



Economics of Vocational Education in Odisha

Bindu Madhab Panda

Sustainable economic development through employment generation is the basic goal of the Planning Authority. Despite vast manpower, available capital and technology, economic development is not up to the satisfactory level in India. The drawback in approach is not only financial and technical but also human. So, in the preceding plan periods, “human development” has been the core of all efforts through training or work based education in India. Economic development depends on effective management of the vast manpower. Skilled manpower is an essential prerequisite for quality and efficient production, adoption and use of new technology and to supervise the trained workers. So, productive and self-employment generating education should be given priority through the vocational education (VE). The efforts of universalisation and industrialization bring VE into a sharper focus for educational content and process.

Alarming growth in population, in the recent years in India, lead to massive unemployment among school and college leavers. Planners have attempted to interface education with the world of work assuming that skill-orientation education will ameliorate the growing unemployed youth and produce manpower for industrial development. In the modern world of

industry and business, the incoming generations tend to nurture ambition and aspiration to set up the ladder of job hierarchy. This rightful desire for upward mobility is to be strengthened when opportunities are offered to the workers, within their organization or out side, for the training or further training which prepares them for the new job responsibilities. The fundamental principles of vocational education is that every learner should be given satisfactory education or training he wants at a particular time, that can bear all the responsibilities under the rapid changing socio-economic needs and order.

Meaning of Vocational Education

Generally, the terms VE, occupational education, technical education, career education, job-oriented education, industrial arts education and the education for the world of work are used interchangeably except where special mention is made for a particular type of education in a particular situation or environment. According to United Nations Educational, Scientific and Cultural Organization (UNESCO), technical and vocational education is a comprehensive term embracing those aspects of educational process involving, in addition to general education, the study of technology and related sciences and acquisition of practical skills, attitudes,



understandings and knowledge relating to occupations in various sectors of economic and social life. Such an education would be an integral part of general education and a means of preparing for an occupational field and an aspect of continuing education, and should contribute to economic development.

Emphasizing the all-round development of the personality, Mahatma Gandhi states, “for the all-round development of boys and girls, all training should, so far as possible, be given through profit yielding vocation”. In other words, vocations should serve a double purpose- to enable the pupil to pay for his labour and at the same time, to develop the whole man or woman in him or her, through the vocation learned at school. True education is that which draws out and stimulates the spiritual, intellectual and physical faculties of the children. This education ought to be a kind of insurance for them against unemployment. So, Mahatma Gandhi wanted education to be socio-economic needs of the society.

Education, in its liberal sense, is a humanizing process. Training, in its utilitarian sense, is a career building process. Education is a face-to-face instructional activity mostly carried out within the limits of an educational institution. On the other hand, training constitutes an out-of-the-class activity mostly carried out in work places.

Importance of Vocational Education

The developing and overcrowded nations like India has a dire need for providing vocational education to conserve and develop the resources of the nation, to promote more productive and prosperous agriculture and industry, to prevent the wastage of home labour, to supplement apprenticeship, to meet the increasing demand for

trained workmen and to offset the increased cost of living. So vocationalisation of education is widely needed as a wise business investment for the nation.

It is a great instrument in developing career and education together by motivating students. It is the education that provides alternative learning strategies and learning environments, which are needed to address the needs of the students. It also provides adoptability (academic skills, work values and work habits) that are needed in a rapidly changing occupational society. Overall, vocationalisation of education at higher secondary stages targets to remove unemployment and destitution, and foster rural development and literacy.

Vocationalisation of education has emerged as a broader concept of education after the implementation of National Policy on Education, 1986 with the main targets of improving qualifications and competencies, inter-alia, suitable job opportunities for the students in proper higher vocational institutions. Hence, after independence, a comprehensive programme for the development of technical and vocational education institutions was launched. The necessity was to build a strong linkage among education, development agencies and enterprises concerned with the development such as, industries, commerce, agriculture, health etc.

According to the National Policy on Education (1986), vocationalisation through specialized institutions or through the refashioning of secondary education can at this stage provide valuable manpower for economic growth. The introduction of systematic, well planned and rigorous implemented programmes of VE is crucial in the proposed educational organization. These programmes are meant to enhance



individual employability, to reduce the miss-match between the demand and supply of skilled manpower and to provide an alternative for those pursuing higher education without particular interest or purpose.

