ABOUT THE AUTHOR

Prof. A. P. Srinivasamurthy has had a distinguished academic record at the University of Mysore, which he served for about four decades, teaching the graduate and post-graduate classes, guiding research scholars for their M.A. Ph.D. Degrees and carrying his own research work. On retirement in 1974 as Professor and Head of the Department of Post-graduate Studies and Research in Economics, University of Mysore, he carried on research for three years, as an Awardee under the U.G.C.'s Scheme for the "Utilization of the Services of Retired Outstanding Teachers". His published works include a hundred articles and twenty-five books, both in English and Kannada combined together. His Kannada books have won awards from the University of Mysore, Karnataka State Sahitya Academy and the Government of India.

ABOUT THE BOOK

"Professor A. P. Srinivasamurthy ..... has done a very great service to the student community in general and to the public at large by writing this book ..... He should be congratulated specially for his efforts to recapture the various qualities and greatness of Sir M. Visvesvaraya within a brief compass and for making the Visvesvaraya spirit become alive as it were, for enthusing the younger generation in particular."

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SIR M. VISVESVARAYA
(A brief review of his services)

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PREFACE

Sir M. Visvesvaraya's name is as popular as that of Mahatma Gandhi both in India and abroad. This extraordinary centenarian devoted about long eight decades of his life in the service of our motherland and his contributions to national life have been of enduring value to the people.

In my student days my revered father (the late) who was an Amildar in the Mysore Government Service used to tell me about the disciplined life and systematic method of work of Visvesvaraya. When Visvesvaraya started the All-India Manufacturers' Organization (A. I. M. O.) I became its member and translated Visvesvaraya's book 'Prosperity Through Industry' into Kannada in 1942. For sometime past, I developed a desire to write a little book highlighting his chief achievements as a constructive genius. Though there have been a few books on his life and works and also his own two editions of 'Memoirs', I thought one more little book may also be useful in spreading knowledge about this unique personality. It is not an exhaustive account of his life, ideas and work. Many important and interesting facts about his personal life and habits and character are not dealt with. What has been narrated relates only to his enduring services to our country. However, even the brief picture presented
in this book is enough, I believe, to impress the reader with the greatness of this illustrious Son of India.

The material for this book is taken largely from Sir M. Visvesvaraya's 'Memoirs' and a few other authoritative books mentioned in the Bibliography and I acknowledge my indebtedness to all these authors.

I am indebted to Dr. D. M. Nanjundappa, M.A., Ph.D., Commissioner and Secretary to the Government of Karnataka, Institutional Finance Department, for introducing the book to the reader through his valuable and masterly Foreword.

My sincere thanks are due to Shri G. K. Ananthram of the IBH Prakashana for readily consenting to publish the book and to Shri H. S. Narayana Rao and other concerned members of the IBH Prakashana Printery for printing the book very quickly and neatly.

My thanks are also due to Shri H. S. Suryanarayana for neatly typing the manuscript.

I remember with pleasure, the interest taken by my wife Gouramma, in reading the manuscript even as it was being written and by my sons, A. S. Ananda Murthy, M.Sc., Ph.D., and A. S. Aravinda Murthy, M.E., in going through the typescript and by my brother Arakali Narayan, B.Sc., in its publication.

Sometime during 1983, I saw a small book 'Gandhi's Life in His Own Words', published by the Navajivan Trust which had published the autobiography and most other publications relating to Gandhiji. When I read this little book of about 92 pages, the first thought that occurred to me was, books of this type on the life and services of our illustrious leaders like Sir M. Visvesvaraya, Shri Gopala Krishna Gokhale, Sri Balagangadhar Tilak, Sri Jawaharlal Nehru, Sri Vallabhai Patel and others should become available to the student community and also to the general public including those who are in service of one kind or the other. Most of them seem to feel that they have no time and patience to read the voluminous books to understand the spirit of their service and sacrifice done for the country. Reading and re-reading such books gives a great strength of mind and motivates one to adopt at least a few points from the lives of dedicated and selfless servants of society.

At the present juncture, when moral values and discipline have been eroded completely, some kind of moral re-armament is absolutely necessary to restore discipline and values that go with it. Small books on the life and services of great people, who have left behind a sublime spirit of great vision, dedicated and disciplined service and infallible integrity can serve as constant guides to the present and future generations.
Seldom did I realize that within a matter of a few months from the occurrence of this thought, I would be getting an opportunity to see the typescript of a small book on Bharata Ratna, the Engineer-Savant Statesman, Sir M. Visvesvaraya known for his super intellectual powers, disciplined life, systematic work, moral integrity and dedication written by my Guru Professor A. P. Srinivasa Murthy. I was thrilled with joy when I realised that a fleeting thought in me had met with fulfilment, thanks to the invisible working of the divine force. Professor A. P. Srinivasa Murthy has been the instrument of divinity in this matter and he has done a very great service to the student community in general and to the public at large by writing this book.

The author has handled the subject with great care, competence and alacrity and has presented the life and services of Sir M. Visvesvaraya in four chapters conveniently dividing the whole period into four sub-periods, viz., 1860-84, 1884-1909, 1909-1918 and 1918-1962. It is indeed a very difficult task to condense the voluminous material into a brief compass. That Professor Srinivasa Murthy has done it ably and successfully without doing any violence to the original shows his mastery in the art and the thorough grasp of the details.

Sir M. Visvesvaraya applied his mind to solve very intricate problems. His vision and forethought were somewhat astonishing. His inventive genius manifested itself in several ways. We find the imprint of this great many sided personality in all that he has done—Irrigation Project, Water Supply Scheme and Drainage, Heavy Industry Establishment, Consumers' Industries, Development of Education, Uplift of the Poor and the Weaker Sections, Promoting organisations, democratisation of administration, etc.

Sir M. Visvesvaraya's efforts in establishing the Mysore University, the Iron and Steel Factory, the Krishnaraja Sagar Project and even trying to manage the Iron and Steel Factory when it went into financial crisis are instances which are eye-openers to those who are engaged in nation building. His inspiring guidance is somewhat extraordinary and immortal. He was a symbol of answering patriotism. His success in getting equal treatment for both the representatives of the foreign rulers and the Indian officers, in those days of colonial rule, shall reverberate in the minds of all Indians for all times to come.

An unusual feature of Sir M. Visvesvaraya's life has been that he visited many times at his own cost foreign countries for studying their development and for initiating new measures in our own country to speed up the process of development. This is in contrast to the present day tendencies in civil service and public life.

He believed in and worked for rural development and advocated the adoption of modern technology in developing village industries. His slogan "industrialise agriculture" is something unique. His concepts of model village and model taluks hold good even now. His views on planning have a great lesson for the present day planners of our country.

Hard work seems to have manifested itself in the person of Sir M. Visvesvaraya. He would not waste even a single minute. He stood for secular attitudes. He had the courage of conviction to tell what he honestly felt to anybody. His ideal "Duty before comfort" is an ever
lasting truth which he practised. His life is an inspiring essay on “Work is Worship.”

Professor Srinivasa Murthy has captured all the vibrations including some interesting anecdotes in his lucid narration. He should be congratulated specially for his efforts to recapture the various qualities and greatness of Sir M. Visvesvaraya within a brief compass and for making the Visvesvaraya spirit become alive, as it were, for enriching the younger generation in particular.

I commend this book very highly and recommend it for a wider audience. A copy of this book is a must on the table of every student at all stages of their education and on the table of every member of society.

Vidhana Soudha
Bangalore
July 18, 1984.

