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## A CASE FOR FUNDING ENGINEERING EDUCATION BY MINISTRY OF INDUSTRY

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Why agriculture education and agriculture research, in India, are not funded by education ministry, but by agriculture ministry ? Is it because the agriculture ministry which is responsible for increasing food production considers it necessary to maintain a balance in funding for both the agriculture production and agriculture education ? It is said that maintaining this balance between the two would have been difficult; if the agriculture education was funded through the education ministry. Not only that this would have led to the lack of fit resulting into misdirection and irrelevance in education, rendering the total investment in agriculture sector less productive.

With the same logic, now if the nation is keen on increasing the industrial production, and harnessing new technologies to take industrial production to greater heights, it will have to provide matching funds for engineering education and research, which constitutes a vital infrastructure item for industry. Now, increasing industrial output is not possible by the efforts of industry alone, but necessarily needs supplementary efforts by academicians and research scientists. This is so especially because of the increased influence of new knowledge and new technology on industrial production.

Grant of matching funds to engineering education/research institutes alone is not enough. Identification of most relevant projects for research, designing job oriented diversified courses and conducting them in an effective way is yet another vital aspect which can not be properly taken care of,

unless the engineering education is supervised by the ministry of industry.

Industrial competitiveness, and quality of engineering education, these two things are interdependent. One cannot exist and cannot prosper without the aid of other. Industry ministry, therefore, in its own interest, like agriculture ministry should choose to supervise and provide funds to institutes of engineering education. A holistic approach in budgeting for education/research and developing industrial plans and programmes is the pressing need of time.

In the absence of such holistic approach, following undesirable and avoidable things are happening and throwing us behind the world. Presently, the best of brains are taking admission to engineering courses which due to ill-equipped colleges are not allowed to grow well, they are capable for. They remain dwarf, and industries are supplied with such less qualified people, who have less of capability in scientific and technological fields. No wonder, if the capacity utilisation of projects remains low, they become sick, and investment made in them is not paid back. The projects become a liability instead of becoming an asset. It is said, reduced investment of Rupee one on engineering education renders investment of Rs. one thousand in industry idle.

Also, there is a mismatch between the skills needed by industry and skills supplied by colleges. What is wanted, in industry, is not taught and all that taught is not wanted. So also what is ;needed is not researched

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and what is researched remains unused. Similarly, while on one hand many engineers are unemployed, on the other hand engineers of required quality and competency are not available.

The education ministry which is busy rightly so, with primary, secondary education is insensitive and cannot cope with the fast changing manpower demands of industry. It is found allocating funds to old outdated courses like history, which lead students nowhere; and for new courses like Electronics and Computer, it has no money and mind. It does not and cannot, due to lack of it, have proper perspective of engineering education and as a result the golden opportunities in domestic and world markets are being lost.

The education ministry and in turn the universities for obvious reasons do not and cannot have realization for the need of various diversified courses and high quality research. Their impact on economy cannot be judged by education ministry as best as the ministry of industry. The ministry of industry, which has been preparing the plans for industrial development stands on better footing in this respect and to bargain for more funds. For example, in computer education a large number of private institutes have mushroomed in India, and Department of Electronics due to incapacity of universities, have to do accreditation of their courses. This deficiency has led to privatization and commercialization of engineering education, with the result that the quality of education has deteriorated, youths exploited. This has adversely affected the Indian industrial competitiveness. Had the ministry of industry controlled the engineering education, there was more likelihood of the courses being designed and offered according to the needs of development plans.

It is felt that the industries, their associations, and engineering colleges should prevail upon the government, without any loss of time to bring about the strategic changes and recognize the funding pattern

and organisation structure of institutes of engineering education. It will undoubtedly enhance the position of economy and bring good name to the government.

The academic institutes to industry are in fact like an engine to an automobile. The engine gives power to automobile to move forward. So also the academic institutes are legitimately meant to provide driving force for economy. However, the present institutes which are underfed and misdirected due to lack of strength cannot drive the overfed bulky industry forward as fast as expected.

The C.S.I.R. laboratories which are funded by the ministry of industry are today diversified from the institutes for engineering education. The infrastructure of CSIR labs is not available to young students and young enthusiastic students are not available to the CSIR labs, cutting down each others effectiveness. This is possible to be avoided, if ministry of industry through C.S.I.R. takes over the supervision of the institutes for engineering education.

The present day universities, which are working under the ministry of human resource development, lack the vision to assess the speed and direction of industrial growth in India, and abroad. They are too busy in small little things, and have almost a total disregard to new technologies and opportunities arising therefrom. It is a loose coupling between the higher education institutes and industry, while the present need is of close coupling.

If the situation is to be corrected, and New Industrial Policy implemented in letter and spirit, strategic changes in organisation structure must be effected forthwith. Industry ministry will have to show concern for the quality and quantity of engineering education and take up education and research itself and not to leave it to education ministry. It will have to compete in national budget to obtain additional financial resources for engineering education, to set the direction of courses

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right, introduce many more new courses, start technical universities, without which industrial production, in India, in spite of liberal Industrial Policy can not hope to reach

to its potential. The paper strongly recommends adoption of holistic approach in budgeting for industry and for engineering education.

