

Recommendations on Vocational Education and Training

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ANNEXURE 1

NKC PROPOSAL FOR ESTABLISHING A NATIONAL INSTITUTE FOR VOCATIONAL EDUCATION PLANNING AND DEVELOPMENT

Functions of the Institute

1. Monitoring changes in technology and the economy, and formulating courses and suggesting new skills required.
2. Performing a detailed manpower analysis by mapping the demand for skilled and unskilled labour in the coming decades.
3. Analyzing the requirement for trainers and instructors, and devising appropriate courses for them.
4. Analyzing data on employment and vocational training, in order to provide a sharper focus to policy-making.
5. Mapping, maintaining and updating in real time, a list of vocations, including those that lead to self-employment.
6. Developing measures of performance, as well as internal and external indicators of efficiency of training institutes.
7. Ensuring an incentive structure for better performance arising from analysis of the above-mentioned indicators.
8. Developing a **national portal**, that will contain information on:
 - a. Availability and course descriptions of all programmes falling under the purview of various Ministries and Departments
 - b. Job and salary profiles of graduates
 - c. Information about training institutes, polytechnics, etc. across the country
 - d. Information about schemes for vocational education.
9. Bringing testing, accreditation and certification norms in line with global standards, to enable greater mobility of Indian workers.
10. Carrying out a national re-branding exercise for VET
11. Performing a detailed cost-benefit analysis and examine where the Government should invest in the next 10 – 15 years in order to ensure maximum returns, ie, find a balance between expensive engineering related skills versus relatively low-cost services oriented training.
12. Setting up a framework for curriculum development, staff and infrastructure requirements of VET institutions, minimum qualifications for trainers, systems for in-service training, etc.

Organizational Structure

The National Institute should be set up as a public-private-academia partnership and should be adequately represented by government, industry, academia, labour unions, NGOs and other social/ community organizations. It should be autonomous, but should work in close co-operation with the concerned ministries and agencies such as the Directorate General of Employment & Training (DGE&T), the National Council for Vocational Training (NCVT), the Labour Bureau and the Ministry of Human Resource Development (MHRD).

ANNEXURE 2

ALTERNATE DELIVERY MODELS FOR VOCATIONAL TRAINING FOR CAPACITY EXPANSION

The required expansion in capacity can be achieved through a combination of the models described below. This will require a framework of skills standards, assessment and certification that allows credits earned in any mode of delivery to be recognized and transferred to different delivery modes.

- a. Public Private Partnership (PPP): The PPP model should be explored in order to exploit the benefits of private delivery in training and enhance linkages between ITIs and industry to solve the problem of disconnect between skills required by employers and skills imparted to ITI graduates. In this model,
 - i. Curriculum development will be undertaken by the Government, with greater inputs from industry and trade as well as flexibility to allow localization of content.
 - ii. Certification would be provided by the Government.
 - iii. The cost of training will be shared by the trainees, the Government and the employers.
 - iv. Other avenues of revenue generation should be allowed, within certain specified parameters.
 - v. Internal and external indicators of efficiency will be monitored by certifying agencies and local industry bodies, in order to incentivize better performance of training institutes.

- b. Decentralized model: In order to maximize the utility of existing underutilized infrastructure, the Government could allow stakeholders to implement the following model:
 - i. Identify skills required in local markets and local aptitudes to devise courses at the district level.
 - ii. Use existing infrastructure by holding workshops and training sessions in schools, colleges or training institutes.
 - iii. Develop curriculum to be in line with local needs.

This model is inexpensive and scalable. Short, low-intensity and low-cost programmes could be devised as a part of this system to target the unorganized sector as well.

- c. Distance learning: Distance learning enables increased access, as well as an option for continuing education and skill upgradation by workers. The option of providing vocational training through the internet should be explored.

- d. Computerized vocational training courses should be introduced at all levels. Advantages include low cost, easy adaptability to changing needs, uniform testing, paced learning, and expanded access. Existing infrastructure in schools, colleges and training institutes can be utilized. The efforts towards imparting skills through ICT could dovetail with similar efforts in the area of literacy and agricultural applications.

ANNEXURE 3

NKC PROPOSAL FOR COMPUTERIZED VOCATIONAL TRAINING

I. The Role of Information and Communication Technology (ICT)

The importance of ICT has been widely recognized as a means to improve efficiency in business, government and formal education, but its application in vocational training is not fully appreciated. Studies have shown that rates of learning on computer are much faster than they are in classroom setting and learning retention is likely to be much higher. This is true both for academic as well as vocational or skill-based subjects. Computers offer several advantages for rapid and effective learning such as the use of multimedia, interactivity, immediate feedback for students, paced learning, uniform testing and quick response to changing skill needs. While in most instances, computerized training will need to be supplemented with hands-on training or apprenticeship experience, the need will actually be far less than expected. Computerized simulation has been proven an effective training tool for learning complex vocational skills.

