

**SIR M. VISVESVARAYA**  
**— A BIOGRAPHY**

**T. RANGADASAPPA**

**1984**

*Published by*

**THE A. D. SHROFF MEMORIAL TRUST**

**“Piramal Mansion,” 235, Dr. D. N. Road,**

**BOMBAY 400 001**

# THE A. D. SHROFF MEMORIAL TRUST

(Registered under the Bombay Public Trust Act, 1950)

## BOARD OF TRUSTEES

*N. A. Palkhivala (Chairman)*

*B. M. Ghia, Jayakrishna Harivallabhdas, Sir Cowasji Jehangir Bart,  
J. H. Tarapore, S. K. Wadia, M. R. Pai*

## OBJECTIVES

- (i) Publication of one or more books in English, Hindi, and regional languages annually on some of the great builders of Indian economy aimed primarily at educating the younger generation in high standards of building the national economy as practised by those great entrepreneurs and placing the example of their lives for emulation by India's youth.
- (ii) Organising one or more memorial lectures annually on subjects which were of interest to the late Mr. A. D. Shroff, namely, banking, insurance, and industrial finance, the subjects to be chosen in rotation, and the lectures to be delivered by persons eminent in these fields.
- (iii) Awarding annual scholarship or scholarships to outstanding student or students in the field of management.
- (iv) Instituting a prize to be known as The A. D. Shroff Memorial Prize for the student standing first in Banking at the Sydenham College of Commerce, Bombay.
- (v) Doing all such acts, matters and things as are incidental or conducive to the attainment of the above aims or objects or any one or more of them; and
- (vi) Without prejudice to the above charitable objects or any of them, the TRUSTEES shall have the power to spend, utilise and apply the net income and profits for the charitable object of education or such of the TRUST FUND for the TRUST FUND for the charitable object of education or such other objects of general public utility not involving the carrying on of any activity for profit as the Trustees may think proper, it being the intention of the SETTLOR that the income and/or corpus of the Trust Fund shall be utilised for all or any of the aforesaid charitable objects without any distinction as to caste, creed, or religion.

© The A. D. Shroff Memorial Trust  
First published 1984

This book is not for sale, but for free distribution, till stocks last, to schools, colleges and other educational institutions; to public libraries and organisations concerned with youth or economic development of the country.

The A. D. Shroff Memorial Trust is thankful to Mr. T. Rangadasappa, Retired Additional Registrar of Co-operative Societies in Karnataka, and Project Co-ordinator, Indian Institute of Socio-Economic Studies, Bangalore, for preparing this biography at its request. The Trust is grateful to Dr. N. P. Patil, Director, Indian Institute of Socio-Economic Studies, Bangalore, Mr. R. V. Murthy, well-known financial journalist, and Mr. Alfred D'Cruz, former chief sub-editor of "The Times of India" for the help received from them in publishing this biography.

The A. D. Shroff Memorial Trust which has published this biography for public education, especially of the younger generation, is not responsible for any statements or views expressed therein.

---

Published by Mr. M. R. Pai, Trustee, The A. D. Shroff Memorial Trust, 'Piramal Mansion', 235 Dr. D. N. Road, Bombay 400 001. Printed by Mr. S. V. Limaye at India Printing Works, 9 Nagindas Master Road Ext. 1, Fort, Bombay 400 023.

## INTRODUCTION

One of the objectives of The A. D. Shroff Memorial Trust is to publish biographies of the builders of modern India in order to motivate younger generation to follow in their footsteps.

The first biography published was on the late Kasturbhai Lalbhai, published in English during his lifetime, and subsequently in Gujarati. Both the editions were well received by the public.

The year 1985 will see the 125th Birth Anniversary of Sir M. Visvesvaraya, visionary and entrepreneur. It is, therefore, appropriate that a life sketch of this remarkable man be published as part of the celebrations commemorating this occasion.

Sir Visvesvaraya's life exemplifies sterling qualities such as absolute integrity, systematic hard work, and a total, selfless dedication to the public cause — much needed qualities on the national scene today.

The Trustees hope that this little volume will serve as a source of inspiration to the citizens of tomorrow. Young men and women of noble character would be the strongest guarantee of a brighter future for our country.

Bombay,  
July 10, 1984.

N. A. PALKHIVALA  
*Chairman*  
Board of Trustees



**A. D. SHROFF**

**(1899 - 1965)**

A. D. Shroff's achievements in the field of business, industry and finance were many and varied. A large number of enterprises owe their origin and development to him. As an economist, his predictions have proved right over the years. Through the Forum of Free Enterprise, which he founded in 1956, as a non-political, educative organisation, he sought to educate the public on economic affairs. It was his firm conviction that a well-informed citizenry is the foundation of an enduring democracy.

George Woods, former President of the World Bank, paid the following tributes to A. D. Shroff :

"In every age and in every society men must express anew their faith in the infinite possibilities of the human individual when he has freedom to develop his creative talents. For this is in large part how the message of freedom is passed from generation to generation. A. D. Shroff spoke eloquently in a great tradition, and thanks to him we can be sure that other great men of India will continue to speak this message in the unknown context of our future problems."

# SIR M. VISVESVARAYA

## CHAPTER I

### A MANY-SPLENDoured LIFE

“Tell me, Visvesvaraya, how much will it cost to build another Kutub Minar,” C. A. Kincaid asked him in fun as they both happened to be admiring the Kutub Minar in Delhi way back in 1911. They were there for the Delhi Durbar of King George V at which Visvesvaraya was honoured with the title of CIE.

Without hesitation, Visvesvaraya pulled out a notebook from his pocket, made a “few abstruse calculations” and remarked in a confident voice: “I can build another one for Rs. 14 lakhs!” That speaks for the greatness of the man and the brilliant engineer that he was.

Kincaid, an ICS man, who was a judge for some time in Bombay and also Chief Secretary to the Government during the time of Lord Sydenham, recounts this interesting episode in his book: “Forty-four Years a Public Servant”, which sheds light on important men and matters of his time.

Bharatha Ratna Sir Mokshagundam Visvesvaraya was an eminent engineer and statesman whose principal objective was the economic development of India

through industrialisation on a planned basis. He had a brilliant academic career, and kept himself active in one form or another for about 67 years.

He served the Government in various and varied capacities. As an irrigation engineer, he prepared a scheme called the "block system of irrigation" and designed the construction of the Krishnarajasagar dam across the river Cauvery. He also designed the automatic sluice gates system, which have been functioning at the Lake Fife reservoir which supplies water to Poona.

Sir M. V., as he was often affectionately called, rendered valuable service as a consulting engineer and adviser to a number of Indian States including Hyderabad, Baroda, Kolhapur, Indore, Bhopal and to the Municipal Corporation in Bombay, Karachi and Nagpur. He served the Bombay Municipal Corporation as Financial Adviser. He introduced the modern drainage and water supply schemes in the cities of Poona, Hyderabad, Mysore, Sukkur, Nagpur and Bijapur, as well as the Aden Settlement.

As Chief Engineer and Secretary to the Government of Mysore, Public Works, Electricity and Railway Departments, Sir M. V. endeavoured to encourage technical education and industries through the establishment of the Mysore Economic Conference. Subsequently, as Dewan of Mysore, he helped to modernise the State by establishing the University of Mysore, the Chamber of Commerce, the Bank of Mysore and a number of educational institutions, among them being the College of Engineering. It was at his initiative that the Mysore Iron and Steel Works at Bhadravathi

was started. Subsequently, he worked as its Chairman for over six years and stabilised the factory. He also initiated schemes for the development of sericulture, manufacture of sandal wood oil and soap, establishment of a central industrial workshop and district workshops, industrial schools, commercial schools and generally encouraged small and village industries.

He was, indeed, the father of economic planning in India as is evident from his two books: "*Planned Economy for India*", and "*Rural Reconstruction in India*". He found the time despite his hectic activity to be the President of the Court of the Indian Institute of Science; was the Founder-President of the All-India Manufacturers' Organisation and also the Chairman of several committees constituted by the Government of India, the Government of Bombay and the Government of Mysore.

That was not all. Sir M. V. travelled extensively and visited Japan, Italy, Sweden, Denmark, Holland, England, Russia, Canada and America. His visits to farms and factories, irrigation and drainage works and the expert knowledge he acquired on seeing and studying closely the many modern developments in those countries enabled him to prepare systematic plans for the economic development of India.

His efforts to start an automobile industry after his return from travels in Europe and America did not materialise as the British Government did not grant him permission on account of the war. A copy of the letter he wrote in this connection to the Viceroy is



reproduced below.\* It speaks for the spirit that animated him and which led him to draw up the scheme. However, it was at his instance that Walchand Hirachand of Bombay was able to construct the aircraft factory at Bangalore. This was subsequently taken over by the Government of India.

Sir M. V.'s scheme of rural industrialisation was accepted by the Government of Mysore and introduced in two districts as an experimental measure. Encouraging success led to the further extension of the scheme to the entire state. An offshoot of the scheme was an Industrial Co-operative Bank which provided credit facilities to entrepreneurs, artisans and rural industrialists.

His dynamic activities in various fields of human endeavour springing from his sense of realism and patriotic feelings proved that he was a man of action blessed with prodigious energy, and always guided by the noble vision of a great, prosperous and renascent India.

---

\* Letter dated Bombay, 9th February 1942, from Sir M. Visvesvaraya to the Private Secretary to H.E. the Viceroy.

“I write to acknowledge with thanks the receipt of your D.O. No. F.215-G/40, dated the 29th January 1942, on the automobile industry question, in which, in your usual courteous way, you suggest that the Commerce Secretary's letter No. 43-T(8)/41 of the 24th January is a self-contained reply and that ‘publication of the previous less formal correspondence is unnecessary’.

“I regret that the promoters of the automobile scheme view the question in a different light. They feel strongly

that the attitude taken up by Government in this matter has been unusual and against the interests of India.

“I have been working for this industry since 1934-35. A large number of persons both in British India and Indian States are interested and have made offers of help. They have associated me with this question on account of the interest I have so long been taking in it, and it is important that they should know why my colleagues and I have failed. Unless the correspondence is published, the public will get no clear idea of the efforts the promoters have made, and the attitude the Government has taken up all along to the appeals made to them for co-operation and help.