Employment Status of Vocational Pass-outs in Odisha

As per 66th Round National Sample Survey (2009-10), of 1000 persons (age group of 15-29), the labour force participation and worker population in rural Odisha were higher than that of urban Odisha as per usual status (PS+SS) and accordingly more unemployment rate was shown in urban areas. Every four per cent (or 39 out of 1000 persons) in the labour force do not get even a day's employment in a year. About 61 per cent (or 608 persons out of 1000) were found in participating in the labour force, while about 59 per cent (587 out of 1000) were worker population. The survey also indicates that, of 1000 employed persons, the percentage of self-employed persons (51% or 510 of 1000 persons) were higher than the casual labourers (33.5%) and regular wages/salaried persons (17%) in rural Odisha. In urban Odisha, casual labourers were least compared to regular wages/salaried and self-employed persons. Self-employed persons both in rural and urban area were higher than casual labourers and regular wages/salaried persons. The survey also indicates that per day average salary of regular wages/salaried persons in both rural and urban Odisha was more than three times more than that of the casual workers; and per-day income of regular wage/salaried persons and casual labourers in urban Odisha was higher than that of rural Odisha.

In a special focus to Cuttack, Mayurbhanj and Ganjam Districts, it was witnessed that the work participation, employment

and income of the educated mass has been under concern in Cuttack, Mayurbhanj and Ganjam Districts. In these districts, among the pass-outs 39 per cent (387 out of 1000) were found self employed, 35 per cent (350 out of 1000) were casual labourers and about eight per cent (80 out of 1000) were salaried; overall employed pass-outs was about 82 per cent (817 out of 1000) or 18 per cent were without work. Average annual income of an employee was Rs.10,000-13,000 and most of the workers were in industry sector. Employed pass-outs are found from trades like medical & laboratory technician (MLT), Repair & Maintenance of Radio and T.V. Receivers (RTV), Computer Application, Accountancy & Auditing and Repair & Maintenance of Electrical Domestic Appliance (EDA). Trades demanded in the Districts of Cuttack, Mayurbhanj and Ganjam are as below:

Basic Electronics (Repair & Maintenance of Power supply, inverters and UPS; Installation & Maintenance of DTH System; Digital Videography Editing and Mixing; Repair & Maintenance of washing machine and microwave oven; Repair & Maintenance of TV Receiver; Maintenance & Repair of Electronic Test Equipment; Repair & Maintenance of Cellular Phone; Repair & Maintenance of Intercom System; Installation & Maintenance of Electronic Equipments in Cell Phone towers; Repair & Maintenance PA & Audio Systems; Repair & Maintenance Photocopier and Fax Machine; Operation of clinical Equipment; Operation of ECG & ICCU Instruments; Maintenance of ECG & ICCU Equipment; Operation of X-Ray Machine & Dark room Assistance; Maintenance of X-Ray Machine; Operation of Physio Therapy Equipment; Maintenance of Physio Therapy Equipment; Basic Refrigeration & Air Conditioning; Repair & Maintenance of Refrigeration Unit; Repair & maintenance of



Domestic Air Conditioner; Repair & maintenance of Air Condition Plant; Repair & maintenance of MAC Unit (Car); Basic Automotive Servicing (4 Wheelers); Basic Automotive Servicing (2-3 wheelers); R&O of 2 wheelers(moped); R&O of 2 wheelers (scooter); R&O of 2 wheelers (motor cycle); R&O of 3 wheelers; R&O of engine systems (petrol/diesel); R&O of Chassis system (Light Vehicle); R&O of Chassis system (Heavy Vehicle); R&O of Auto electrical & Electronic system; Basic Electrical Training; Repair of Home Appliance; House Wiring; Electronic Choke & CFL Assembling; Transformer Winding; Armature Winding; Rewinding of AC/DC Motors; Repair of Electrical Power Tools; and Maintenance of Batteries.

Support of Agriculture and Industry to Vocational Education in Odisha

Formerly, Odisha was a part of Bengal Presidency and had attained Statehood in 1936; however, the constituent ex-princely States were merged in 1948 to constitute the whole State. The geographical area of the State is 1,55,707 sq. kms having 9th rank with respect to total area of India. As per 2011 population Census, population density in Odisha is 269/sq.km, comprising rural population of 34,951,234 (83.32%) and urban population of 6,996,124 (16.68%) leading to total population of Odisha stood at 41,947,358 (about 3.47% of India's population ranking 11th) with decadal population growth rate of 13.97%.