D. M. Nanjundappa
Commissioner & Secretary to Government Institutional Finance Department

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CHAPTER 1

Introductory

"One hundred years of life there will be. A person's longevity is a century of fully virile sense organs and he is established firmly with vigorous sense organs related to longevity"*

Living as a centenarian in fulfillment of the above Vedic Blessing, Visvesvaraya has been one of the foremost among those who made significant contributions to the country's all-round development with a view to transform it into a new Modern India. His greatness is many-sided as will be evident on reading this brief account of his career. His ancestors belonged to Mokshagundam, a village in Kurnool district of Andhra Pradesh. This is what his initial letter 'M' indicates. However, his fore-fathers had come over to Mysore State and settled in Muddenahalli, near Nandi Hills in Kolar District, which became thereby his native place. His father, Mokshagundam Srinivasa Sastry was a devout brahmin who practised Ayurvedic medicine. Srinivasa Sastry and his wife Venkatatalaxamma had four sons and two daughters. Visvesvaraya was the second son born on August 22, 1860.

* ಸಾಮಾನಾದವ, ಮಾತನೆಗೆ ಪುತ್ರ, ನಿರುಜನಾರು
ಸ್ವಾತಂತ್ರ್ಯತೆ, ಪುತ್ರ ಸ್ವಬೈಸ್ತ, ೧೮೬೦.
In his early school days, Visvesvaraya was very much under the influence of his parents and his maternal uncle, H. Ramiah, who was a strict disciplinarian, though quite loving and kind. He was admitted to the Middle School in Chikkaballapur (in Kolar District of Karnataka) and continued there till he reached the High School Standard.

Srinivasa Sastry with his family, including Visvesvaraya, undertook a pilgrimage on foot to Rameswaram. At Srirangam he celebrated the thread ceremony (Brahmapadshahm/Upanayanam) of Visvesvaraya. Unfortunately for the family, in the middle of the pilgrimage Visvesvaraya’s father passed away. Then Visvesvaraya was just fifteen years old. He was taken to Bangalore in 1875 by his maternal uncle and admitted to the Wesleyan Mission High School. After completing his High School career, he joined the Central College for the Degree course.

While studying in the Central College, it became necessary for Visvesvaraya to earn for his education. He managed to become private tutor to the children of Muddaiah, who was a Minister in the Government of His Highness the Maharaja of Mysore. His daily practice then was to sleep in Muddaiah’s house, teach his pupils in the morning, go to his uncle’s house to take his meals and walk up to his College to attend his classes. All this involved considerable walking. This early practice of walking became Visvesvaraya’s habit all through his life, even in old age. This seems to have helped him to keep up sound health throughout his life.

As a student, Visvesvaraya was punctual, diligent and intelligent. These qualities together with his pleasing manners endeared him to his teachers. He was a brilliant student. The Principal of Central College, Charles Waters, took special liking for him. Many times he would ask Visvesvaraya to teach certain mathematical problems to the other students of his class. He presented him with a copy of the useful Webster’s Dictionary. Even after he retired and returned to London he remembered Visvesvaraya with special affection. He bequeathed his own gold cuff-links to Visvesvaraya as a memento. Mrs. Waters came to India specifically to present the cuff-links to Visvesvaraya. These facts show the extraordinary impression that Visvesvaraya had made on his teacher, Charles Waters.

In 1880, Visvesvaraya passed his B.A. degree with distinction. In those days, the Government of Mysore had provided scholarships to enable brilliant students to take up outside the State, courses for which no facilities existed in the State itself. This helped Visvesvaraya to study engineering in the College of Science at Poona. He completed L.C.E. and F.C.E. in 1883 at the age of 23 years, securing the first rank for the Bombay Presidency. It was then the practice of the Bombay Government to offer a job to the student who took the first rank for the Presidency. Accordingly Visvesvaraya was appointed as an Assistant Engineer in the Bombay Public Works Department and he joined service in March 1884. With this begins his career of notable achievements and service to the country. He lived for 102 years, 6 months and 8 days. It was on Saturday, April 14, 1962 at 6–15 A.M. that the illustrious soul left the body. Excepting the last few months, the rest of the long period of nearly eight decades he rendered yeoman service to the country.
CHAPTER 2

Visvesvaraya in Bombay and Hyderabad (1884-1909)

Visvesvaraya served in the Bombay Public Works Department for a period of 23 years. In all his service, he tried his best to utilise his knowledge and abilities to promote the well-being of the people. He had a very high sense of public duty. This is shown by all that he did as an Engineer.

Visvesvaraya began his service as Assistant Engineer of Nasik district. The first important project that he had to take up was the construction of a syphon on the river Panjra at Datarti, a village near Dhulia. It so happened that when he had to start the work, the monsoon had set in. Visvesvaraya knew his technical job very well. He tried to do his job most efficiently. He calculated and found that carrying through the work during the monsoon would prove very costly compared to the cost of the work after the monsoon was over. So, he submitted to his superior officer that to avoid wasteful expenditure he would take up the work after the monsoon. But, his Executive Engineer directed him to carry out the work immediately. Visvesvaraya took this as a challenge. In spite of the difficulties created by rains, he completed the work very successfully. Once he could not even return to his camp due to heavy rains and floods which cut him off from his camp. He had to spent three days in the nearby village. He had to go on horseback to the work spot. After three days he had to swim back to his camp as the floods had not yet receded. This surprised everyone in the camp. He faced all the difficulties with a strong will and courage. The way he worked, won for him the admiration of the Executive Engineer, an Englishman, who encouraged Visvesvaraya to appear for the departmental examination in Practical Engineering. On being successful in this exam, Visvesvaraya got a quick promotion.

From Nasik, Visvesvaraya was posted to Poona to work under the Executive Engineer for roads and buildings. This gave him new experience of working in this branch of engineering. He did the tasks entrusted to him with great perfection and won the admiration of his superiors as well as the people who benefited from the works.

Very soon, however, he was posted to be in charge of Water Supply and Drainage of Sukkur in Sind. This post carried higher emoluments and amenities to compensate for the bad climatic conditions of Sukkur. The task also was a difficult one. The problem was to supply water from the Indus river to Sukkur. The water was always turbid and muddy. A storage tank had to be built on a hillock. Water had to be pumped into that tank. It had then to be filtered and supplied to the city. Erecting filter beds was a costly affair. Visvesvaraya thought of an original plan for filtering water. He got a circular well dug in the river bed and connected it with a tunnel dug under the river. In this device, water percolated
Sir M. Visvesvaraya

through the sands to the bottom of the well and got filtered. Water which was thus purified was pumped up to the tank on the nearby hill for distribution.

Visvesvaraya’s ingenuity saved a lot of money needed for filtering the muddy Indus water. Lord Sandhurst, the then Governor of Bombay, who declared the Water Works open praised Visvesvaraya very much. Both the Sukkur Municipal Board and the Government of Bombay also recorded their appreciation of the extraordinary abilities of Visvesvaraya as an Engineer. Subsequently, Visvesvaraya carried out similar water supply works to carry water from Tapti river to Surat.

Another notable instance of the inventive genius of Visvesvaraya is the new system of automatic waste weir flood gates which he designed and patented. This was in connection with his work for Lake Fife at Khadakvasla near Poona. It was from this lake that Poona got its water supply. The problem was to increase the storage capacity. Much water was being allowed to flow out over the surplus waste weir. Visvesvaraya thought of a new plan. He designed the automatic gates, got them made and installed them on the surplus weir of Lake Fife. These gates held up the water in the lake till it rose to the full height of eight feet over the surplus weir. When the water rose above this level, the gates automatically opened allowing the surplus water to flow out thereby preventing danger to the dam. This arrangement helped to increase the storage capacity of the dam by about 25 per cent and thus improve water supply to Poona. The automatic gates drew the attention of many important people both in the official and non-official circles. Visvesvaraya’s prestige as an engineer was mounting. The automatic gates which he designed have become very valuable. He also took out a patent for the contrivance. These have been used with great advantage in several storage dams in the country including the famous Krishnarajasagara Dam in Karnata.