“So far as I am concerned, I have always regarded the automobile as a basic industry of vast importance next only to steel, and no work done by me in connection with it was for personal benefit as distinguished from public interest.

“I had no intention of publishing the correspondence unless all hope of help from Government was abandoned. Since that stage is now reached, the publication is vital and inevitable.”

## CHAPTER II

### EARLY LIFE AND EDUCATION

Sir M. V. was born in the village of Muddenahalli in Kolar district of Mysore State on 15th September 1861. His father, Srinivasa Sastry, was a scholar and devoted his time to the study of Hindu scriptures and religious practices and pilgrimages to holy places in India. His mother Venkatachalamma was a pious lady, strong in character and charitable in disposition. The parents exercised a healthy influence on young Visvesvaraya and helped to mould his character.

He completed his primary education in Muddenhalli and Chickaballapur. His teachers, Raghavendra Rao, Venkatapathi Iyengar and Nadhamuni Naidu, were impressed by his sharp intellect and took a great liking for him. In particular, Nadhamuni Naidu, who was a teacher at the Chickballapur school, inspired Visvesvaraya with the love of reading good books, punctuality and good manners. On one occasion, it appears, Visvesvaraya absented himself from school for two months. His maternal uncle, H. Ramaiah, came to know of this and took his sister to task for this lapse. Next day, Visvesvaraya was back at school.

His father died when he was barely fifteen years old and in 1875, his uncle admitted him to the Wesleyan High School and subsequently to the Central College

at Bangalore. Being a clever student, he won a Government scholarship. But that was not enough to meet his expenses. So he took up a private tuition in a Coorgi family. He used to sleep in their house in the Fort area of Bangalore, rise up early in the morning and teach the children. He would then go to his uncle's home to have his meal before attending his classes at the Central College. He was a brilliant student at College and attracted the attention of the British Principal and professor of mathematics, Charles Waters, who took a special interest in Visvesvaraya. He admired Visvesvaraya's keen interest in his studies and punctuality and presented him with a copy of Webster's Dictionary, which he used for a long time. Such was the attachment of Prof. Waters to his diligent student that he bequeathed his gold cuff links to Visvesvaraya. That was presented by Mrs. Waters to Visvesvaraya during his visit to England.

Visvesvaraya secured his B.A. Degree with distinction in 1880. Principal Waters certified that his student possessed the "highest character" and was "a capital mathematician and a very good English scholar". He encouraged him to proceed for higher studies and recommended his case to Rangacharlu, Dewan of Mysore, who granted him a government scholarship to study Engineering in the Science College at Poona. He joined the College in 1881 and completed the course in two and a half years instead of the usual three. He topped the list of successful students in 1883 and secured the L.C.E. and F.C.I. which were equivalent to the B.E. Degree from Bombay

University. His outstanding performance and brilliant success in the examination, merited the James Berkely Prize and he was appointed Assistant Engineer in the Bombay P.W.D. Department. He joined Government service in March, 1884.

## CHAPTER III

### SERVICE AS ENGINEER

Visvesvaraya was in charge of irrigation including repairs to anecuts and distributories on the river channels of Panjra River in Khandesh and Nasik districts. He was also entrusted with the construction of a pipe syphon across a channel. On account of the heavy monsoon rains, he proposed to postpone the works, as it would involve wasteful expenditure. But his superior officer, the Executive Engineer for Irrigation, misunderstood him and remarked that Visvesvaraya at the very start of his career was lacking in energy and did not obey official orders. This adverse remark at first discouraged Visvesvaraya. But later he faced the challenging task and with determination and courage he completed the rock-cutting on schedule and placed the pipes in position. The syphon was completed and the waters of the irrigation channel flowed from one bank to the other. Impressed by his good work the very same Executive Engineer retracted his earlier adverse remarks and advised Visvesvaraya to appear for a departmental examination in practical engineering and a language (Marathi) examination. He appeared for the examination, passed and was soon confirmed in service and promoted to the Second grade of Assistant Engineers. Within ten months, he earned his second promotion and jumped to the first grade. Thus, within 20 months of his joining service, he rose

to the first grade. It was indeed remarkable for an young engineer.

At his own request, Visvesvaraya was transferred from Khandesh to Poona and was placed in charge of the Civil Engineering Works dealing with roads and buildings. In 1893, his Chief in Poona, F. K. Reinold, recommended Visvesvaraya for a special project, namely "Water Supply and Drainage of Sukkur in Sind". In spite of the adverse climatic conditions of Sukkur, Visvesvaraya accepted the offer and completed the project in a comparatively short period. The Governor of Bombay, Lord Sandhurst, complimented Visvesvaraya as the "most able Engineer", at the inauguration of the Water Works.

After completing the Sukkur Water Works in August, 1895, Visvesvaraya worked for some time in Surat District and in the Central Division at Poona, as assistant to the Chief Engineer. In April 1899, he was posted as Executive Engineer, Poona Irrigation District. It was again a challenging assignment because the major problem was how to bring under control the irregular distribution of water to the crops and its wasteful use by the cultivators. The control and distribution of water was effected by rationing on a 10-day rotation system. But this was resented by the cultivators, who had the backing of Lokamanya Bal Gangadhar Tilak and his paper "Kesari". Visvesvaraya called a conference of all the parties and explained the scheme of rationing of irrigation water in rotation. He invited the cultivators to take charge and work it by themselves assuring them that the

Government would meet the incidental expenses. The farmers approved of the system but wanted it to be managed by the Government instead of by the farmers. Kelkar, Editor of "Kesari", was convinced that the measures taken were the right ones and wrote a series of articles, explaining the benefits of action taken by the department.

In 1901, the Government of India appointed the Indian Irrigation Commission with Sir Colin C. Scott — Moncrieff as Chairman, to recommend measures to expand the cultivation of crops by irrigation. During the visit of the commission to Poona, Visvesvaraya prepared a Memorandum on Irrigation in the Bombay Presidency for the use of the Commission. Subsequently, he furnished a Working Scheme, known as the "Block System of Irrigation". The Commission accepted the scheme and recommended that it should be given a thorough trial. The object of the scheme was to distribute the benefits of all irrigation works over a large number of villages and to concentrate the irrigation in each village within blocks of specified units and in selected soils and situations. Though the Revenue Officers and the subordinate village officials were at the outset opposed to the scheme, they in due course implemented the scheme which brought satisfactory results. In 1908, the spokesman of the Bombay Government stated in the Bombay Legislative Council that the Block System of Irrigation was a complete success. He attributed the happy outcome entirely to the genius of Visvesvaraya, certainly one of the ablest officers among the Europeans and Indian of the Public Works Department.



Visvesvaraya took out a patent of the Automatic Sluice Gates which was fitted in 1901-03 to the waste weir of Lake Fife at Khadakvasla, a source of water supply to Poona City and the Cantonment and to meet the needs of the Mutha Canal. The automatic gates installed above the weir, which stores water well above the crest would automatically open when water reached above the high flood level and allow surplus water to escape, but when the water level fell below the Marked level, the gates closed and the water was stored. This system was adopted in other irrigation works in Gwalior and in Krishnarajasagar.

In 1904, Visvesvaraya was elected a member of the Institute of Civil Engineers, London. He attended the Irrigation Conference at Simla, where he submitted four papers. In 1901, he held the post of Sanitary Engineer to the Government with the rank of Superintending Engineer for one year, during the absence on leave of the permanent incumbent. In 1904, he was appointed Sanitary Engineer to the Government. In 1906, at the request of Lord Morley, the Secretary of State for India, Visvesvaraya was deputed to the Military Settlement at the Port of Aden to prepare schemes for water supply and drainage. After preliminary surveys and investigation, he submitted two reports, one for water supply and the other for sewerage for the port of Aden.

Later, Visvesvaraya was deputed to visit Kolhapur on two or three occasions to suggest measures to protect the earthen bund of a tank which supplied water to Kolhapur City. During his tenure as Superintending Engineer of three Divisions in Bombay Presidency

in 1907, he prepared water supply schemes for the towns of Dharwar and Bijapur. While in Belgaum, he issued a set of Road Maintenance Rules. In 1905, the Government of Bombay placed him on special duty in the Secretariat in Bombay to work on certain irrigation projects which were awaiting the decision of the Government.

For several years, Visvesvaraya had superseded a large number of senior engineers. At one time he superseded 18 engineers. Consequently there was some discontent. He thought there was little chance of the Government appointing him Chief Engineer, except when his regular turn came up. Besides, the political situation at that time precluded the appointment of an Indian as Chief Engineer. Hence, in 1908, he decided to retire from the Bombay Government service and applied for leave preparatory to retirement. Though he was not entitled for pension, the Government of Bombay took note of the valuable service he had rendered along the years and granted him the additional pension. Lord Sydenham, Governor of Bombay, in his letter of 18th June, 1909, expressed thus: "Whatever you decide, I cordially wish you the success which I am certain that your great abilities and unvarying industry will bring to bear on your career. I hope you will feel on reflection that your experience in Government service up to the present time has been exceptionally fortunate."

## CHAPTER IV

### SERVICE IN HYDERABAD

After Visvesvaraya retired from Bombay State service, he decided to spend about two years abroad. His first foreign visit was to Japan in 1898, for about three months while he was still in Bombay Service. After retirement in 1908, he visited Italy, Sweden, Denmark, Holland, England, Russia, Canada and America with a view to studying industrial and engineering developments in water supply, dams, drainage, irrigation and other works which might be applied to India.

His tour was interrupted by an urgent invitation which he received, on 29th October 1908, from the Nizam of Hyderabad, while he was travelling in Italy. The problem he had to face in Hyderabad was an engineering problem of some magnitude, namely the destruction of a part of Hyderabad City following the heavy floods in September, 1908. He agreed to take up the post of Special Consulting Engineer but only after his European tour. On 15th April, 1909, he arrived in Hyderabad and undertook the survey of two major schemes, namely: (1) a project for flood protection works, and (2) a modern drainage scheme for the City of Hyderabad. He was paid the salary of a British Commissioner of a Revenue Division. After completing surveys and collecting the necessary material, Visvesvaraya prepared a scheme to protect the city

from floods by constructing two reservoir dams — one across the river Musi and the other across the tributary the Easi. Proposals were also made for raising the river banks in places within the city and converting portions into walks and gardens. The implementation of the project was delayed on account of the opposition of the British Chief Engineer in Hyderabad. But after another British Engineer of the Madras Government had commended the schemes drawn up by the “distinguished engineer Visvesvaraya,” the work was taken up in 1913. This was three and a half years after he had left Hyderabad.