The State witnesses a pattern of economic growth characterised by increasing marginalised poor and unemployment, degradation of environment, low per capita income, low capital formation, inadequate exploitation of abundant natural resources, inadequate development of infrastructure, lack of technology and a well organised marketing

system. Unemployment increases the incidence of poverty creating a path of economic instability. The benefits of economic growth have not reached the bottom level of the society to the desired extent which needs strategic State intervention for increasing employment and reducing poverty. While the poverty ratio for Odisha has come down from 66.18% in 1973-74 to 39.90 in 2004-05, it is still higher than the all-India average of 21.80%¹. The extent of poverty in southern and northern regions is still very high and remains a matter of serious concern.

Agriculture has been the backbone of the State's economy by providing direct and indirect employment to around 61 per cent of the total work force of the State. Agricultural productivity is low in Odisha due to unskilled manpower, traditional agricultural practices, inadequate capital formation and low investment, inadequate irrigation facilities, uneconomic size of holdings and lack of a proper marketing network. A very large proportion of population still continues to depend on agriculture and allied sector for their sustenance. The farm productivity has also remained low as compared to several States. However, this scenario has been changing in recent years by becoming more industry and service orientation. The share of agriculture has come down to 25.46% in 10th Plan and to 19.02% of the State GSDP during the first three years of 11th Plan. The share of industry sector has increased from 17.52% during 8th Plan to 27.97% during the first three years of the 11th Plan. The share of the service sector has increased from the level of 44.87% in the 8th Plan to 53.01% during the first three years of the 11th Plan. However, Odisha's economy is still more agricultural oriented than that of India.

The industry and service sectors have become increasingly more important for the State



economy for steering the growth rate of the economy in recent years. The growth rate of the industry sector rose from 3.15% during 8th Plan to 18.70% in 10th Plan and has since sustained at a level of around 12.56% during the first three years of 11th Plan. The growth rate of the services sector has increased from 4.59% in the 8th Plan to 9.98% during the first three years of the 11th Plan. The agriculture sector has, however, lagged behind. This sector registered a negative growth rate during the 8th Plan and hovered around 3.5% during the 9th and 10th Plan. However, during the first three years of the 11th Plan, the sector has averaged 4.80% per annum.

There were 1,06,840 Micro, Small & Medium Enterprises (MSME) in the State by the end of 2009-10, with an investment of Rs.3,640.93 crore and providing employment to 6,24,400 persons. Besides, 14,539 cottage industries were set up with an investment of Rs.37.55 crore providing employment to 28,305 persons during 2009-10. By the end of 2009-10, 1,063 coir industries were operating in the State with production of 14,228 MT of coir products and giving employment to 8,982 persons. During 2009-10, there were 49,095 looms producing 166.65 lakh metre of cloth and giving employment to 98,000 persons. During 2008-09, Khadi & Village Industries provided employment to 8,284 persons.

Keeping in view development of MSME, emphasis has been laid to embark upon the broad based objectives for imparting quality technical education through ITIs, Polytechnics and Degree Engineering Colleges on a large scale. During last couple of years the number of technical institutions in almost all levels starting from ITI to degree level has increased in geometric progression. Emphasis for adequate number of seats in different technical institutes is available to make the students more

technically qualified and accrue skill required for their employability and for meeting the growing requirement of technically skilled manpower in the upcoming industrial organizations. Industries have been providing apprenticeship training as well as employment to the ITI/ITC students. There is a facility of 3994 numbers of trade apprentices (I.T.I. Trainees) under 495 numbers of establishments in 14 Apprenticeship zones in the State. Similarly, 2379 numbers of Technician Apprenticeship (Diploma holders) facilities also available in 218 numbers of establishments completely on merit basis.

General, Technical/ Professional Education

Education is broadly divided into three categories: (i) general education (ii) technical and professional education (iii) Vocational Education. General education generally includes school education from the primary to the higher secondary level, normal university education for a degree, whereas technical/professional courses involve the hands-on training in addition to theoretical classes. Engineering, Medicine, Agriculture, Management, Chartered Accountancy, Cost Accountancy, etc. are examples of technical/ professional courses. The education which aims at imparting training in very specific fields through providing significant 'hands-on' experience in acquiring necessary skill, which will make them employable or create for them opportunities of self employment and the degree/ diploma/ certificate awarded by the institute which have recognition by State/ Central Government/ Public Sector or similar employers is included under VE. Education offered by ITIs, Polytechnics, etc. are examples of vocational courses.

Odisha has registered significant increase in numbers of higher educational institutions including engineering, medical and management



colleges. There has been a decline in public expenditure on education sector since 1997-98. The present level of public expenditure on education is around four per cent of Gross State Domestic Product (GSDP) during 11th Five Year Plan. Since 1997-98, budgetary expenditure in Secondary education (22-28%) higher education (11-19%) has been higher compared to technical education (1.0-2.2%) of the State. It is found that while there is a greater need for development of higher and technical education in order to accelerate the pace of economic development, the State has left the development of technical education in Odisha in the hands of private sector.

