beloved Prime Minister has announced a Twenty-Point Programme for the country. This programme has bean framed with the present conditions in mind. Rapid development of the economy is a necessity superceding all other commitments. The imaginative programme sets a goal and challange to every Indian. This can rightly be called as the New Year's gift to the Nation from the Prime Minister.

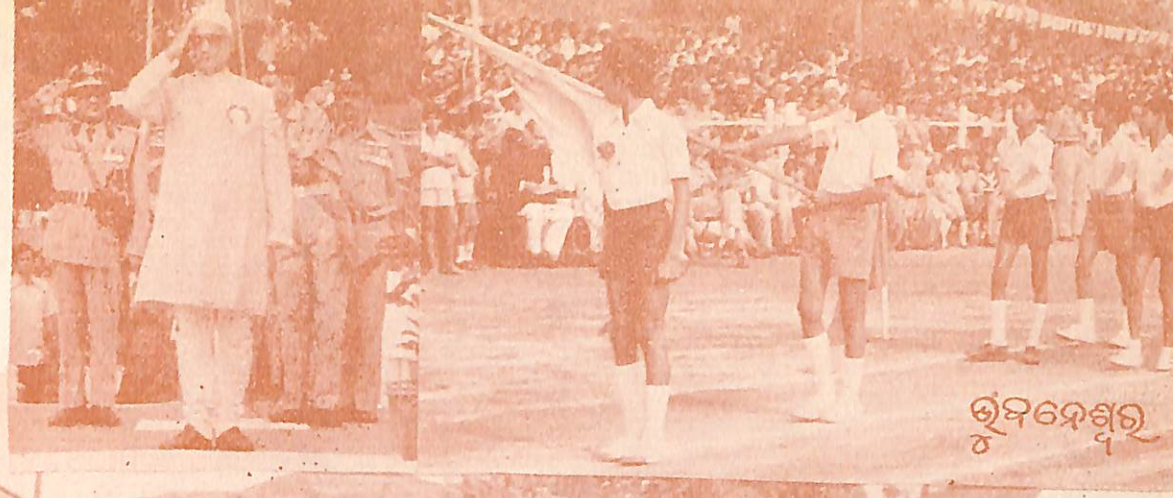
The Prime Minister has given a new call to the Nation—"Shrama Eva Jayate", labour only prevails. The fulfilment of the Twenty-Point Programme calls for dedicated labour by every individual in his field of activity.

1982 has been declared by Smt. Indira Gandhi as the "Year of Productivity". We have to produce, lest we may perish.

"Productivity in Agriculture", an article on productivity is published in this issue for the benefit of our readers.

Satyananda Champatiroy

OGP—MP-XIIII & P. R) 101—2,000—23-3-1982



ଭୁବନେଶ୍ୱର

କୋରାପୁଟ

ଓଡ଼ିଶାରେ ଜନରାଜ୍ୟ ଦିବସ ପାଳନ

ରାଉରକେଲା

ଭବାନୀପାଟଣା

Vol. XXXVIII No.7 ORISSA REVIEW Regd. No. O-1
License No C. R. N. P. 5—Licensed to Post without Pre-Payment

ସ୍ୱାଗତ ଆଜେ ସୂର୍ଯ୍ୟଦେବ,
ସ୍ୱାଗତ ଆଜେ ମରୀଚିମାଳୀ ।
ଅନ୍ଧକାର ଦୂରାଅ ତୁମେ
ଦୀପ୍ତ ତୁମ ମୟୂଖ ଜାଳି ।
ଧରିତ୍ରୀର ଚିତ୍ତଜର,
ପୁଣ୍ୟ କୋଳେ ଉଜ୍ଜଳର
କୋଣାର୍କର ଭୂଷଣ,
ତମସା ନେଇ ଆଲୋକ ଦିଅ
ପୂଷଣ ଆଜେ ପୂଷଣ ।

—ଗଡ଼ନାୟକ