The second important scheme that was entrusted to Sir M. V. was the preparation of a modern system of sewerage for Hyderabad city. Plans were prepared for the diversion of the city sewage from both the banks of the river through pipe duets into a separate sewage farm. Though he left the Hyderabad service in November 1909, he was invited, for the second time, in 1922 to Hyderabad to report on the progress of the drainage scheme. He made half a dozen visits and offered advice to complete the project. Again, in 1930, he was invited, when he prepared a comprehensive scheme for the improvement of Hyderabad city. Visvesvaraya furnished a detailed report, pointing out the city's deficiencies and suggested remedial measures and improvements.

## CHAPTER V

### SERVICE IN MYSORE

After Visvesvaraya returned to Bombay from his American tour in April, 1909, he received a telegram from the Dewan of Mysore, inviting him to accept the office of the Chief Engineer of Mysore State. But he had no intention of taking up routine service under any Government. He inquired whether there was any prospect of Government encouraging industries and technical education in Mysore State on a large scale and utilising his services in that connection. On receiving an assurance, he joined the Mysore service as Chief Engineer on 15th November, 1909. At the beginning, he had to face difficulties.

He received a list of names of persons for fresh appointment in the Public Works Department, but the criterion for selection was that their names had been recommended by high officers to whom they were either related or intimately known. Visvesvaraya returned the list, and called for a fresh list of candidates. Their selection was done strictly on the basis of educational qualifications and merit. But this caused discontentment among the disappointed officials.

The government of Mysore kept up its word and accordingly appointed two committees, one on technical education and another on industrial development. Visvesvaraya was the Chairman of both the com-

mittees and a report on technical education was submitted to the Government in 1912. As regards industries and problems of economic value to the State, the Mysore Economic Conference consisting of high officers of the State and leading non-official gentlemen was constituted in June, 1911.

When he was the Chief Engineer, he tried to introduce the Block System of Irrigation under the Marikanive Irrigation Dam as he had done in Poona, but his efforts were obstructed not only by the uneducated cultivators, but also by the educated and the officials. Visvesvaraya was also Secretary to the Government for Railways. He initiated steps to build new railway lines and to take over the existing lines, which were managed by a British Company. The Company as well as the British Resident opposed the scheme. But Visvesvaraya was undaunted and he took up the matter with the Secretary of State for India, London. Finally the proposal was accepted and the Mysore State Railways, a state agency, took up the construction of additional railways and the future operation of open lines under company control.

The next important project he took up was the construction of a huge reservoir across the river Cauvery at Kannambadi to provide water for irrigation and electric power. With his previous experience of Bombay Presidency and Hyderabad State and the studies of the Assuan Dam in Egypt made in the course of his tours, it did not take much time for Visvesvaraya to prepare suitable designs and a complete project for irrigation and power generation best suited to local

conditions. But difficulties cropped up during execution of the scheme. Some of the senior Mysore Government officials were alarmed at the huge expenditure of Rs. 253 lakhs involved and persuaded the Maharaja to hold up the project. The Madras Government being interested in the Cauvery waters for its dam at Mettur opposed the construction of the dam at Kannambadi. Undaunted by the hurdles, Visvesvaraya for some time attended to routine duties only. The Maharaja sent for him and made inquiries. Visvesvaraya expressed his disappointment at the state of affairs concerning the new works and desired to quit the service. Thereafter, the Maharaja sanctioned all his proposals which he had submitted to the Government. As regards the opposition of the Madras Government for the construction of the dam, Visvesvaraya was able to convince the Government of India Engineers, with the goodwill and support of Lord Hardinge, the Viceroy, and of Sir Hugh Daly, the British Resident in Mysore. The Mysore Government was permitted to build a smaller dam of 80 feet height. But Visvesvaraya started building the dam for the full height of 124 feet. Finally, as a result of the award by an arbitration committee, the work was executed according to the original design. Visvesvaraya was able to complete the project in time by 1st July 1915, and supply power to the Kolar Gold Fields, a British Company who were sceptical of the completion of the dam and had proposed to build their own thermal power station. They were surprised at the timely completion of the project and expressed their gratitude to Visvesvaraya.

## CHAPTER VI

### DEWAN OF MYSORE

In November, 1912, Visvesvaraya was invited by the Maharaja of Mysore to take over the highest office in the State, namely, that of Dewan. He accepted it with a little initial hesitation. He accepted this offer with the sole aim to plan, promote and encourage developments, primarily in education, industries, commerce and public works. The appointment of an engineer as Dewan was a departure from tradition, for the office had been held in the past by the members of the Civil Service. Though it caused some surprise and misgivings in official circles, it was welcomed by the Maharaja and the general public of Mysore.

When Visvesvaraya took up office, he observed that the level of general education and economic competence was low, people lacked initiative, ambition and power of organisation and the leaders lacked the power of planning. When the world was making rapid progress, the people of India were still pursuing practices two thousand years old, earning a miserable subsistence, ready to be crushed at the first sign of famine or other calamity. Literacy was hardly 6 per cent. More than 75 per cent of the population were dependent on agriculture, and the great bulk of them lived in villages without work. The landowners were small men and the business was conducted by small



traders and artisans, each working singly for himself. Relief from such depressing conditions was possible, he felt if only the people developed self-help and co-operation and welcomed progressive changes with courage and determination and promoted education, particularly technical education and industrial development, at a rapid rate as in Japan and other advanced countries.

Visvesvaraya drew up a blueprint for the villages. The village, which formed a convenient unit for economic development, should publish essential statistics to measure the progress every year. Every village should have schools to educate the children, subscribe to the local newspapers and magazines to keep in step with the events in the outside world, keep a reserve of foodgrains to tide over famine for two years, provide a subsidiary occupation to the cultivators in the off-season period and show some public improvement or other as the result of the collective effort of its inhabitants at the end of each year. Visvesvaraya impressed upon the people that the Government policy was to help the people to help themselves. Nevertheless, he was aware of the constraints of rapid progress, namely the British Imperial and economic interests, and World War I which broke out in August, 1914, within two years after his assumption of office and which continued till the end of his Dewanship in December, 1918.

Within a year of taking office as Dewan, Visvesvaraya secured a notable improvement in the political status of Mysore State, by effecting changes in the

Instrument of Transfer of 1881. He took up the question in right earnest with the Under Secretary of State for India and the Viceroy during their visits to Mysore in 1913. The Instrument of Transfer was replaced by a formal Treaty, giving full powers of administration in the state to the Maharaja, subject to general paramountcy of the British Government.

### **Constitutional Reforms**

Visvesvaraya had closely watched democratic parliaments as they functioned in other countries and, in accordance with modern democratic tendencies, he wanted to give more powers to the Mysore Representative Assembly which was constituted in 1881. The Assembly was given the privilege of discussing the state budget. For this purpose, an abstract budget prepared in Kannada was printed and circulated to members. Further, with a view to giving the members an opportunity of discussing the budget before it was passed, a second session of the Assembly was sanctioned, which used to meet only once during Dasara. The Assembly was also given the privilege of interpellation and the right to elect four members to the Legislative Council instead of two. Further, the franchise of the Assembly was widened by lowering the qualifications for membership and voting.

The Legislative Council was a smaller body whose functions were to frame, discuss and approve the legislative measures required by the state. It had an official majority. The number of elected representatives was raised from two to eight. The powers of the

Council were increased. The number of interpellations allowed was raised and the right to put supplementary question was granted.

Visvesvaraya's intention to further democratise the Representative Assembly and the Legislative Council could not materialise due to the World War and the British Government was reluctant to allow any further constitutional reforms during the war emergency.

### **Administrative Reforms**

The separation of the judiciary from the executive was an important administrative reform initiated by Visvesvaraya. The scheme aimed at divesting the Revenue Officers of their judicial functions which were transferred to a separate magistracy as a special branch of the judiciary to be constituted for the purpose. He made necessary arrangements to put it into operation in two districts to start with, but the actual implementation took place in 1919, a few weeks after his retirement.

Visvesvaraya felt the need for improving the efficiency and integrity of officials and their co-operation with non-officials by introducing the system of "efficiency audit". It enabled the authorities to preserve discipline and efficiency in the Government departments and service personnel, to systematise work, compile rules and standing orders, prepare office manuals, and investigate complaints and irregularities.

Visvesvaraya liberalised the constitution and powers of local bodies, like municipalities, district boards and taluk boards, by increasing elected elements, by the appointment of non-officials as Presidents and vice-presidents. Village improvement Committees were organised to implement improvements in their administration.

### **The Economic Conference**

The Mysore Economic Conference with its three committees on Agriculture, Industries and Commerce, and Education, which had started working when Visvesvaraya was Chief Engineer, was further developed after he became Dewan. A full-time officer was appointed as Secretary to the Government to co-ordinate the work of the committees of the economic conference with the departments of the Government concerned. A survey of economic resources of the state was carried out by an officer and a comprehensive report was published.

Handbooks of economic report were published on the conditions and needs of each of the eight districts. Superintendents were appointed for each district to help the Deputy Commissioners and District Committees with statistical data, formulation of schemes and co-ordination of the activities of the Central and District Committees.

The Dewan presided at the annual sessions of the Conferences, which reviewed the activities and progress reports of plans for the following year.

The committees of the Conference considered proposals for the Bank of Mysore, Mysore University, expansion of primary education, introduction of compulsory education and a number of individual cultural and industrial schemes, including the Kannada Literary Academy.

The Maharani's College in Mysore was raised to a first grade college and the first hostel for women students was opened. For technical education, he opened the agricultural school, the mechanical engineering school, the commercial school, the industrial school in Bangalore and industrial schools in the districts. He sponsored the engineering college at Bangalore, as Mysore students found it increasingly difficult to get admission to engineering colleges in Madras and Poona. A large number of scholarships were awarded to enable promising students to go abroad, particularly to America for higher technical education.