In carrying out public works, Visvesvaraya showed his originality in working out the best method of doing them. If there was opposition to his idea he tried to win over the opponents in a very tactful way. Once the people were opposed to his scheme. In winning them over to his view, he exhibited remarkable democratic sense. This was in the case of utilizing the waters of Musa canal for irrigation for lands in the suburbs of Poona. The problem was to control the distribution of water so as to keep up a continuous and adequate supply of water to Poona City also throughout the year. Visvesvaraya prepared a scheme of supplying water for irrigation by rotation which prevented wastage of water which was there earlier. But this was opposed by the ryots who till then were used to draw water at their own pleasure. The opposition was backed by very powerful political elements. But Visvesvaraya was able to win over the opponents. He called for a meeting of the ryots concerned and explained to them the benefits of his scheme. He even offered to entrust the control of the water distribution system to the users themselves. The ryots agreed to Visvesvaraya’s scheme. They greatly admired him for the way he convinced them about the benefits of the scheme.

Within just a few years after joining service, Visvesvaraya became widely known as a man of extraordinary engineering abilities. This is shown by the
respect shown to his ideas by the Irrigation Commission (1901-03) appointed by the Government of India. This Commission was asked by the Government to suggest measures to improve irrigation. Visvesvaraya gave his own scheme to this Commission. This scheme was known as the 'block system' of irrigation. In this system, Visvesvaraya showed that a given amount of water could be used for irrigating a larger area of land by triennial rotation of crops. He personally explained the details of the scheme to the members of the Commission. The Commission not only declared that it was a complete and well considered scheme, but also recommended its adoption. The Bombay Government entrusted the work of introducing his 'Block System' in the Nira canal area to Visvesvaraya. The successful results of this system won great praise for Visvesvaraya by many including his European officer. The Block System of irrigation has now been widely adopted in various parts of the country.

In 1904 Visvesvaraya was appointed as Sanitary Engineer to the Bombay Government. During the four years as Sanitary Engineer, he produced several original schemes to improve sanitation and drainage of several cities. In 1904 he was honoured by being elected as a member of the Institute of Civil Engineers, London. In the same year he was nominated as a Fellow of the University of Bombay and was also requested to help in framing the University Regulations. He participated in the All-India Irrigation Conference and made important contribution to the discussions. He served as a Member of the Committee on Slum Areas in Bombay.

In 1906 Visvesvaraya got an opportunity of visiting Aden. He was asked by the Bombay Government to work out a scheme for water supply and drainage to the Port of Aden. He produced a thorough report setting forth his plan. Water supply for Aden was really a very big problem. Distilled sea water was being used and this cost Rs. 3/- a gallon. Some brackish water was brought from distant places in leather bags on the backs of mules. This was sold at Re. 1 to Re. 1.50 per gallon.

Visvesvaraya estimated that people spent on the whole about Rs. 7 lakhs a year to get drinking water for themselves. He thought of a plan. This was to sink a well in the sandy river-bed of Lahex, about 18 miles from Aden, and bring water to Aden through conduit pipes. The Government was highly pleased with this plan and in recognition of his services awarded him the 'Kaisar-i-Hind' medal. Visvesvaraya prepared plans for water supply to Dharwar, Bijapur and several other cities.

Visvesvaraya’s extraordinary abilities attracted a very wide attention and his services were sought for by many governments. Due to his exceptional merit he got quick promotions. He was promoted over the heads of others senior to him in service too. He rose by sheer merit and notable achievements to the position next to the Chief Engineer of Bombay Presidency. He felt he could serve more fully if he was made the Chief Engineer for which he would have to wait for some years. Besides, in those days Chief Engineer’s post was generally reserved for an Englishman. This position was intolerable to Visvesvaraya. He held that Indians too should be considered for the post if they showed the required merit. When he found that there was little chance of quick promotion as Chief Engineer he resigned his post. Many people persuaded him to withdraw his resignation. But
he was not prepared because it was a question of self-respect as an Indian and also because he had offers from two States as Chief Engineer. He resigned after serving for twenty-three years in the Bombay Government. As per rules, he had to serve for two more years to become eligible for pension. However, the Bombay Government made his case an exception and considered "that the services rendered by Mr. Visvesvaraya have been exceptionally meritorious and fully entitles him to the additional pension".  

When he was in service in the Bombay Government, Visvesvaraya visited some foreign countries at his own expense. In 1898 he went to Japan for a three-month tour. Japan was achieving spectacular economic development. Visvesvaraya wanted to study the secrets of Japanese successes in the economic field. He visited a large number of Japanese industrial centres. Wherever he went he noted down several details. All these material he used for writing a book on Japan. But he did not publish it.

Visvesvaraya also toured several parts of America, Canada, Europe and Russia again at his own expense. During his tour he collected valuable knowledge of modern industries, irrigation works, water supply and sanitation, business methods, etc. In doing so, he had in mind the industrial and agricultural development of his own country. On his return, he utilised the knowledge to help India's development. Special mention may be made of the close study he made of the Ford automobile factory at Detroit (U.S.A.). He was the first to produce a practical scheme for the establishment of automobile industry in India. During his visits abroad he established valuable contacts. He impressed many people with his great capabilities in the engineering field in particular.

It is clear from what has been said above that even from the very early years of his official career, Visvesvaraya distinguished himself as an extraordinary person.

Visvesvaraya in Hyderabad

On the eve of his retirement from Bombay service, Visvesvaraya got an offer of appointment as Special Consulting Engineer from the Nizam of Hyderabad. The Nizam was anxious to get the services of Visvesvaraya to prepare a drainage scheme. Visvesvaraya was persuaded by some influential persons to accept the offer. He

1. Visvesvaraya never reconciled himself to any discrimination giving the Britishers, as the then Rulers, and other Europeans a more favourable treatment than to our countrymen. In 1911, when Visvesvaraya was Chief Engineer, he was invited to attend the Durbar of His Highness the Maharaja—a colourful occasion for the subjects to show their loyalty to the Maharaja. Visvesvaraya wrote to the Huzur Secretary that he may kindly be excused for his inability to attend the Durbar. But an explanation was called for from him, as absence was generally considered as a mark of disrespect to the Maharaja. Visvesvaraya explained that he was not happy to see that when the European invitees were all seated on chairs in the Durbar Hall, Indian invitees were to squat on the floor. The Maharaja appreciated Visvesvaraya’s stand and directed that chairs may be provided to all the guests at the Durbar. Thus, the bold action of Visvesvaraya in defence of the self-respect of Indians ended a custom at the Mysore Durbar which was in vogue for some decades.

agreed and joined duty on April 15, 1909 on his return from the foreign tour.

The problem that Visvesvaraya had to solve in Hyderabad related to Moosi river. This river passes through the Hyderabad city dividing it into two parts. During the monsoon season this river causes great havoc. Floods were a routine seasonal problem. The 1908 floods was the worst. Thousands of houses were submerged and families rendered homeless. Loss of life—human and cattle—was great. The consequences were very serious. Nizam's government had sought Visvesvaraya's services to save Hyderabad city from the catastrophe of frequent floods, for the reconstruction of the city and also for preparing a scheme of drainage for Hyderabad city.