In respect of technical education, the State has made significant progress. In 2010-11, there are eight government and 93 private engineering colleges with the sanctioned intake capacity of 2223 and 35670 respectively, leading to total intake capacity of 37,660 students. There are also 60 colleges in the State to provide Masters Degree Courses in Computer Application (MCA) with intake capacity of 3,817 students. Also there are 71 colleges, including 10 Government colleges, imparting Master in Business Administration (MBA) courses in the State with an intake capacity of 5,425 students. In the field of Medical Science, the State has three Medical Colleges, one Dental College, one Pharmacy College, three Ayurvedic Colleges, four Homoeopathic Colleges and one Nursing College in the Public Sector. Besides, there are three Medical Colleges, four Dental Colleges, two Ayurvedic Colleges, two Homoeopathic Colleges and thirty two Pharmacy Colleges in the private sector.

There are 13 Government Engineering Schools/Polytechnics with intake capacity of 3376 and 77 Private Polytechnics with intake capacity of 25289 in the State. There are 28

number of Government ITIs with intake capacity of 6402 and total number of admitted students of 4664 and 582 number of Private ITIs with intake capacity of 60849 and total admitted number of students of 47487. Ongoing trades offered in ITI/ITC Colleges in Odisha are “Pump Operator-cum-Mechanic, Stenography (English), Welder (Gas & Electric), Mechanic (Diesel), Electrician & Electronics, Plastic Processing Operator, Foundry Man (Moulder), Plumber, Driver-cum-Mechanic, Health Sanitary Inspector, Desktop Publishing Operator, Dress Making, Cutting & Sewing, Sheet Metal Worker, Data Entry Operator, Computer Operator & Programming Assistant, Carpenter, Bleaching Dyeing & Calico Printing, Fitter, Surveyor, Draughtsman (Mechanical), Hair & Skin Care, Cane Willow & Bamboo, Photographer, Bakery & Confectionary, Preservation of Fruits & Vegetable, Tourist Guide, Secretarial Practice and Mechanic Motor Vehicle”. Government expenditure incurred on Engineering/Polytechnics was Rs.180.28 crore in 2010-11 (up to 31.1.2011) compared to Rs.26.75 crore in 2006-07; and Expenditure on ITIs was Rs.17.49 crore in 2010-11 (up to 31.1.2011) compared to Rs.34.24 crore in 2006-07.

Vocational Education at Higher Secondary Level

Presently, VE at +2 level is being offered only by the Government of Odisha in 231 Government or Non-Government Aided Colleges, named as Government Vocational Junior College (GVJC). For the development of VE, the Directorate of VE has been functioning under the Department of Higher Education. Students of the High School Certificate Examination passouts from a recognized Board or Council are eligible to take admission for duration of two years in the GVJCs under the Council of Higher Secondary Education (CHSE), Odisha.



Trades, classroom, workshop and apprentice facilities offered in GVJCs are comparatively inferior to the ITI institutions. Presently, trades like Computer Application (CA)/ Computer Technique (CT), Medical & Laboratory Technician (MLT), Repair & Maintenance of Electrical Domestic Appliance (EDA), Repair & Maintenance of Radio and T.V. Receivers (RTV)/ Audio Visual Technician (AVT) are offered in most of the colleges. Trades linked to agriculture, Business & Commerce, Home Science and Humanities and Others Area are being offered by less number of institutions. Computer Application (CA)/ Computer Technique (CT) is the most demanding trade (in 106 colleges) followed by Repair & Maintenance of Electrical Domestic Appliance (EDA) (in 53 colleges), Medical & Laboratory Technician (MLT) (in 53 colleges) and Repair & Maintenance of Radio and T.V. Receivers (RTV)/ Audio Visual Technician (AVT) (in 52 colleges).

In a special attention to the districts of Cuttack, Mayurbhanj and Ganjam, it was found in 2011 that each college at Cuttack, Mayurbhanj and Ganjam Districts has 2-3 class rooms without any functional **Laboratory/ Workshop**. Only 2-3 teachers are allotted per college and total 10-13 trades are currently functional, each College has been provided with two trades. The teachers are appointed temporarily with a very low salary (Rs.8000/month). Classroom and laboratory facilities are not satisfactory. However, total pass-out ratio is encouraging compared to the other education. Apprentice facilities provided through nearby industries are not satisfactory. Colleges are facing many problems like shortage of teachers and classroom, inadequate salary to the teachers, lack of workshop and cooperation from industries, lack of market oriented trades etc.