Finally, Visvesvaraya was successful, against heavy odds, in starting Mysore University. Madras University opposed it and prejudiced the Government of India, whose permission was necessary to start Mysore University. But, with the goodwill of Lord Hardinge, the Viceroy, Visvesvaraya was able to convince the educational officers of the Government of India and secure their approval. He had the satisfaction of seeing the first university in an Indian State get on its feet on 1st July, 1916.

## CHAPTER VII

### NATION-BUILDING ACTIVITIES

When Visvesvaraya entered the Mysore service as Chief Engineer in 1909 and, subsequently, as Dewan in 1912, he had stipulated that he should be given full opportunities to draw up development plans in the State, particularly in the fields of education and industry. His trips to Europe, Japan and America had convinced him of the great potentialities for starting an increasing number of diversified industries. Through the Mysore Economic Conference and the Industries Department, he was responsible for starting a great variety of industries by the Government and by the private sector with encouragement from the Government.

Among them might be mentioned sericulture as a cottage industry, sandalwood oil factories in Bangalore and Mysore, the Government Soap Factory, a Metal Factory, a Chrome Tanning Factory, the establishment of a Central Industrial Workshop and district workshops. Encouragement was given to start new cottage and village industries by granting subsidies and to start private workshops by granting loans. The irrigation facilities under the Krishnarajasagar permitted the development of the sugar industry in Mandya.

Plans were finalised for the manufacture of iron and steel in Bhadravathi with the help of Mr. Perin,

the same American consultant and expert who had designed the Tata Iron and Steel Works at Jamshedpur. But the Government of India did not sanction the scheme on account of World War I. As coal was not available in the state and it was uneconomical to import it from far-off places, Visvesvaraya decided to use charcoal which could be made from the local forests. The actual construction of the Iron & Steel Works was commenced in 1918, just a few months before his retirement. The scheme languished for a number of reasons, namely neglect, opposition from vested interests and difficulty of securing necessary experts. Besides, the prices of iron had gone down to less than 30 per cent of the prices when the scheme was sanctioned. The Government of Mysore approached Visvesvaraya at a critical period for help. He agreed to do his best provided a free hand was given to him. He took over the Chairmanship of the Board of Management in 1923 and worked for six and a half years. During this period, he transformed the working of the steel works, reduced the costs to the level originally estimated, trained the local staff and maintained production at a satisfactory level. Methods of modern administration were introduced at the plant site and the works were gradually made to pay their way. It was a great achievement. The American Consultant, who had earlier advised the closure of the works, cabled his congratulations to Visvesvaraya. The Maharaja also paid tributes for his achievement.

His fruitful tours to Europe, America and Japan convinced him that the future prosperity of India was linked with mass education, especially technical

education and industrialisation of the country. He was responsible for starting several technical institutes, namely, the Engineering College and School at Bangalore, the Chamarajendra Technical Institute at Mysore, industrial schools in the district headquarters and at a few taluk centres too. These institutions trained engineering officers, supervisors and artisans, but there was no institution to train the foremen to fill positions that had been created by the development of new industries. The occupational Institute had to fill this need. There would be only two courses, one a diploma course and the other a Certificate course. Some simple occupations which did not require the use of complicated machinery, namely, tailoring and electric wiring, were certificate courses. Besides the three branches of engineering, namely civil, mechanical and electrical, new branches were added, such as sanitary engineering and plumbing, boilers and engines, civil and mechanical draughtsmanship, mining, radio engineering, cinematography and sound recording. The fundamental idea was to train practical workmen who could use modern machinery intelligently in their jobs and who, in their turn, would be capable of training others in their spheres. As the main object was to train the foreman-type of men required for industry, constant liaison had to be maintained with the industries.

When Visvesvaraya resigned from the Mysore Iron & Steel Works, a fairly large sum was due to him as fee for six and a half years, according to the understanding with the Government at the time of his taking office as Chairman in 1923. He handed over Rs. 2 lakhs



to the Government for the purpose of starting the Occupational Institute. He did not even wish that the Institute should be named after him. He requested the Maharaja to allow the Institute to be named after the Maharaja. It was named the Jayachamarajendra Occupational Institute. Now it is called the Jayachamarajendra Polytechnic.

## CHAPTER VIII

### INDUSTRIAL DEVELOPMENT

Between 1914 and 1918, the Government of India were opposed to the establishment of new industries or factories of a mechanical engineering character. All skilled labour was employed for arms and ammunition work. Hence Visvesvaraya prepared surveys and proposals for several new industries like steel, paper, sugar and cement in the hope that the industries could be started as soon as the war ended. A deputation of businessmen and merchants was sent to Japan in 1917 to study the system and practices of trade followed, so that they could be adopted for developing the trade of Mysore.

Two American engineers worked on and helped to develop the hydro-electric scheme. A project for the development of power at the Jog Falls on the Sharavathi River in Shimoga district was taken up. For constraints of resources in men and money, particularly during the war, the State could not take up the construction of the hydro-electric scheme.

After Visvesvaraya took over as Dewan of Mysore, he took up the construction of additional railway lines. A local railway department was organised and local engineers and other officers were recruited for training and service. The Government of India had passed

orders for transferring the Birur-Shimoga, Mysore-Nanjangud and Bangalore-Mysore lines to state management. The railway mileage in the state was increased from 411 to 616 and 46 miles were under construction. The Mysore Railways were not connected with the metre-gauge system in the South, as the British Companies were opposed to the proposal.

Visvesvaraya visited all the principal automobile factories both in Europe and America and after his return to India in 1936, he published a scheme. Walchand Hirachand of Bombay wanted to start it. The Government of India permitted him to proceed to America in 1939 along with Mr. Advani, Director of Industries as Technical Adviser. They could get at a scheme for an aircraft factory from an American expert. But the Government of India did not permit the starting of either the automobile factory or the aircraft factory, much to the disappointment of Visvesvaraya. Walchand Hirachand approached the Commander-in-Chief with the project report for facilities to start the aircraft factory. It was only after the Dunkirk disaster that the British Government permitted the building of the aircraft factory in Bangalore. Walchand Hirachand constructed and established the Factory at Bangalore and it was subsequently taken over by the Government of India.

During his visit to Detroit in America in 1919 and a number of places in Europe and America in 1935, Visvesvaraya was able to study the designs and working details of the automobile industry. He visited several automobile factories and discussed possibilities

and plans with the leaders of the industries like Henry Ford in America and Lord Austin in England. He spent about six months studying the manufacture of automobiles in the leading factories in Coventry, Oxford, Birmingham, Derby in England, and a number of places in Italy, Germany and France. Lord Austin of Birmingham was good enough to get estimates prepared for him for the establishment of an automobile industry in Bombay. He suggested that considering the Indian conditions an American medium-sized car was the proper one and, in case a small car was preferred, his own Austin-type would be suitable.

Visvesvaraya also visited the factory at Turin in Italy, where the "Fiat" car was being manufactured. Next he spent about a month in Detroit in America investigating how best a factory could be started in India. He had discussions with the General Manager of the Ford factory and the experts who controlled the General Motors Corporation at Detroit. He got the estimates prepared and checked by heads of automobile establishments in several places, mostly in Detroit and New York. The report and project was printed twice in India. But the automobile industry was not permitted to be established by the Government of India. Subsequently, an attempt was made to start the industry in Bangalore and the Government of Mysore assured him help. The Chrysler Corporation of America was willing to participate in the construction and afford all necessary facilities. While preparations were in progress, the Government of India prevailed over the British Resident in Mysore to persuade the

Maharaja not to agree to the proposal. Hence it had to be abandoned.

Visvesvaraya persuaded the Congress Government of Bombay to afford facilities and concessions to Walchand Hirachand and his associates to establish an automobile plant in Bombay.

The Government of Bombay placed the services of the then Director of Industries and Commerce Mr. P. B. Advani, on special duty, to assist Walchand in technical investigations and for negotiating an agreement with British or American manufacturers of automobiles. The Ford organisation of Detroit had an agreement with the Canadian Ford Motor Company, which insisted on controlling share capital of 51 per cent with the Indian Company. That was unacceptable. Then the agreement was negotiated with the Chrysler Corporation of Detroit, providing for technical data and know-how for the Indian factory. After Walchand Hirachand confirmed the agreement, the Premier Automobile Company was established for the manufacture of "Fiat" cars.

## CHAPTER IX

### VOLUNTARY RETIREMENT FROM OFFICE

About 1916-17, the anti-Brahmin movement which had started in Madras, spread to Mysore and the Miller Committee was appointed by the Maharaja to consider the question of adopting, in Mysore, measures similar to those adopted in Madras. It was desired to hold back the forward community by restricting their admission to educational institutions and otherwise reducing their opportunities for acquiring education. Visvesvaraya feared that, by ignoring merit and capacity, production would be hampered and the efficiency of the administration would suffer. Liberal Government scholarships were provided to the backward communities and depressed classes. His view was that, by spreading education rapidly and by adopting precision methods in production and industry, the whole population would progress faster. There was no complaint that he favoured any particular community in making appointments.

Nevertheless, Visvesvaraya was opposed to the appointment of the Miller Committee and he tendered his resignation from the post of Dewan. It was kept a closely-guarded secret for eight months. He was permitted to retire from office only when he had placed all intricate and official matters on a smooth working basis for his successor.

In his farewell address to the secretariat officers and staff on 9th December 1918, Visvesvaraya expressed his sense of pride and satisfaction that there had been no discrepancy between the principles he professed and their practice. He held the scales even between all communities and regarded the welfare of the ruler and his people as his first concern. He said that he was painfully aware of his failures in not having attained his ideals and that all which could have been done was not accomplished for various reasons, some among them being the war and British opposition.

Even after retirement, Visvesvaraya continued to be held in high esteem by the Maharaja and was offered a special pension. He readily responded to invitations for his services on subsequent occasions. He served as Chairman of the Board of Directors of the Bhadravati Iron & Steel Works, Chairman of a committee to design a new scheme of water supply to Bangalore, another committee for the construction of the Irwin Canal under Krishnarajasagar and the committee to inquire into the disturbances in Bangalore.

The services of Visvesvaraya were always in great demand all over India for high-level consultations in designing schemes for water supply, irrigation and drainage. In 1923, he was invited by the Bombay Corporation to suggest proposals for cutting down expenditure and reform of administration. In the preliminary report, recommendations were made for a reduction in expenditure of Rs. 12 to Rs. 15 lakhs and, in the final report, a review of the city's economic

needs, of its public works and public utility buildings, questions of Greater Bombay and suburban extensions, certain specific reforms and re-organisation in the engineering department were suggested. He also recommended that the public should be kept constantly informed of municipal projects and developments through a central board, appointed by the Government.