Visvesvaraya began his work on the task assigned to him in April 1909. He was assisted by a team of select engineers and others. He got an exhaustive survey and investigation carried out in the catchment area. On the basis of the facts he collected thus, he came to the conclusion that the problem could be solved by constructing two storage reservoirs above the city to impound the excess floods waters. One dam was to be built across the Moosi about 82 miles above the city and a second dam to be built across the Easi at a distance of 6½ miles from the city. The two reservoirs were calculated to store 8,439 million cubic feet and 4,950 million cubic feet of water. The plans and designs were all written out in all their details and submitted to the Nizam's government. Visvesvaraya prepared also a detailed scheme for the improvement of the Hyderabad city. He did not, however, continue in Hyderabad to implement his schemes. For, even before he joined duty at Hyderabad he had a very pressing invitation from the Government of Mysore to serve the State as Chief Engineer. But, his suggestions were faithfully carried out in the due course. And, at the invitation of the Hyderabad Government Visvesvaraya visited Hyderabad again in 1922 to inspect the works that were being carried out in pursuance of his earlier suggestions. For this, he paid some half a dozen visits to Hyderabad at intervals. In 1930, he also complied with a request of the Government to give a full report on Hyderabad city's deficiencies and remedial measures. After giving his suggestions in the form of a report he said "Progress would be achieved only if efficient men were put in charge and funds to meet all reasonable demands allotted for expenditure from time to time."

We see that all through his life he has greatly emphasised the importance of merit and efficiency in the interest of the country's development. Besides, when he makes some suggestions he would have a sustained interest in seeing that these are satisfactorily carried out. His second association with Hyderabad stated above, as well as his association with Mysore even after he left the service, substantiate this worthy characteristic of the masterly engineer.

CHAPTER 3

Visvesvaraya in Mysore (1909-1918)

Just on the eve of Visvesvaraya joining Hyderabad service he was offered the post of Chief Engineer of Mysore State. He accepted it on the explicit assurance from the Maharaja and the Dewan of Mysore State that he would have full freedom to carry out his plans of development in the State. He joined as the Chief Engineer of Mysore State on November 15, 1909 and three years later, he became the Dewan of Mysore in which capacity he served for six years till he resigned on 9th December 1918. The great deficiencies and needs of the people which attracted his attention, in his own words, were "Low level of education, Lack of initiative, ambition and power of organization, Lack of capacity for planning among the leaders and Low economic condition and absence of any effort on a planned basis for improvements and developments. My one aim, therefore, was to plan, promote and encourage developments chiefly in education, industries, commerce and public works to enable the people to work well, earn well and live well."1 His entry into service marked the beginning of an era of all-round progress in Mysore State. He was responsible for developments of far-


Sir M. Visvesvaraya

reaching importance in political and administrative reforms, education, agriculture and irrigation, power, industry, transport, social welfare, etc.

'Mysore Economic Conference’—
A Planning Body Set Up

Visvesvaraya is known for methodical and scientific approach to all problems and his zeal for adopting planning. Long before planning was thought of for India as a whole and for any other part of India, he introduced the idea of planning for the Mysore State. He established the Mysore Economic Conference with the Dewan himself as the Chairman and some high officers of the State and leading non-officials as members. This had three main Committees dealing with agriculture, industries and commerce and education. The Conference had established organizations spread over different parts of the State for the collection of statistical data, the dissemination of modern scientific and technical knowledge and to give practical guidance to the people and instil in them a desire for rapid socio-economic progress. Visvesvaraya who presided over the Economic Conference gave it his dynamic leadership.

His object was to make the Economic Conference an organization to promote cooperative effort of the people as well as government’s active leadership in stimulating rapid economic advance. Through this, he made every effort to promote plans with specific targets to be reached in each case. Thanks to Visvesvaraya, Mysore has thus claims to be regarded as pioneer in Economic Planning in India.
Political and Administrative Matters

The most important service of Visvesvaraya in the political sphere was his active work in connection with the substitution of a Treaty between the British Government and His Highness the Maharaja, in place of the Instrument of Transfer by which the Rendition was effected in 1881, handing over the State to the rule of His Highness Maharaja Chamaraja Wadiyar Bahadur in 1881. The Treaty raised the status of the Maharaja and also gave greater autonomy and powers of internal administration. The part played by Visvesvaraya in the evolution of the Treaty was greatly appreciated by the Maharaja who wrote a personal letter to Visvesvaraya saying, "...I fully realise the fact that the success of my representation to the Viceroy was in no small measure due to the able and convincing manner in which you put the case before him and I cannot sufficiently thank you for the great service you have thus rendered to me and my State and which I shall always remember with feelings of deep gratitude."

The next important contribution in the political sphere was in the direction of democratising the State. Generally in monarchical states, the Ruler is all-powerful and people are not given a say in political and administrative matters. In Mysore, however, as early as 1881, the Representative Assembly was brought into existence, giving the people's representatives an opportunity to appeal to government to remedy local grievances. Its members were nominated to speak for the people.

Visvesvaraya was democratic in outlook. He desired that the Representative Assembly should become truly representative of the people and also given real powers. He secured Maharaja's approval to give the Assembly the privilege of discussing the budget. Half-yearly sessions were held for this purpose. Gradually more and more powers were given to it. Similarly, the Legislative Council also was enlarged on the lines of Councils in British India and the members were given the right of raising objections against proposals of the government. Visvesvaraya, as the Dewan, presided over both the Houses. He won the love of the members by his courtesy and patience in listening to their speeches and the nice treatment he gave them. It was also Visvesvaraya's desire to further democratize the Council and the Assembly and make people evince greater interest in administration. But, Visvesvaraya could not go ahead in this direction because the ruling British Government was...

1. There is an anecdote to show that his colleagues believed that Visvesvaraya was an autocrat. It was in the year 1915. After a meeting was over, chatting with a few persons among whom there was also the Private Secretary to His Highness the Maharaja, Mr. Campbell, Visvesvaraya began to say, "I am a democrat...". Mr. Campbell jumped to his feet, went near Visvesvaraya and facing the Dewan said, "What did I hear you say, Dewan Sahib? A democrat? You a democrat? You are the greatest autocrat going." Everyone present burst into laughter in which Visvesvaraya also joined heartily. Sir S. Hiriyanayya, who was Visvesvaraya's Private Secretary remarked 'In action he was a great autocrat, else he could not have achieved so much'. These throw sidelights on Visvesvaraya's character as a responsible nation builder.

Nevertheless, he worked to democratise political institutions in Mysore.

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not in favour of such action especially at that time when the Great War was going on.

Visvesvaraya took some measures to promote local self-government. Deputy Commissioners were replaced by non-officials as Presidents of District Boards. Elected elements in the Taluk Boards and District Boards were increased, in order to entice people to take greater interest in the management of local affairs. Financial resources of local bodies were increased.

Visvesvaraya's democratic outlook is also evidenced by his support to the idea of freedom of the press. The Mysore Press Act of 1908 vested the Government with the power to direct the closure of press without trial. Prior sanction of Government was needed to start a newspaper. Though, in view of the prevailing opposition, Visvesvaraya could not get the Press Act repealed, he modified it to make it less stringent. He was zealous of safeguarding the rights of the Press. He never used the Press Act against the editors of papers. His devotion to democratic ideals, his sense of justice and his magnanimity would not allow drastic steps against any newspaper. In this connection, one interesting episode may be noted. In the weekly 'Karnataka' edited by the veteran journalist, D. V. Gundappa, there appeared a report on the great Russian Revolution of 1917 and the editorial comments drew attention to the anachronism of autocracy. The British Resident in Mysore wrote to Visvesvaraya to take note of what he called 'mischievous activities' of the editor of 'Karnataka'. In reply to this, Visvesvaraya wanted to know from the Resident where exactly the 'mischievous' lay. When the Resident replied that his information was furnished by an officer of the Durbar, with his characteristic boldness and devotion to truth, Visvesvaraya wrote back to the Resident drawing his attention to his grave impropriety of encouraging tale-bearing among the officers of the Durbar and of interfering in the internal affairs of the State. This was very bold, indeed. At the same time, he chastised the officer who had reported the matter to the Resident and warned him that this act amounted to a breach of loyalty to the State which paid him his salary. The Editor of 'Karnataka' was also asked to clarify his editorial comment. The Editor pointed out that his attack was against autocracy and not against monarchy and that his comments applied to all countries in the world where autocracy prevailed and had no special reference to Mysore or England. Visvesvaraya was satisfied. This incident shows Visvesvaraya's fairness to the Press. In another instance, the British Resident objected to circulation in the State of certain newspapers like Bombay Chronicle of B. G. Horniman and New India of Mrs. Annie Besant. The Editor of 'Karnataka' questioned the propriety of the Resident interfering in such matters. This infuriated the Resident and asked Visvesvaraya to take stern action against the Editor. But Visvesvaraya agreed with the Editor's plea that the Resident ought not to interfere in matters of internal administration. Thus, Visvesvaraya resisted interference even from such a powerful person like the British Empire's representative, the Resident, in defence of the rights of the press for legitimate comments in the newspapers.