There are 14 Government Vocational Colleges in Cuttack district, 17 Government

Vocational Colleges in Mayurbhanj district and 13 Government Vocational Colleges in Ganjam district in 2011. Of this, MLT, RTV/ AVT, CA/ CT, EDA and Insurance (INS) which are considered beneficial and motivated trades for the students/ pass-outs, are offered by some colleges. Some colleges also offer Dairy Farming, Horticulture etc. agricultural related trades, Office Management (OM) and Crèche and Pre-School Management (CPM) courses which are not preferred by the students. It is observed that there is no significant change in the courses offered between 2003 and 2010. There are many courses which are preferred by the students but not available in the colleges, like Data Entry Operator, Plumber, Welder (Gas & Electric), Carpenter, Tailoring/ Dress- maker, Fitter, Mechanics, Photographer, etc. The number of seats of the demanding trades available in the colleges are limited and very less which have been the primary obstruction for attracting vocational education and scope of employment.

The maximum number of students to be admitted for each section in GVJC in any trade is 24 and the minimum is 12 in case of Computer Application trade and eight in case of all other trades in a GVJC. In case the number of students taking admission in a section in a particular trade is less than eight (or less than 12 in case of CA trade), such section of that trade is not allowed to be opened. Thus to open two sections, at least 36 students should be eligible for admission in case of Computer Application trade and at least 32 students should be eligible for admission in case of any other trade. Teaching is imparted by qualified teachers who are either Part Time Resource Persons (PTRPs) or deployed or contractual Full Time Resource Persons (FTRPs). Enrollment of students have been increasingly reached at 7415 in 2010-11 compared to 1125 in 2003 -04. Though the number of enrollment



has increased but not at all encouraging compared to general and technical education. The pass-out rate is exciting compared to other educations. During the period of apprentice training, a pass-out student receives a stipend of Rs.1090/- per month.

National Sample Survey Organisation's (NSSO) 64th round survey on "Education in India-Participation and Expenditure" indicated that in Odisha about 1,69,800 students were in technical education with an average annual expenditure of Rs. 37,772 per student and about 14,100 were in VE with an average annual expenditure of Rs.6750 per student, while 73,98,200 students were in general education with an average annual expenditure of Rs.1652 [Rs. 6176 for a student above higher secondary] per student, during 2007-08.

Expenditure incurred on VE at higher secondary stage has been marked very poor compared to Technical/ ITI/Higher Secondary education. Expenditure on VE at higher secondary stage has increased to Rs.4.75 crore in 2010-11 as against Rs.1.93 crore in 2003-04. However, expenditure on Higher Secondary Education (HSE) has increased to Rs.88.34 crore in 2010-11 compared to Rs. 13.86 crore in 2003-04. Percentage expenditure of VE in respect of HSE has been decreased to 5.38 per cent in 2010-11 as against 13.92 per cent in 2003-04. Expenditure on Engineering/Polytechnics Education has been increased to Rs.180 crore in 2010-11 (up to 31.1.2011) as against Rs.27 crore in 2006-07. However, expenditure on ITIs has been decreased to Rs.17.5 crore in 2010-11 (up to 31.1.2011) from Rs.34.24 crore in 2006-07.

Therefore, keeping in view the alarming situation of unemployment and poverty, rising pressure on general education, better

development of vocational system, disparity in education system, poverty and unemployment, unsatisfactory production and productivity in agriculture as well as in industry sector and the overall economic development of Odisha, VE at higher secondary stage needs to be accorded equal importance as other educations.

References :

1. Aggarwal, J C and S P Agrawal (1994): "Vocational Education in India-Why, What and How" (Doaba House Booksellers & Publishers, Delhi).
2. Annual Plan Report (2011-12), Government of Odisha.
3. Information sourced from the Department of Higher Education and Directorate of Vocational Education, Government of Odisha.
4. Information sourced from the Directorate of Technical Education, Odisha.
5. National Policy on Education (1986): UGC, New Delhi.
6. NSSO 64th Round Survey (2007-08): "Education in India, Participation and Expenditure".
7. NSSO 66th Round Survey (2009-10): "Employment and Unemployment Situation in India".
8. Sharma, Rajni (2004): "Vocationalisation of Education: Facilitators and Distributors" (Northern Book Centre, New Delhi).

Bindu Madhab Panda, Economic Officer, Government of India, Planning Commission, Yojana Bhavan, New Delhi.