In 1924, Visvesvaraya was invited by the President of the Karachi Municipality to undertake investigation of the financial position of the Municipality and to suggest retrenchment and reforms. He submitted a report containing a survey of the municipal departments and staff and a forecast of future plans and policies. A large number of towns and cities approached Visvesvaraya to suggest practical schemes, mainly for water supply. He did service as consulting engineer and Adviser to Baroda, Sangli, Morvi, Wankaner, Pandharpur, Ahmednagar, Bhopal, Mysore, Nagpur, Bhavnagar, Rajkot, Goa and others.

In 1939, he was invited to devise methods to control the periodical floods in Orissa. His report laid the foundation for the construction of the Hirakud Dam on the upper reaches of the Mahanadi River. In 1947, he visited Tungabhadra Water Works and gave his advise on a question of engineering importance about which differences of opinion existed between the Chief Engineers of the two States of Madras and Hyderabad.



## CHAPTER X

### GOVERNMENT AND PUBLIC COMMITTEES

After retirement from Government service, Visvesvaraya served as Chairman or member of a number of commissions and committees. In 1921-22, he was appointed Chairman of the Technical and Industrial Education Committee set up by the Government of Bombay. The object was to inquire into the condition of technical and industrial education and to draw up a comprehensive scheme to meet future needs. The committee consisted of 10 Europeans and 7 Indians. Visvesvaraya as Chairman of the committee tried his best to secure a unanimous report but failed, as the British members, supported by the British Governor, were opposed to higher technical education for Indians, while the Indian members were in favour of it. The Governor suggested to Visvesvaraya that he should be content with putting forward proposals for the training of apprentices.

But Visvesvaraya and other Indian members, although they formed a minority, recommended the establishment of an Institute of Technology and various other facilities for technical education for which there was a pressing need. But the European members in a body altered the report to suit their views. It was not accepted.

Bombay University appointed a committee in 1930 with Visvesvaraya as Chairman to investigate the

prospects of developing chemical industries. The Committee consisted of seven Indian and three European members who were expert chemists and industrialists. The report of the Committee was unanimous, and it resulted in the establishment of an Institute of Chemical Technology in Bombay City by Bombay University.

In 1937, the Government of Bombay set up a committee to examine the whole question of irrigation policy and allied matters and submit necessary proposals in regard to supply of water to different crops for industrial undertakings like sugar factories and for non-agricultural purposes such as supply to municipalities and railways, revision of water rates, canal rates and steps to be taken in cases of water-logging, etc. Visvesvaraya was invited to be the Chairman of the committee, which consisted of 10 members, both official and non-official. The committee submitted an unanimous report recommending the introduction of the "block system" of irrigation, meetings and conferences to bring officials and cultivators together for mutual explanation and understanding and to provide for continuous study and research by the constitution of a provincial irrigation board and an irrigation research bureau. The Government of Bombay adopted most of the recommendations of the Committee in their resolution dated 23rd March 1939.

In 1922, the Government of India constituted the New Capital Enquiry Committee for formulation of a sound scheme for the construction of the Viceroy's residence, Central Government offices, assembly buildings,

etc., in the new capital of Delhi. Visvesvaraya was appointed a member of this committee. The Committee inspected the works of Government House and other associate buildings under construction and also the plans for extension and drainage of New Delhi.

In 1925, Visvesvaraya was appointed Chairman of the Indian Economic Inquiry Committee to report on the availability and adequacy of statistical material to assess the economic conditions of the various classes of people of India. The Committee, in their report, recommended the need for an economic survey with a view to collecting statistical data and information so as to facilitate the shaping of economic policies and the evolving of a solution to current economic problems.

In 1926, he was appointed a member of the Back Bay Inquiry Committee, set up by the Government of India to inquire into the history of the inception and operation of the Back Bay Reclamation Scheme and to make recommendations as regards future operations. The Committee submitted a scheme recommending the development of the area already reclaimed, limiting further reclamation and curtailing some of the new projected works.

In 1929, the Bombay Government appointed a small committee of two Indian engineers, of whom Visvesvaraya was the senior, to report on the complaints regarding the operation of the Sukkur barrage in Sind. The Government of Bombay accepted the committee's report and implemented it in the next ten years.

## CHAPTER XI

### FOREIGN TRAVELS

Visvesvaraya made another extensive tour abroad. He visited Japan twice and America five times and toured a number of countries of Europe too. These foreign travels in the advanced countries of the West as well as the East influenced him in following certain policies within his limited jurisdiction in the latter years of Government service, particularly in Mysore, and in other matters of interest after his retirement.

In 1898, while he was working as Assistant to the Chief Engineer for Irrigation, Poona, he visited Japan for three months. He took notes of his observations in Japan and compiled a small book of his experiences, which was not published, because, as a Government servant, he was precluded from making comments on Government policies and programmes.

His second foreign travel was after retirement from Bombay service in 1908, when he took long leave preparatory to retirement. He spent some time in examining engineering developments in water supply, dams, drainage, irrigation and other works in Italy, various parts of Europe, including Sweden and Russia, and America and Canada. London constituted the centre for his tours in every direction. Next, he proceeded to New York and Detroit in America (and also Ottawa and Toronto in Canada) to study the automobile industry

at the Ford Factory in Detroit and some big reservoirs like the Croton dam which supplied water to New York. In Canada, he was able to collect statistics of every department which was being developed. He had to cut short his tours and return to India, in view of a message he received from Hyderabad to deal with an engineering problem, namely, the destruction of a part of Hyderabad City caused by an extraordinary flood in September, 1908.

The third foreign tour undertaken by Visvesvaraya was in 1909, after he had retired from Government service in Mysore. Some friends in Bombay, headed by Vithaldas Damodardas Thackersey and Mulraj Khatau, organised a round-the-world tour with a party of half a dozen friends. Visvesvaraya joined the party, sailed in a P & O boat from Bombay to Colombo, Singapore, Hongkong, and landed in Nagasaki in Japan. He stayed in Japan for about three months and studied modern developments in education, industries, commerce and politics. From Japan he went to Canada and studied the trade in forest produce through the port of Victoria. The machinery installed at the factory for the manufacture of seasoned wood was very elaborate and complete; all the operations were carried out automatically by machinery, and the railway trucks carried the products to interior markets, even up to New York about 3000 miles.

Visvesvaraya and his associates studied other industries like cement and paper. They proceeded to Detroit to study the automobile industry. He visited the President of Harvard University and learnt from him that

the University specialised in the teaching of all subjects. He visited another University in the Central region of America, where the students were encouraged to work and earn for their maintenance at the University. In 1920, during his visit to Washington, Visvesvaraya visited the head of the Federal Reserve Board to study the financial position of the United States of America. He had detailed discussions with Robert Hoover, secretary for commerce, who evinced keen interest in the development of American industries. The latter explained how rapidly industries were being developed in America. Visvesvaraya inquired why India was industrially backward to which Hoover replied: "You people have no hustle in you", which means that Indians were slow, sleepy and easy-going. On his way back to India, Visvesvaraya, stayed in London for about ten months to write the book "Reconstructing India" which was published in London in 1920.

The fourth foreign travel was in 1926, when Visvesvaraya visited London as an Engineer-Member of the Back Bay Reclamation Inquiry Committee appointed by the Government of India. After completion of the Committee work, he again undertook journeys to Europe and America to study the problems relating to steel manufacture and wood distillation. As Chairman of the Board of Management of the Mysore Iron & Steel Works, Bhadravati, he collected the details both in the United States of America and Sweden, where the iron and steel industry functioned with charcoal fuel as in Bhadravati. They could sell charcoal pigiron from Bhadravati cheaper in America

than the Americans could manufacture the same by themselves. During this tour, Visvesvaraya noticed that one firm of consulting engineers looked after the technical interests of some 80 wood distillations in and around Berlin.

During his fifth foreign visit in 1935, Visvesvaraya spent about six months in Europe and America studying the designs and working details of the automobile industry, as mentioned earlier (in Chapter-VIII). His first visit was to English factories in Coventry, Oxford, Birmingham, Derby and other places. In the Continent, he visited Italy, Germany and France. While in New York, he met a Russian Engineer who informed him that there were 40 Russian engineers in America to collect technical and other information with a view to manufacturing in Russia, a complete automobile on the American model. In Detroit, he visited the General Manager of the Ford Factory and the two experts who controlled the General Motors Corporation.

The sixth and the last foreign trip he undertook was in 1946 as the leader of the delegation of nine members of the All India Manufacturers' Organisation, Bombay. The delegation visited many of the industries in Britain, the United States of America and Canada. They visited textile, engineering and chemical industries in Britain, including aircraft factories in Bristol and Derby. While in America, the delegation visited many important industries including the Niagara Falls hydro-electric power station and several large engineering works in Chicago. They spent some days visiting automobile factories in Detroit and Windsor

across the Channel. They visited an aircraft factory near New York. Visvesvaraya alone visited the Tennessee Valley Authority (T.V.A.), as he was personally interested. After completing the tour in America and Canada, the delegation visited, in separate batches, industrial establishments in France and other parts of Europe. Before returning to India, they visited the British Trade Fair in December 1946. After their return to India, a book was published narrating the experiences of their tour and making suggestions for rapid industrialisation of India.



## CHAPTER XII

### PROMOTION OF INDIAN INDUSTRIES

Visvesvaraya was the President of the All India Manufacturers' Organisation, Bombay, since 1941. In 1945, a small pamphlet on heavy industries prepared by the A.I.M.O. was submitted to the Government of India. In 1946, a delegation of nine members of the same organisation with Visvesvaraya as the leader toured the industrially-advanced countries in Europe, America and Canada and issued a report after their return in 1947, embodying policies and practices which might help industrial development in this country. Both these publications mention heavy and large-scale industries from which selection of industries could be appropriately made for India.