II. Objectives

The objective of this proposal is to establish a state-wide network of computerized vocational training centers covering every village in the country and offering training courses on a wide range of occupational skills. Its salient features are:

1. Establish 50,000 training institutes in the country.
 - a. Establish 40,000 training centres as privately owned businesses.
 - b. Establish 10,000 training centres in engineering colleges, arts colleges, ITIs and high schools that have spare computer lab capacity available for morning or evening use.
2. Provide vocational training to a minimum of 10,000,000¹ students per annum.
3. Generate self-employment for 40,000 entrepreneurs.
4. Generate employment in the training institutes for an additional 80,000 shop training assistants.

III. Types of Training Centres

Computerized vocational courses can be offered using the existing computer facilities available at Liberal Arts and Engineering Colleges, Industrial Training Institutes & Polytechnics, Private Training Institutes and High Schools – Public and private.

In addition new **job shops** can be set up under a self employment scheme with the following features:

1. Each centre will provide training in a range of occupational skills.
2. Training material will be offered in a CD-Rom format, so that no internet connection is required. This will improve accessibility, reduce the cost and

¹ Assume each computer operates for 300 hours a month, and each complete course is 50 hours in length, then each computer can train six people per month or 72 people per year. Assuming average three computers per center, each center can train 200 people per year. 50,000 centers can train 10,000,000.

- eliminate connectivity problems. Supplementary internet based training may also be offered where feasible.
3. Each centre will consist of one to ten computer terminals and a library of training CDs.
 4. Trainees will be able to rent the computer time and CDs on an hourly or course basis. For example, if a course on sales training requires 50 hours to complete, the trainee will pay a total fee for the course and be entitled to 50 hours of computer use for completing the course (e.g. within a period of three to six months time.)

IV. Economics of a Job Shop

Assumptions

- Three computers per Job Shop
- 20 vocational training programmes per Job Shop
- Each computer is utilized for an average of 300 hours per month or 3600 hours per year.
- Operating expenses for rent, two paid employees, phone, electricity may range from Rs 15,000 to 20,000 per month

Total Investment and Cost of Operations based on these assumptions

- Total capital investment may be around Rs 1.5 lakh.
- Cost of operations per computer hour = Rs 17 to 23 per hour.
- Cost of amortising of computers and software over two years = Rs 14 per hour
- Average cost of training = Rs 30 to 40 per hour
- Net profit = Rs 10 per hour or Rs 1,00,000 per annum
- Average retail price of training = Rs 40 to 50 per hour

Based on these assumptions, 50 hours of computerized vocational training, which is equivalent to about 250 hours of classroom training, would cost the student only Rs 2500.

V. Training Course Material

Each centre will maintain a library of popular training courses from which trainees may select the topics of their interest. The availability of computerized training material for a large number of vocational skills is critical to the success of the project. Some of the training material can be drawn from the large number of educational CDs already created in India and overseas (e.g. bookkeeping, sales training, etc). However, a large number of new training programmes will have to be created by collaboration between the Government and companies with expertise in the design and development of computerized training courses, such as NIIT, Aptech, Pentasoft and others. These firms will be interested to produce the course material, if they are assured of a large market for the courses. Wherever feasible, course will be certified by a recognized institution to signify that they are of acceptable quality.

VI. Certification

NCVT and SCVTs would need to devise appropriate written and practical testing methodologies and grant certificates to successful trainees.

VII. Role of the Government

The role of the Government should include the following:

- a) Arrange for delivery of vocational training courses through all state-owned and managed engineering colleges, ITIs, polytechnics, liberal arts colleges, high schools and related training institutions that are already equipped with computerized training equipment.
- b) Provide financial assistance and incentives under one of the Central Government self-employment schemes to promote establishment of 40,000 private training institutes as a self-employment programme for entrepreneurs.
- c) Approach financial institutions such as IDBI and the nationalized banks to provide loans to entrepreneurs for establishment of private training institutes.
- d) Negotiate with computer software companies for the design and production of a wide range of vocational training courses. Each course can be developed in conjunction with a recognized institutional authority that will certify the contents of the course.
- e) Negotiate for bulk purchase of approved training software on behalf of private training institutes in order to minimize the cost of training.
- f) Provide training to entrepreneurs on how to set up and manage a private institute, including training on marketing and pricing of courses.
- g) Provide scholarships to very low income youth to offset a portion (from 25 to 75% depending on income group) of the cost of training.
- h) Eliminate all taxes and duties on computer parts and equipment in order to bring down the price of PCs to a level affordable by much larger numbers of people.
- i) Mandate NCVT and SCVTs to devise appropriate testing methodologies and certification criteria for computer based vocational training.

VIII. Financial Requirements of the Programme

- a. The Government can utilize existing computer infrastructure in educational and training institutions to set up the network of institutes. It need not invest in hardware.
- b. To the extent that public institutions will be part of the network, the Government will have to invest in purchase of training software. Assuming that 25,000 public institutions participate in the programme and that each centre requires Rs 2 lakh of educational software, the total cost would be Rs 500 crores.
- c. There will be no direct investment by the Government in private training centres, but the Government may offer incentives to encourage establishment of these businesses.
- d. The Government can also provide scholarships to for economically disadvantaged persons to take vocational courses.