To streamline government administration, Visvesvaraya insisted that merit should have the first consideration in recruiting persons for government
service. He modelled the Mysore Civil Service Competitive Examination on the lines of the Indian Civil Service Examination. This helped young men of ability to fill high offices of the State. Probationers were selected for various Departments and regular rules laid down for selection and promotion of officers.

By his own personal example, through detailed instructions, by surprise visits, etc., Visvesvaraya tried to bring about a healthy change in official atmosphere. He stressed on all the officials the importance of observing regular hours of office attendance, working efficiently, receiving complaints and grievances of the public at specified hours, etc. To regulate and standardise the procedures and work in the government offices, some

1. There is an interesting anecdote to show how particular he was about officers being punctual in attending the office. A Deputy Commissioner of a district who was highly orthodox used to go to his office very late daily. Complaints reached the ears of Visvesvaraya also about this. When warnings also did not have any effect, Visvesvaraya got him transferred to the Secretariat at Bangalore. On the day that the officer reported to duty, Visvesvaraya took him to his chamber and showed him the ante-room, where bath and toilet facilities were also available. The officer was rather perplexed as to why these were being shown to him. Visvesvaraya asked the officer to come to the office the next day by 9 a.m. and added that he would be there to receive him by then. This was shocking to the officer. He pleaded that as he had to perform ‘pooja’ and ‘Sandhyavandana’, etc., he could not go there before 12 noon. Then, Visvesvaraya quietly explained to him that the ante-room shown to him would be available to him for his ‘Sandhya’, ‘Pooja’ and lunch also and he could keep to the discipline of going over to the office on time. The Officer, however, could not adapt himself to this and it is said that he finally resigned.

Sir M. Visvesvaraya

manuals were published and circulated among the officials. He introduced a system of Efficiency Audit. Irregularities in the conduct of work by any Section were noted by this branch and reported to the superior officers.

With a view to get first hand information about the needs of the people, Visvesvaraya frequently toured the different parts of the State and contacted the people. On all such occasions when he met the people he would exhort them to cultivate the habit of hard work and also to imbibe modern ideas. His tours were well organized and purposeful. He also exhorted the heads of Departments also to undertake such purposive tours. His tour reports were almost micro-level plan reports. He would record the potentialities for development of every taluk, the felt needs of the people and suggest measures for development. In the words of N. Madhava Rau, the ex-Dewan of Mysore, Visvesvaraya’s tours were “a model of planned touring and exhaustive stock-taking”. Thus Visvesvaraya geared the administrative machinery to promote the State’s development in a planned way with specific targets to be set in each case.

Education

Visvesvaraya gave the highest importance to education. His motto was that there should be no

1. In the course of his official tour as the Dewan, once Visvesvaraya visited a village and the villagers introduced to him a popular figure saying that this person was capable of eating at a time the food of four persons. They expected that Visvesvaraya would put him on the back and say a few nice words to him. But to their dismay came the question from Visvesvaraya, “Does he turn out also the work of four persons?” This indicates his outlook on diet and work.
village with an ignorant family and no family with an ignorant member. He said that if people were uneducated and untrained in modern skills, no economic progress is possible and that education was the sovereign remedy for not only political and economic backwardness, but also social evils.

At his instance, compulsory primary education was introduced, first as an experimental measure in selected centres, to be extended to other centres in the due course. To promote elementary education, a system of giving grants and subsidies to encourage construction of school buildings was introduced. Special grants were made for the education of depressed and backward classes. Education of girls at all levels received special attention. The Maharani's College in Mysore was raised in 1917 to the status of a first grade college having Bachelor of Arts Degree course. Separate hostels for women students were started for the first time in 1917.

The University of Mysore was established in July 1916. Mysore State was the first Indian State to have a University of its own. Till then, the Central College in Bangalore and the Maharaja's College in Mysore—the only two colleges in the State—were affiliated to the University of Madras. On the role of the University, Visvesvaraya said, "...The general object in the broadest sense is to encourage learning, to promote higher education, to create a centre of culture, to light a torch that would dispel the gloom of ignorance from the remotest corners of the country. The specific aim of the Mysore University should be to develop the intellectual ability and executive power of our citizens and to afford training necessary to prepare future manufacturers, merchants, businessmen, economists, lawyers, scientists, engineers, statesmen, etc., for the country."¹

Visvesvaraya had to struggle hard to establish the University of Mysore. The Madras University to which the Mysore colleges were affiliated, opposed the move of Mysore State to have its own University. Visvesvaraya pleaded with the Madras University Syndicate that they should welcome the efforts of a grown-up daughter to set up a house of her own. That Syndicate retorted saying that a runaway daughter did not deserve any encouragement. But, Visvesvaraya used his good offices with the then Viceroy, Lord Hardinge and the British Resident in Mysore, Sir Hugh Daly and also met the Governor of Madras, Lord Ampthill, to secure finally all the necessary support to bring into existence the University of Mysore which started functioning on July 1, 1916. His Highness the Maharaja of Mysore expressed his gratitude to Visvesvaraya for his efforts in these words: "It is chiefly his patriotism, his enthusiasm and his unceasing advocacy which converted what was once little more than a dream into a living creation and his name will be remembered, above all others, as the man to whom our University owes its being."²

Initially the University of Mysore had some difficulty in obtaining recognition from other universities. Thanks to Visvesvaraya's influence and the reputation that the University soon established for itself due to the

² Presidential Speech of His Highness the Maharaja of Mysore at the first Convocation of the University of Mysore, on October 19, 1918—Quoted in Sir M. Visvesvaraya, Op. cit., p. 75.
able work of renowned educationists like Brajendranath Seal, C. R. Reddy, N. S. Subba Rao, K. T. Shah, M. Hiriyanna, S. Radhakrishnan, Radha Kumud Mukherjee, etc. who served the University, recognition by many universities was also secured.

Visvesvaraya laid special emphasis on technical education. On his suggestion, the Government appointed a Committee with Visvesvaraya himself as the Chairman and four other eminent officers of the State as members, to recommend measures needed to promote technical education in the State. Visvesvaraya suggested to the Engineering College, to provide courses in various branches of Industrial Engineering and Applied Chemistry. He emphasised the need for practical training and promoting modern skill formation necessary for industrialization. He was so eager to develop skill formation that when he received about two lakhs of rupees as honorarium for his being the Chairman of the Mysore Iron Works, he donated it for establishing the Sri Jayachamarajendra Occupational Institute at Bangalore, which was started in August 1943. He drew up the scheme for this technical institution himself. His chief idea was to train persons who could handle modern machinery of several kinds and who in turn could train others also in their respective spheres. Provision was made in this Institute for such training in some fifteen branches of technical knowledge including civil, mechanical and electrical engineering, mining, metallurgy and cinematography. This Institute soon became a model for polytechnics established not only in the State, but also in the rest of India. Visvesvaraya took personal interest in watching the progress of the Occupational Institute, visiting it also or twice a year. An interesting thing to note in this context is this. The Government desired that the Institute be named after him as he was the chief donor, but Visvesvaraya preferred to call it Jayachamarajendra Institute after the name of the then Ruler of Mysore State. This shows that he never cared for name and fame, but did things in a spirit of selfless service. In his "Memoirs" he says that at his suggestion the Maharaja was graciously pleased to allow the Institute to be named after him. A real Karma Yogi indeed. He was responsible for upgrading the Industrial School in Mysore into the Chamarajendra Technical Institute and for setting up District Industrial Schools.