Similarly, in 1949, for providing rural industries, the A.I.M.O. published three pamphlets. They drew up plans of how small scale industries and subsidiary occupations could help to supplement the income of the farmers in various ways. They could produce consumer goods for the local population, or they could manufacture small machinery parts for urban industries in their neighbourhood. Special efforts would have to be made to increase self-sufficiency, as far as possible, by the use of machinery and machine tools, modern equipment and latest business methods and practices, both in industries and agriculture.

Heavy industries in modern life are known to contribute to the prosperity of a country and small industries to provide occupations to the unemployed and underemployed workers particularly in the rural areas and help to raise the standard of living. Visvesvaraya felt that, for a long time, these industries had been in the doldrums. The structure and policies of the industries department had been continued about practically unaltered, as they existed during the British regime.

Industries suffered a setback on account of various disabilities and difficulties. Capital was lacking; steel, being the essential raw material for industries, was not available; machinery had been difficult to procure on account of the war and also because Western nations had been engaged in stock-piling capital goods ever since talks began of a cold war between the United States of America and Russia. Further, it was pointed out that a notable defect in the country's industrial organisation had been the absence of reliable statistics.

Another deficiency had been the absence of adequate technical personnel; even the services of Indian technicians trained in foreign countries were not being utilised continuously and properly to equip the department with adequate technical talent. On the other hand, the Government authorities frequently went to foreign countries for advice or help without thinking of utilising local talent.

Visvesvaraya felt that there had been for some time a fear inspired in business circles that the Government desired to take control of private industries and make a number of them state-owned — a fear that has

not yet disappeared. Further there was no distribution of industries on any calculated plan. Hence it was necessary to change the structure to suit the new policies necessitated by the great changes in the general administration and altered political, social and economic conditions of the country. For all these reasons, a new plan and structure for the Industries department had to be devised and a new system of administration adopted.

Industries which could be remunerative should be selected for each region. The more important industries or groups of industries to which attention should be directed would be:

- Mechanical Engineering
- Steel, Automobile and Aeroplane
- Electrical Industries
- Armament industries
- Locomotive and Railway machinery
- Chemical and plastic industries
- Key industries
- Ship-building
- Textile machinery (cotton, silk and wool)
- Mining
- Aluminium
- Fertilisers
- Rayon and others.

Visvesvaraya emphasised that, as regards administration of industries, defence industries for production of military or armament machinery and key industries (that is, industries which were necessary for the country but which would not pay private entrepreneurs

to undertake) might be under direct Government control when necessary; but even these industries might be managed on business terms by private companies or business men of repute as managing agents. A considerable part of the management of other industries should, in the present conditions of the country, be left to the private or free enterprise system in which the intelligent educated sections of the people might increasingly participate.

The policy and practice in future should be that anybody should be free to start a heavy or a large-scale industry wherever he found it profitable to do so, provided it did not conflict with the Government or public policy or interests. The Central Government should give encouragement to a deserving industry in the shape of subsidies or subventions, or by purchasing shares, or by remitting taxes for a fixed number of years from the date of establishment of the industry. The extent of Government supervision should be specifically defined to fit in with the new system.

It was suggested that, in future, a deputy minister for industries be appointed, together with two liaison committees, one committee of three technical experts and the other a committee of three top business men and experts selected for their capacity and probity. The two liaison committees would be chosen from among expert technologists, financiers and organisers. Experts from engineering firms might also be employed for short periods at a time. Their salary might range from Rs. 3,000 to Rs. 5,000 including allowances according to qualifications.

Occasionally, members of the expert committee might be deputed to England, Europe or America to obtain advice on special important cases. Whenever there was any difficulty noticed or any irregularity in any industry anywhere, then one of the experts would make on-the-spot investigation and suggest a solution in consultation with the liaison committee and also, if necessary in consultation with the State Industries Department. The Deputy Minister at the Centre would control this organisation and, in important cases, prepare material for the Cabinet Minister's decision.

Research and development and annual table of results of operations should be maintained and checked by the Technical Officers both at the Centre and in the States. Results in a tabular form should contain the following information:

- Number of industrial establishments
- Total capital invested
- Number of employees
- Amount of salaries and wages paid to employees
- Value of materials used
- Value of output of products of industries

Other heads might be added to the Table if the circumstances of the industries or locality make it necessary.

### **Rural Reconstruction**

Visvesvaraya, as President of the All-India Manufacturers' Organisation also prepared a scheme for rural industrialisation and submitted to the Govern-

ment of India in 1949. The Government of India circulated the scheme to all the States. The Government of Mysore accepted it and implemented it in two districts as an experimental measure in 1950. Subsequently, in 1955, it was extended to the entire State. The object of the scheme is two-fold; the feature is to make the people work harder and work more efficiently so that the aggregate amount of work turned out may increase from time to time till it approaches the standards maintained in Western countries, and the second aim is to train the rural population in self-help, modern business habits, initiative and collective effort so that they may equip themselves, by their own effort, to rise step by step to the position which they should attain.

Increase of production is sought to be achieved by promoting the small-scale and minor industries on an extensive scale and provide remunerative employment to the people in the rural parts of a district. The rural area in a district is divided into about 40 to 50 groups of villages, each group constituting 20 to 25 villages, with a total population ranging between 15,000 and 20,000. Each group circle has its own committee of management consisting of 7 to 12 intelligent and capable members among the residents of the village group itself to manage its affairs and to help the village families to carry on industries.

A village group development inspector is appointed to work under the orders of the Group Committee. Before he is appointed, he is trained in a training camp by the special officer appointed by the

Government for implementing the scheme. The group committee may take a suitable building for rent to locate its office, until it is able to construct a building of its own.

To begin with, a bench mark survey is conducted and statistics of figures required regarding population and area are collected, and charts showing industrial production and economic progress, working rules and suggestions are prepared and put up in the office building. The figures of monthly production in industries carried on by individual workers, or jointly by a number of people aided and encouraged under the scheme, are collected by the Group Inspector and furnished to the Special Officer. The Village Group Committees will make a monthly stock-taking of the number of new industries started or expanded and the approximate quantities and gross value of commodities or goods produced and supply the information to the Special Officer, who submits it to the Government. The per capita value of production can thus be deduced and recorded. The Government may appoint supervisors or superintendents and other staff to help group committees and villages with advice and suggestions to get into the business. Government may also give temporary help, whenever required, in technical matters or working practices.

The people of every group circle will know what they are producing collectively, what the gross quantities and values of output are and also what the per capita value of output amounts to. From this, they will know what their capacity for production in their area

is, compared with the past, and also what it is with reference to other neighbouring village group units: such knowledge will be an incentive to production and stimulate enterprise.

Funds required for group committees are obtained through collection of subscriptions and shares from the people of the group circle, of not more than Rs. 3,000 per annum. The Government will provide an equal amount as subvention to create enthusiasm among the people. The two together will be Rs. 6,000, which constitutes the financial nucleus of the group committee. The committee uses part of this money towards organisational expenses, such as salary of the Group Inspector, rent and contingencies, all combined not to be more than Rs. 1,000. The balance of Rs. 5,000 is invested in a separate Bank, viz. the Rural Industrial Financing Co-operative Bank, specially organised as an adjunct to the Rural Industrialisation Scheme, for advancing loans to the people on easy terms, for starting new industries or for expanding the existing ones.

In the beginning, a target of production of Rs. 2 per month or about Rs. 25 per annum is fixed for every family of workers increasing its income from industries. For a normal population of 10 lakhs in a district, it will amount to a gross income of Rs. 50 lakhs per annum. Eventually, when the average monthly production rises to Rs. 4 per family, the district will earn over Rs. 1 crore from this single source. Thus the effort to improve industries should be by self-help, initiative, co-operative or collective effort. A system of financial aid to entrepreneurs, artisans and rural industrialists will also be



introduced through the establishment of the Rural Industrial Financing Co-operative Bank.

At the end of each year, the committee will be required to submit a report of progress accompanied by a statistical table of results. It should give as many of the following data or particulars as could be collected :

Number of industrial establishments in the village group area.

Capital invested.

Number of employees.

Salaries and wages paid.

Cost of materials used.

Gross production — Quantity and approximate value of products.

Total population and

Per capita value of output.

The villagers should be trained to use electric power, machine tools and pumps and other time- and labour-saving devices. They will also have to be taught courtesy and service towards fellow men to promote a large-scale co-operative effort. Further, the Group committee should induce the population to maintain collectively a two-year food supply for the entire population of the village group, in view of frequent drought and famine.

The Rural Industrialisation Scheme was implemented in Mysore State in three stages. The first stage was started in the districts of Bangalore and Kolar in 1950. A third district, namely Mandya, was added in 1953, which was the second stage. The third stage began from July, 1955, when the schemes were

put into operation in the remaining seven districts of the former Mysore State. The Rural Industrial Co-operative Financing Bank was established on 30th April, 1953 specially for the Rural Industrialisation Scheme.

The table on page 54 gives a comprehensive view of the working results of the scheme during the entire period, i.e. from the inception of the scheme, *viz.* 1950-51 up to end of December, 1957.

The Bank, which had started its operations on 30th April, 1953, had disbursed loans amounting to Rs. 1,07,20,720 to 22,060 industrial units up to 31st March, 1958.

Thus, it will be seen that, by the Government spending Rs. 52.67 lakhs, the people have achieved industrial production of the total value of more than Rs. 30 crores within six or seven years.

Another notable feature of the results is that for every Rs. 100 spent by the Government, the people have themselves spent about Rs. 70. That indeed is a large contribution for the people. Further, a large substantial production by the people has enabled them to build up sufficient working capital and a bank.

The working capacity and business habits, including an eight hour's working time only for six days work, in the scheme becomes a practical proposition. The character and capacity of the people are bound to improve and lead to further continuous growth of the standard of living of the people of the region.

	Bangalore Dist.	Old Mysore State
1. Total area	3084 sq. miles	33,310 sq. miles
2. Rural population	13,48,084	85,20,149
3. Expenditure by Government	Rs. 8.01 lakhs	Rs. 52.67 lakhs
4. Total value of Industrial production contributed by the people.	Rs. 1020.61 lakhs	Rs. 3083.20 lakhs
5. Total gross income per capita	Rs. 75.7	Rs. 36.2
6. Value contributed by people in the area	Rs. 6,66,863	Rs. 36,34,334
7. Value of Industrial production for every rupee spent by Government	Rs. 127.4	Rs. 58.5

### **Mahatma Gandhi's Correspondence with Sir M. Visvesvaraya on Rural Industrialisation**

Mahatma Gandhi encouraged khadi and village industries; to him, Khadi was the symbol of decentralisation, of simplicity, self-sufficiency and rural employment. Though Gandhiji was not opposed to key and basic industries, he favoured production by the masses as opposed to mass production by automation which would lead to unemployment on a large scale. He wanted work to be given to idle hands and reform the parasites of the society into self-supporting and self-respecting citizens. Gandhiji was afraid that concentration on industrialisation would ultimately be a curse on mankind. But Visvesvaraya stood for rapid industrialisation using science and technology. To him, the automobiles and planes were the symbol of speed, progress and prosperity.

He did not desire to hurt the feelings of Gandhiji whom he held in very high esteem, went to the extent of admitting that till a better substitute was found out to give higher wages to the rural population, handspinning could provide at least subsistence level of living to the largest number. That is how they reconciled themselves with each other. Gandhiji finally wrote to Visvesvaraya.

“I have no difficulty whatsoever in endorsing your remarks about heavy industries. I know that heavy industries cannot be organised without power-driven machinery. I can have no quarrel with such use of machinery. My objection comes in when such machinery displaces human labour without providing displaced hands with a substitute at least as good as displaced labour”.

“I entertain great regard for your fine abilities and love of the country and it shall be unabated whether I have the good fortune to secure your co-operation or face your honest opposition”.

The correspondence exchanged between Gandhiji and Visvesvaraya is given in the Annexure (Page 68).

## CHAPTER XIII

### RURAL RECONSTRUCTION

Visvesvaraya visited Japan twice, for the first time in 1898 and a second time in 1919. During his first visit, he noticed that a committee of patriotic ministers of great foresight and ability had visited England and America and had lofty ideas, proposals and numerous schemes for developing high-class administration and business life in their own country. Every minister and leader had been imbued with sound ideas and practices for spreading modern administrative life in Japan. Visvesvaraya collected information regarding village uplift work in Japan during his two visits and in the second of which, he paid special attention to the study of village life including visits to model villages.

In 1931, Visvesvaraya prepared a scheme of Rural Reconstruction in India, with the object of raising the income of the Indian villager and the reconstruction of his earning power and industrial life. He found that the rural population was least able to help itself and on account of its overwhelming number even a small improvement in its condition would mean a great gain to the country at large. The betterment of the rural population had become one of the most outstanding problems of the country.

The rise in population revealed by the census of 1931 was a warning that the occasion demanded a more vigorous programme of agricultural reform organisations and strong popular support for its success.

The Rural Improvement Scheme aims at increasing income in villages by increasing production from agriculture, by extending subsidiary occupations and industries and by increasing the hours and output of work as practised by the village committees. At the same time, it attempts at increasing the working efficiency of the villager, by initiating a system of home discipline, by providing for vocational or occupational training and by extending educational facilities. During his visit to one of the model villages of Japan, Visvesvaraya witnessed an association consisting of the headmen of families in the area who were called housemasters. The Association met twice a year in conference and discussed questions pertaining to the wants and desires of the village in respect of production and occupations and its material prosperity generally.

The funds and measures required for the promotion of industries and production were considered and discussed, and with the assistance of the Council of the Association, a programme of work and budget of expenditure was drawn up. The expenditure was met by contributions from the members of the Association (i.e. headmen of families), every farmer's family paying its share according to its estimated income or earning capacity.

The Conference would examine every proposal or suggestion for increasing production and income,

whether from agriculture, subsidiary occupations, industries or services. Experienced leaders and businessmen were invited from the neighbouring cities to advise the people how occupations might be multiplied, production increased and the prosperity of the village promoted. The conference was wound up by a visit to the village Shinto temple, where divine blessings were invoked on the undertaking initiated by the association.

The village council with its elected Chairman who was usually the Village Chief and Vice-Chairman, who was usually the school Master, constituted the executive body of the association. It met once a month to implement the policies and programmes laid down by the half-yearly conference. A similar association with an executive committee and headman could be brought into existence, to serve the same purpose, with similar results, in any Indian village or group of villages under the rural reconstruction scheme. The statistics of production and income of a farmer's family should be collected and compiled. The income would depend upon the nature and variety of the occupations pursued by himself and the members of the household, usually under three heads, namely,

- (1) Agricultural produce.
- (2) Products of subsidiary occupations and minor industries.
- (3) Income from labour or service and all other miscellaneous incomes.

The family income Register should be filled in by the headman of the family or by an official of the asso-

ciation after a house-to-house inquiry. The quantities and values of each of the principal crops, the products and services, which, in their aggregate, represented the entire production and income of the village during the year. The figure representing the village income, divided by the number of families, would give the average income per family, the same divided by the number of persons in the village would represent the average income per head of the village population. The total income should be recorded from year to year for a series of years in the progress Register. It would be a ready reckoner to indicate whether the village was gaining or losing in production or prosperity.

The village association should carry on propaganda to educate the people in rural economics. Production from agriculture could be increased by increasing the area cultivated; by extending irrigation from tanks, canals and wells; by consolidating holdings; by providing special credit facilities; by growing more profitable crops, such as commercial and fruit crops; by using better seed and manure; by removing insect pests; and, generally, by practising scientific methods and co-operative principle both in cultivation and finance.

The subsidiary occupations and minor industries that could be encouraged were spinning and weaving, sericulture, blacksmithy and carpentry, leather work, poultry, brick and tile-making, carpets, mat, basket and rope-making, livestock improvement and dairying, fisheries, beekeeping and the like. New home industries or small-scale industries which were more remunerative might be introduced according to the diligence



and enterprise shown by the Village Community concerned.

Under labour and service would come hiring tools and machinery, farm and domestic service, plying carts for hire, collection and sale of manure and fuel and such other pursuit. The farmers might learn to produce locally, as far as they could, the greater part of the commodities they consumed and to manufacture finished products for sale. They might learn to reduce the cost of farm operations by sharing the use of each other's bullocks, farm tools and implements and personal labour on co-operation principle. They could also learn to diversify the industries and occupations, according to the special resources and conditions of each locality.

The data thus collected would be compiled and put up in the village hall or office in the form of charts and graphs, to indicate to the intelligent villager at what rates the production and income of his village had varied in the past and what causes had contributed to such variation. In some Japanese villages, such records were available for 25 years or more, indicating the importance which the Japanese nation attached to the measures calculated to promote the economic well-being of its rural population.

In this context, Visvesvaraya had suggested that adult persons of a village would become efficient working and earning members of their families, if they were instructed in the 3 R's and taught habits of steady work, industry and thrift. These habits should be

inculcated by means of school lessons and other form of propaganda and lectures.

The village improvement association should carry on necessary propaganda to ensure that heads of families took active steps and did their duty faithfully to the village in this respect.

The following measures are suggested to inculcate home discipline to train the body, the mind and the character of the villager and to educate him in practices of self-reliance and self-help. Every adult of the family should be induced to work for 8 hours a day and 6 days in the week; he should be instructed to cultivate the savings habit, so that the family may at no time fall into debt for unproductive expenditure. At the same time, provision should be made for giving of manual and business training and instruction in some trade, occupation or profession.

Another important measure was education.

Government maintains educational institutions, and the village improvement association is expected to add to the facilities. In the Japanese villages, nearly 60 per cent of the local taxes is spent on educational institutions in the village itself. Adult education classes should be specially encouraged as a speedy means of spreading literacy. Radios, cinemas and lectures by broadcasting may come in at a later stage. Thus, the responsibility for extending education and training to prepare men and women for industrial and business careers rests on everyone concerned, Government departments, Village Improve-

ment associations and Philanthropists and public-spirited citizens.

Visvesvaraya has stressed in the scheme for rural reconstruction that Government encouragement will always be necessary for a progressive scheme of this nature and a fair trial should be given to implement the scheme. Difficulties will be found to diminish gradually by repetition and familiarity. If Government initiative and encouragement is extended, it will be easy to promote self-help and self-improvement among the people and it will be easy to work the scheme on a mass-movement scale. Thus it will be possible to develop a fervour for reform, even among the illiterate and the ignorant.

## CHAPTER XIV

### SOCIAL REFORM, POLITICAL AND OTHER CONFERENCES

Visvesvaraya spent nearly 14 years in Poona while in service under the Bombay Government. There were a number of educated people who were not disinclined to play the role of reformers. On one occasion, some 42 Brahmins accepted the invitation of a Christian organisation to a tea party, as a result of which they were boycotted by the orthodox Brahmin residents of Poona. They were criticised in the Marathi papers, but it did not take long for the public of Poona to adopt a more tolerant attitude towards those reformers. In this atmosphere, Visvesvaraya made earnest attempts to start a club on the English pattern at Poona in 1891. He, along with some friends, approached Mahadev Govind Ranade, a very able, well-informed and level-headed leader, to secure an old building with a historical reputation known as "Hira Baug". The building was repaired for the inauguration of the club on 17th November, 1891. Fifteen minutes after the meeting commenced, not more than 10 people out of the invitees had arrived; but in half an hour 25 people gathered and, towards the close of the first hour, there was a gathering of 60 to 70 of the leading men of Poona. Visvesvaraya was one of the joint secretaries who looked after the interest of the club, till he was transferred to Sukkur in 1894. He

was specially invited to preside over the golden jubilee of the Deccan Club in November, 1941.

In 1917, a committee of princes and dewans was constituted to consider and make recommendations about the future position of the Indian States in relation to the Government of India. Visvesvaraya was a member of that committee when he was Dewan of Mysore. Various reforms connected with Indian States were suggested.

In 1923, he presided over the Indian Science Congress at its annual session held in Lucknow and, again, over the Indian Economic Conference held in Bombay in 1924. He was elected President of the Court of the Indian Institute of Science successively for nine years from 1938 to 1947.

In 1921, Visvesvaraya joined the delegation which was to meet the Viceroy at Calcutta to discuss proposals for organising a Round Table Conference between the representatives of Government and the political leaders of all parties in the country to find a solution for the more urgent political problems which were facing the public in those days. C. R. Das, President of the Indian National Congress, Pandit Madan Mohan Malaviya and Annie Besant were the leaders, and the All-parties Conference was held in Bombay which was attended by Mahatma Gandhi. On the second day of the Conference, Visvesvaraya presided.