Visvesvaraya noticed that though nearly 80 per cent of the population depended on agriculture, nothing had been done to teach agriculture as a science. To provide for this, he took measures to establish agricultural schools, and experimental farms. In 1913, an Agricultural School was opened at Hebbal, Bangalore, with a large farm attached to it for practical work. For the benefit of farmers, provision was made for short-term courses in Kannada. With this humble beginning this institution has developed into the present University of Agricultural Sciences.

Visvesvaraya's idea of educational development was almost comprehensive. Credit goes to him for opening a Commercial School in Bangalore, and also arranging for special courses to petty shop-keepers in accountancy, commercial geography, banking, etc., and introducing commerce in the High Schools. Industrial Schools were opened in all district headquarters. State Bank of Mysore was started in 1913, the Mysore Chamber of
Commerce in 1916. All these were intended to promote facilities for industry, banking and commerce in the State.

Library facilities in the State were greatly expanded by the starting of Public libraries in Bangalore and Mysore and as many as 98 libraries in other centres in the State. Visvesvaraya also tried to introduce travelling libraries for the rural areas for the benefit of only a few literate people there. Foreign scholarships were granted to help deserving students to avail the opportunity of higher learning. To help the backward classes, funds were liberally allotted for scholarships. A donation of two lakhs of rupees and an annual grant of Rs. 12,000 were made to the Benares Hindu University of which the Maharaja of Mysore was the Chancellor.

The Kannada Sahitya Parishat was also the creation of Visvesvaraya's vision of educational progress, through the medium of Kannada and he wanted this Parishat to pay special attention to the production of simple books on Science in Kannada. Visvesvaraya held that mass education was all-important if the country should progress. He took measures to promote literacy among the masses. Thus, he initiated and promoted a variety of programmes for the educational advancement of Mysore State.

Contribution to Social Change

Visvesvaraya deplored the prevalent social evils and attitudes of the people. He wanted to remove socio-economic inequalities and provide equal opportunities to all. He also tried to imbibe among the people the ideal of progress and the need for material progress. He said, "The nationality of our people rests

1. If the Kannada Sahitya Parishat establishes a 'Science Wing' entrusted with the task of producing books in Kannada on the several branches of science which are helpful in popularising scientific knowledge through the Kannada medium it would be an important step in the direction of fulfilling the statesman like objective envisaged decades ago for the Kannada Sahitya Parishat by Visvesvaraya.

In support of the fact that the Kannada Sahitya Parishat owes its existence to Visvesvaraya the following references from recognised authorities on the life and work of Visvesvaraya are given:

1) V. S. Narayana Rao says, "The Kannada Sahitya Parishat or the literary academy also owes its existence to the foresight of Visvesvaraya. He desired the Academy to give special attention to the preparation of easy books on science in Kannada" (Vide V. S. Narayana Rao, Mokshagundam, Visvesvaraya. His Life & Work, Geetha Book House, Mysore, 1973, p. 33).

2) Tirumalai Tatacharya Sharma, Mokshagundam, Purogami Sahitya Sangha, Bangalore 1971, p. 98.


4) Rajasekashta Sri D. C. Subbarayappa, Sir Visvesvarayanaavara hali kelasa madiddara savanapu, Ibid, p. 64.

5) Sri Hosamane Channakeshava Ayyangar. Sir M. Visvesvarayanaavara prachara karyada savanapu, Ibid, p. 82.


N.B. Smt. H. V. Savitarmanma has said that "the Parishat is the brainchild of the then first Counsellor Sri H. V. Nanjundaya" (Vide: Deccan Herald, 18-4 1984 Letters column). We may perhaps say that it is possible and probable that both the then Dewan Visvesvaraya and the then First Counsellor, H. V. Nanjundaya may have jointly thought of the idea of founding the Kannada Sahitya Parishat.
on a religious and fatalistic basis, not on an economic basis as in the West.... The Hindu ideal of life is that this world is a preparation for the next and not a place to stay in and make ourselves comfortable. There is a yearning for the old ideals and a half-hearted acquiescence in the new and on the whole the genius of the people is for standing still."

He further held that the fatalism of despair which has taken hold of the cultivator in rural areas, is a great stumbling block in the way of rapid progress and that efforts should be made to stimulate a spirit of enquiry and activity. He drew pointed attention to the caste system which, he said, "is responsible for great many of our disabilities and has left an appreciable portion of the population in a state of permanent degradation."

He was pleased to notice the waste of mental energy in caste disputes and village factions and urged for directing this mental energy to increase productivity and production.

Under Visvesvaraya's initiative several measures were taken for the amelioration of the Harijans and backward classes. Systematic propaganda was carried out to wean away the Harijans from the evil habits of drink, gambling and eating carrion. Special schools were opened for the Harijan children. In those days Harijans dared not walk in the Brahmin locality or draw water from public wells. Visvesvaraya wanted that untouchability should go. He also worked for breaking caste barriers and customs. One interesting instance of

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1. His address to the Mysore Economic Conference on June 2, 1914.
2. Speech at the first Mysore Civic and Social Conference at Mysore on June 3, 1917.

Visvesvaraya expressed his views on marriage customs also. He pointed out that early marriages were responsible for much avoidable infant mortality and held that restriction of marriage within a limited circle would result in feeble progeny. He advocated marriages between members of allied castes. He wanted the practice of dowry should be stopped. He was again: extravagant expenditure on marriages and also other similar occasions. Widow remarriage was encouraged. He desired that the cruel custom of disfiguring widows should be given up.

Visvesvaraya pleaded for greater freedom to women and for special facilities for their education. He also made provision for training in industrial pursuits suitable to women of middle and lower classes. He called for women being trained in modern methods of house-keeping.

Visvesvaraya noticed uncleanness in some temple premises and he gave detailed instructions to keep the temples tidy and clean. For instance, he asked the temple authorities to provide receptacles in the temple premises, for visitors and pilgrims to throw coconut shells, plantain skins and such other unwanted things.
Hotel industry, catering and tourism also received Visvesvaraya’s attention. It was his encouragement that led to the establishment of Modern Hindu Hotel in Bangalore. Tourist facilities were created at Nandi Hills. He also wanted to develop Kalhatgiri in Bababudan Hills and Devarayanadurga near Tumkur as popular hill stations.

Visvesvaraya encouraged club life. The Century Club and Ladies Club in Bangalore and the Cosmopolitan Club in Mysore owe their existence to his initiative and support.

Thus, on the social life of Mysore State Visvesvaraya’s ideas and measures had a great impact. Though some of the social changes he contemplated were far ahead of his times, his work made many people aware of the need for social change and this awakening has in the due course brought about significant changes.

**Industrial Development**

Visvesvaraya believed that if poverty should be eradicated in our country, besides modernising the agricultural practices, it is absolutely necessary to develop modern industries. ‘Industrialise or Perish!’ ‘Produce or Perish’ were his sayings. In his book ‘Planned Economy for India’, he gave a concrete programme for developing the country’s industrial potential. His pamphlet ‘Prosperity Through Industry’ popularised the idea of industrialization. When he got the opportunity of putting his ideas to practice as the Dewan of Mysore, he did many things to lay the foundation for industrialising the State.

1. It is interesting to note that a collection of Gandhiji’s writings on Village Industries has been published by the Navjeevan Trust under the title ‘Industrialise and Perish’.

He brought in a highly competent person, Sir Alfred Chatterton, who had worked as the Director of Industries in Madras Presidency as the Director of Industries in Mysore. He caused a detailed survey of the Industrial Resources of Mysore by V. S. Sambasiva Iyer. The Conservator of Forests was directed to carry on research with a view to utilizing the forest wealth for developing forest-based industries. The exploration of sandalwood resources was specially planned. A Malnad Improvement Committee was appointed to suggest means of developing the economic resources of Malnad. The Department of Statistics was made very important as it was to provide the data necessary for planning the development of industries.

The Economic Conference and the industries and Commerce Department took several measures to promote industries in Government and the private sectors. The industries started during the regime of Visvesvaraya were numerous. New ones were started, the decaying ones were revived and other old industries strengthened. Besides the big Iron Works, several others like the Government soap Factory, the sandai oil Factory, the Chrome Tanning Factory, Metal Factory, Match Factory, Brick and Tile Factories, Sri Krishnarajendra Mills, Central Government Weaving Factory, etc. were all established. Attempts were made to modernise cottage industries and handicrafts. To help marketing of the products of different artisans—sandalwood and ivory carvers, lacquer-ware and cane-workers, mat-weavers and brass-workers—the Mysore Arts and Crafts Depot was set up in Bangalore. Visvesvaraya’s zeal for industrializing the State stirred up considerable industrial activity in
Mysore State. The crowning achievement of Visvesvaraya, as the Dewan, in the industrial field was the establishment of the Mysore Iron and Steel Works at Bhadravathi.

Bhadravathi was then known as Benkipura, because in that place, there existed a number of small furnaces, which were converting iron ore into iron by age-old methods. Though the existence of abundant iron ore was known, no one had thought of converting it into iron on a large scale, because coal required for smelting it was not available nearby. It was Visvesvaraya who saw the possibility of converting the wood available in the nearby forests into charcoal and using it for smelting iron. He had gained knowledge of this process during his visits to Germany, Sweden and America.

However, the pioneering difficulties in the starting of the Bhadravathi Iron Works were very many. It was the period of the Great War and the import requirements could not easily be secured. Expert opinion was divided and many were discouraging Visvesvaraya from the venture. The Government of India was generally against such industrial enterprises for the country. But Visvesvaraya was determined to see that the Iron Works started as early as possible.

In 1915 preliminary investigations were carried out with the help of C. P. Perin, the American Steel Expert at the Tata Iron and Steel Works at Jamshedpur. A workable scheme was drawn up to start the manufacture of charcoal pig iron as a first step, at Bhadravathi, where the river Bhadra could supply the required water and the nearby forests could supply the wood. Details of the plan were circulated among the technical officers of the State. On the business and financial aspects, Visvesvaraya consulted his friends like Sri Vishaldas Thackersy and B. J. Padesha. The Government accepted Visvesvaraya’s plan and appointed the Tata Iron and Steel Company as the Managing agents. The construction of the works commenced in 1918, the year in which Visvesvaraya resigned. It took about five years and the operations began only in 1923. Unfortunately for the new Iron Works, just at that time there was a severe trade depression all the world over. The price of iron and steel fell by over 50 per cent between 1923-25. Many established iron works had to suspend the operations. In this predicament, those in charge of the new Bhadravathi Iron Works proposed to close it until the iron price rose appreciably. His Highness the Maharaja of Mysore thought of taking the advice of Visvesvaraya who was then at Bombay. Visvesvaraya readily came over to Mysore and also volunteered to take charge of the management of the Works. He was not for closing the Works under any circumstance. In March 1923, a Board of Management with Visvesvaraya as Chairman and three other prominent persons as Members was constituted and the Board took over the Management from the Tata Iron and Steel Co., Ltd., who were its Managing Agents till then.

As Chairman, Visvesvaraya did yeoman service in steering through the new works from the confused state to a state of confident production. There were several kinds of tasks to be done. Each one of them was a big hurdle. Bringing the tramway department, Section of the Forest Department supplying wood, Section of the Mining Department supplying the ore, management of
the ropeway at Kemmanagundi under the regulatory powers of the Board of Management was one such difficult job. Setting up the chemical plant to handle the by-products like tar, the saw mill, the retort plant to supply charcoal, improving the efficiency of the boiler equipment—were several things that had to be immediately attended to. It is remarkable that Visvesvaraya persevered and succeeded in his attempts to solve all the problems.

He procured the services of both foreign and Indian technical men, able Mysore Civil Service officers, business and financial specialists. Above all, he earned the love of the staff and workers of the Iron Works by his most affectionate gestures. He invited suggestions from them and also gave serious consideration to them. It is noteworthy that he introduced the idea of scientific management in the internal organization of the works. The duties entrusted to every section was clearly defined and the heads of the sections made fully responsible for carrying out the work entrusted to them. He obtained weekly and monthly reports of production, sales, expenditure, receipts, inventories, etc. He also got a statement of difficulties, defects and urgent matters from the head of each division. On receipt of these he very promptly attended to whatever needed to be done to run the Works efficiently. Visvesvaraya’s was a most inspiring guidance to all the persons who worked in the Iron Works. In a few years, the Iron Works made a name for quality products.

To promote sales of pig iron and the by-products, Visvesvaraya arranged to open Sales Agencies in several centres like Madras, Ahmedabad, Bombay and Karachi. Efforts were made to create a market in America, England, Javan and Italy. People in England were startled when they saw an advertisement in their popular daily ‘The Times’ of London offering Bhadravathi iron and by-products of wood at competitive prices. Visvesvaraya managed to secure firm contracts for the supply of 5,000 tons of pig iron every year to the East Coast districts of America. By his efforts about two-thirds of crude methyl alcohol produced in the early years was sold in England and about half the acetate output sold in Japan. All these show the man’s business capabilities also, besides engineering and organizing abilities.

In 1925 Visvesvaraya toured, at his own cost, England, Germany, Sweden and America which had some units producing iron by wood-charcoal. His object was to observe their methods and gain a first hand knowledge of the progress in this technology. On his return he made use of this knowledge to effect improvements in the Iron Works. In 1925, with the help of a German firm the manufacture of cast iron pipes was taken up and these proved to be of the highest quality. The production of cast iron pipes helped in the due course to bring profit to the Iron Works.

In September 1929, Visvesvaraya retired from the office of the Chairman of the Board of Management of the Iron Works. He was satisfied that the Works was firmly established and its future course would not be a problem. His work was very greatly appreciated by His Highness the Maharaja and several other eminent persons. The Maharaja was particularly proud of the achievement that Visvesvaraya was able to dispense with all American
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Irrigation and Power

The efforts of Visvesvaraya to utilise the waters of the Cauvery river are as notable as his efforts to utilise the iron ore deposits around Bhadravathi described above. River Cauvery taking birth at the Western Ghats flows eastward for about 150 miles in Karnataka State and about 300 miles in Tamil Nadu before reaching the Bay of Bengal. The construction of the Krishnarajasagar Dam and the Shimsha and Sivasamudram Hydro-electric Stations have greatly benefited the State. We shall briefly describe how Visvesvaraya toiled to construct this dam and develop the Power Stations.

The hydro-electric station at Sivasamudram Falls on the Cauvery—the first hydro-electric station in India—was constructed in 1902 when Sir K. Sheshadri Iyer was the Dewan of Mysore State. Over 90 per cent of the power generated was supplied to Kolar Gold Fields under a contract with the owner, Messrs John Taylor and Sons. As per contract, if the State failed to supply the stipulated power of 11,000 H.P., the State was to pay a compensatory fine. Between 1903–14 the State had to pay £38,000 as compensatory fine. Taylor and Sons notified to the State that, if the State could not meet their power requirements they would erect their own steam or oil plant to generate electricity. They also urged for increased supply of power. It was at this juncture that Visvesvaraya seized the opportunity to push his own plan of constructing a huge dam across the Cauvery which would help to increase the power generation at Sivasamudram also. He was then the Chief Engineer and also Secretary to Government in the Electrical Department. After due discussions with the Chief

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2. Quoted in Sir M. Visvesvaraya, Ibid., p. 95.
3. Young India, Sept. 1, 1927.
Electrical Engineer of the State and a few others, Visvesvaraya produced a final design for constructing a masonry dam 8,600 feet long and 130 feet high above the river-bed and the bed-width at the foundation level was to be 111 feet. This was calculated to provide in the reservoir enough water to generate about 80,000 H.P. of electrical power and also help to irrigate about 1,50,000 acres of land.