In January, 1929, Visvesvaraya presided over the South Indian States Peoples' Conference held in Trivandrum. This was attended by representatives

from Mysore, Hyderabad, Pudukottah, Cochin and Travancore. The Conference discussed the Indian Constitutional Reforms, the shortcomings and special wants of the States' people and the position of the Indian States and the Chamber of Princes in any future scheme of Federation for India.

Visvesvaraya was the founder-president of the All-India Manufacturers' Organisation, Bombay, which was started in 1941. He was a Director in the Tata Iron & Steel Company Ltd., Bombay, for 28 years from 1927 to 1955, and made an outstanding contribution to the industrial development of the country, and, in particular, to the steel industry.

He delivered the Convocation Addresses of the following four Universities:

- 1931 Andhra University, Waltair;
- 1937 Benares Hindu University;
- 1940 S.N.D.T. Women's University, Bombay;
- 1948 University of Mysore.

He received the title of C.I.E. at the Delhi Durbar in 1911; K.C.I.E. in 1915 and Bharata Ratna in 1955. He was awarded the fellowship of the Indian Institute of Science in 1959. He received Honorary doctorate degrees from eight Indian Universities, viz., Bombay, Mysore, Andhra, Benares Hindu University, Patna, Allahabad, Jadhavpur University and Calcutta. In 1958, he was awarded the Durga Prasad Khaitan Memorial gold medal by the Royal Asiatic Society Council of Bengal, Calcutta.

## CHAPTER XV

### THE LAST DAYS

The centenary of Sir M. Visvesvaraya was celebrated on 15th September, 1960 at Bangalore. It was inaugurated by the then Prime Minister, Pandit Jawaharlal Nehru, and presided over by the Governor, Jayachamaraja Wodeyar, Maharaja of Mysore. Addresses were presented by the Corporation of the City of Bangalore, Chairman of the Centenary Celebrations Committee and the All India Manufacturers' Organisation. A Commemoration volume containing appreciative write-ups, reminiscences, and homage by eminent contemporaries and admirers was published on the occasion. His career and achievements, the influence he exercised over three generations of his countrymen were highlighted in this issue.

Rajaji described him as "a man of uncorruptible integrity and a model of personal purity of character. His simplicity and sense of correct behaviour are extraordinary, rising sometimes to an unbelievable degree". Rajendra Prasad, in his message wrote: "Visvesvaraya has had a long span of active life and, throughout this period, service of the people to the best of his capacity has been his motto. Every field of activity, be it industry or administration or business, bears the indelible mark of his conscientious hard work".

Dr. S. Radhakrishnan described Visvesvaraya as "a great engineer, a great patriot and a great statesman. In spite of his eminence, he is still a humble man at heart. The whole idea of planning in this country started with him and the industrial progress made owes its inspiration to his thoughts, though it may not always be in conformity with his ideas".

Jayachamaraja Wadiyar, Maharaja of Mysore, in a glowing tribute said: "His life has been one of intense fruitful activity and service to the people. Visvesvaraya's services as a statesman, engineer and economist assure him of a place in Indian history. His achievements during the period of office in Mysore State are indeed too numerous to mention. It can truly be said that he was the person who laid the foundation for a prosperous and progressive future of the State".

On 14th April, 1962 at 6.15 a.m., Visvesvaraya breathed his last peacefully at his residence in Bangalore. A state funeral was given to him and the Government of Mysore issued a Gazette Extra-Ordinary mourning his death. The body was carried to Muddenahalli, his native village, where the cremation took place.



## ANNEXURE

Wardha,  
15th November 1934.

Dear Friend,

The All-India Village Industries Association which is being formed under the auspices of the Indian National Congress will need the assistance of expert advisers in the various matters that will engage its attention. It is not intended to trouble them to meet together or even the members of the Association, but merely to advise the Association whenever reference is made to them in matters in which they possess special knowledge, e.g., in chemical analysis, food values, sanitation, distribution of village manufactures, improved methods of developing village industries, co-operation, disposal of village waste as manure, methods of village transport, education (adult and other), care of infants, and many other things too numerous to mention here.

Will you please allow your name to appear among such advisers of the All-India Village Industries Association? Naturally I approach you in the belief that the object of the association and the method of approach to its task have your approval.

Yours sincerely,  
Sd/-  
(M. K. Gandhi)

46, F. Warden Road,  
Bombay,  
20th November, 1934.

Dear Mahatmaji,

Your letter dated the 15th November 1934 addressed to Bangalore, reached me here in Bombay yesterday, where I will be staying for the next few weeks.

I have been following with great interest and sympathy your propaganda and efforts in the cause of village industries.

If it suits you, I am quite willing to give such advice or opinion as, it is in my power to do, without any official association of my name with your organisation for the present. If the work progresses on lines in the efficacy of which I can have instinctive faith — I will not wait for signs of success — I shall ask for the privilege of being associated with it.

I feel that in this machine age, we should not hesitate, except in temporary situations, to utilise mechanical power to the utmost limit that circumstances permit. I also feel for sound economic advance the public should have a general plan or scheme of all-round development along with the special schemes like the one now engaging your attention.

With regard to the first point, I am enclosing an extract from a speech by the Russian leader J. Stalin, and with regard to the second, namely the need of a comprehensive programme of development, I will be sending you within the next ten days a copy of a book

*Planned Economy for India.* It will be mailed to you from Bangalore.

I am sending by book-post today a small pamphlet on "Rural Reconstruction in India" in which I have laid stress on the importance of collecting and maintaining statistics as a yardstick to measure progress in production, etc., from year to year. This I have seen is done in Japan.

In the latest article I have read from your pen, you have stated that three points are causing you concern regarding your new Association, namely: the location of the Central Office, the composition of the Board and the Agencies. As you have invited opinions, I trust — if it is not too much to ask — you will kindly consider the specific proposals put forward in the book, that will be sent to you before coming to a decision.

Yours sincerely,  
Sd/-  
(M. Visvesvaraya)

Shri Mahatma Gandhi,  
Wardha.

---

Wardha,  
23rd November, 1934.

Dear Friend,

I thank you for your prompt reply. I see that we hold perhaps diametrically opposite views. My conviction based upon extensive experience of village life is that in India at any rate for generations to come we shall not be able to make much use of mechanical power

for solving the problem of the ever-growing poverty of the masses. We are too many and we have so many idle hours at our disposal that it would be suicidal to make use of mechanical power and allow human power to run to waste. The question of leisure after toil comes into being when people learn the art of making effective use of their waste hours. Such being my view the extract that you have sent me from Stalin has no appeal for me at all. The more expressive extract from Lenin makes matters worse for me.

It is like much cry and little wool. I could be no party to engaging the villagers in producing army machinery and army stores. If India has no desire to take part in the gory exploitation of unmechanised regions of the earth, she has no need to fear aggression from foreign countries. My dream will remain wholly unrealised and India may become a willing or unwilling partner in the sin of exploitation. I want to put the whole of my force that God may vouchsafe to me in stemming the onrush of the violent current. I should take delight in perishing in the attempt.

In spite of the strength of my conviction, I entertain great regard for your fine abilities and love of the country, and that shall be unabated whether I have the good fortune to secure your co-operation or face your honest opposition.

Yours sincerely,

Sd/-

(M. K. Gandhi)

Sir M. Visvesvaraya, K.C.I.E.,  
46, F. Warden Road,  
Bombay.

---

46, F. Warden Road,  
Bombay,  
27th November, 1934.

Dear Mahatmaji,

I am much obliged to you for your letter dated 23rd November.

You say we hold perhaps diametrically opposite views. You are for developing village industries and I favour both heavy industries and village industries. To the extent that you propose to advance village Industries, I am at one with you. I can never persuade myself to take up a hostile attitude towards any constructive work, from any quarter, least of all towards work attempted by one with your brilliant historic achievements in public life.

You seem to assume that I want to prepare the country for exploiting somebody or other. That view is wholly unwarranted. I am in favour of heavy industries at least as strongly as of village industries, because:

1. heavy industries will save the money that is going out of the country in large sums every year;
2. heavy industries are required to provide the local manufacture of machinery and equipment required by our railways and for our Defence Forces; and
3. heavy industries are required also for supplying machinery and tools for the village industries themselves.

You may be aware that in some years as much as Rs. 25 to Rs. 35 crores have been spent on imported machinery, locomotives, etc., for the railways and the defence forces. I meant that this should be reduced or minimised, and to that extent money should be saved and work found for our own people. This is merely to arrest impoverishment of the country. There is no exploitation in this.

I recommend more extended use of mechanical power because it produces results for the country much more rapidly than human power. The object is to get food and commodities required by our people for a decent standard of living as speedily as possible. The question of distribution of products is no doubt one of some difficulty at present and that difficulty is facing the entire civilized world. If a journey of 100 miles has to be accomplished and there is choice before you of a bullock cart or a motor car — you certainly would not choose a bullock cart. Neither in America nor in Russia where two opposite types of industrial development are being practised is mechanical power undervalued to the extent you proposed to do.

If India has to advance in material prosperity, it should be along lines which have succeeded elsewhere. It is only in regard to the methods that we differ; and may I add that the methods I advocate are suggested by experience and has today the approval of the civilized world?

I have a lot to say but I have no wish to seem controversial. If you think heavy industries do not

require encouragement, I will not refer to that aspect at all. I will not on that account oppose your other beneficent plans.

With assurances of high regard,

Yours sincerely,

Sd/-

(M. Visvesvaraya)

Mahatma M. K. Gandhi,  
Wardha.

---

Wardha,

10th December 1934.

Dear Friend,

I thank you for your letter. Fortunately I have your book also sent to me for which too, kindly accept my thanks.

Your letter gave me great joy in that there was in it promise of your support to my humble effort on behalf of the villagers. I have no difficulty whatsoever in endorsing your remarks about heavy industries. I know that heavy industries cannot be organised without power-driven machinery. I can have no quarrel with such use of machinery. My objection comes in when

such machinery displaces human labour without providing displaced hands with a substitute at least as good as displaced labour.

Yours sincerely,

Sd/-

(M. K. Gandhi)

Sir M. Visvesvaraya, K.C.I.E.,  
46, F. Warden Road,  
Bombay.

---