Due chiefly to Visvesvaraya’s earnestness, the necessary surveys and investigations were carried out in a very short period of time. The project was submitted to the Government for approval. The Finance Department was against the scheme because it involved a huge outlay of 2.5 crores of rupees. The Finance Secretary very strongly opposed it, saying that it would be most unwise to produce surplus electricity for which there was no demand. He said that the scheme would lead to most serious consequences and disastrous results. Visvesvaraya answered the objections of the Finance Secretary. His was a more dynamic outlook contrasted with the rather conservative and static view of the Finance Secretary. Visvesvaraya argued that electricity would give scope and fillip to new industries being started in the State. As for funds, he pointed out that it was not uneconomical to raise loans to finance developmental capital expenditure. The discussion went on these lines. Visvesvaraya told His Highness that the scheme was ‘a precious goose that would lay the golden egg’ and the Finance Secretary was trying to kill it. In the letter he submitted to the Government he said, “The Financial Secretary takes a gloomy view. He foresees nothing but failures and disasters…….If the ideas of the kind noted by the financial Secretary should prevail, the Mysore Government and the Mysore people should rest content with remaining on a dead level of mediocrity through the ages to come. The psychological moment has arrived. It is a case of now or never.” In spite of such persuasive attempts, His Highness was not prepared to sanction the scheme. Visvesvaraya was very much disappointed. He took a brief holiday and went to Northern India. On his return, he found that His Highness had not changed his mind. In this disappointed mood Visvesvaraya kept himself aloof, confining himself to the routine duties of his office only. This changed attitude was noticed by His Highness and he had a talk with Visvesvaraya who frankly told His Highness how greatly disappointed he was that he was denied the opportunities to work out highly valuable and constructive schemes. His Highness assured him that all his schemes would be sanctioned. Thus Visvesvaraya had won a battle against odds in getting the approval of His Highness for all his new schemes.

Another hurdle in the way of Visvesvaraya’s Cauvery Reservoir Scheme was to get the consent of the Madras Government. As per an agreement of 1892, to construct reservoir across the interstate river Cauvery, prior consent of the Madras Government was necessary. Visvesvaraya sent his project to Madras Government requesting its consent. But, the Madras Government felt that if it agreed to this project, they may not have enough water to impound in their own proposed dam at Mettur. It was prepared to permit a dam sufficient to store only 11,000 million cubic feet of water as against Visvesvaraya’s plan of having 48,000 million cubic feet of water. The prolonged correspondence with the Madras Government
proved futile. Then he had to go in appeal to the Government of India claiming a rightful share of Cauvery water for Mysore State. He also appealed to Lord Hardinge, the then Viceroy. The case was so perfectly supported with facts and figures that the Government of India was favourably disposed towards Visvesvaraya’s Cauvery Reservoir Scheme. However, permission was given only for the construction of an 80 feet high dam. This was sufficient for Visvesvaraya to proceed with the work immediately. He hoped that in the due course, he would get permission for his original scheme of 124 feet. He also went ahead with the construction of the foundation width required for the full height as originally designed. This was, indeed, a very bold step which only Visvesvaraya could take. The work of digging the foundation was started in November 1911. The presence of water springs and the existence of a deep mica vein close to the south bank created many problems. More than this, heavy rains set in and the Cauvery was in floods. Nature appeared to test Visvesvaraya’s capacity. Officers concerned proposed to stop all work until the floods subsided and His Highness also agreed to this. But, Visvesvaraya would not allow the work to be suspended. He had then become the Dewan and he used his powers to mobilise all that was necessary for continuing the work and completing it as per schedule. He employed 12,000 workers and they were to work by shifts day and night. Thousands of gas lights were provided for the night work. This was an all-out effort to speedily carry out the work. How wonderful a sight it should have been to see about 12,000 workers working at night with thousands of gas lights giving them the required light! Visvesvaraya as the Dewan had also directed the Chief Engineer, the Inspector General of Police and the Deputy Commissioner of the District to camp at Kannambadi to encourage the workers, to supervise over them and to look after their security. He would himself visit the work spot every evening. This organization of the dam construction work won the admiration of everyone including some foreigners. The construction structure of the dam is also noteworthy. The size stones used for the dam were cut out of the rocks in the near by area and are hard ‘granite’ stones. Limestones available in the area were burnt to produce lime and this was mixed with powder of bricks made out of black-soil of the same place, in the proportion of 1 part of lime to 4 parts of brick powder and ‘Surki Gare’ (sand) was got prepared. Stones were all fixed with this ‘Surki Gare’ interspersed between the stones. Within four years after the construction work was taken up a steady flow of water was assured at Sivasamudram for the generation of electricity and two level canals were constructed to irrigate about 5,000 acres of land. These were remarkable achievements carried out in that short period of time.

Further trouble for the Cauvery Reservoir Project arose when the Mysore Government wanted to proceed with the second stage of construction to complete Visvesvaraya’s plan. The Madras Government strongly objected to the second stage construction. The matter had to be taken to the Government of India again which appointed a Court of Arbitration to decide the issue. The question of Cauvery water that Madras Government was entitled to get in terms of the 1892 Agreement between the two governments was the chief subject-matter for
Visvesvaraya explained the Mysore Government’s stand in very clear terms, supported by relevant figures. He showed that while three-fourths of the total supply of Cauvery water flows through Mysore territory, the area irrigated by Cauvery was only 1.15 lakh acres while this area was as much as 12.25 lakh acres in the Madras Presidency. Another strong point made out by Visvesvaraya was that there is ample surplus water which simply goes to waste into the sea year after year. Mysore Government desired to store only a small portion of this surplus water. A third argument put forth was that Madras Government itself had proposed a project to increase the area of land irrigated by Cauvery by 3.2 lakh acres, while the Mysore project was designed to irrigate only 1.5 lakh acres. These arguments supported by indisputable statistical data made the Court of Arbitration give the award in favour of Mysore. Madras Government, however, continued to oppose it. When the Award was ratified by the Government of India in 1916, the Madras Government appealed against this to the Secretary of State for India. The matter then came in again for further negotiations with the Madras Government. By this time Visvesvaraya had retired. After nearly eight years of negotiations with the Madras Government an agreement was reached in 1924 which was a reversal of the favourable Award of 1916.

His Highness requested Visvesvaraya to help in the matter of developing Irrigation under the Cauvery Reservoir. He readily consented and became the Chairman of the Committee constituted to advise on the measures necessary for the extension of irrigation under the Cauvery Reservoir. Practical schemes were drawn up by this Committee for construction of irrigation canals to utilise the waters of the Cauvery Reservoir. The Government accepted these and also requested Visvesvaraya to supervise the construction and tender advice. The canals so constructed have brought under perennial irrigation and cultivation 1,25,000 acres of land which was arid earlier. This area has become a rich source of paddy and sugarcane supply. The cultivation of sugarcane in the due course also led to the establishment of the sugar factory at Mandya. The generation of more electricity has helped several industries, brightened up several houses with light and power and has been a source of income to the Government. Krishnarajasagara has become a very big tourist attraction centre. The vast expanse of water extending as far as the eyes can see, the foaming waters rushing down the waste weir creating a cloud of water vapour, the enchanting Brindavan Gardens below the dam with necessary fountains illuminated with coloured lights at night—are all scenes which one would love to keep on watching and enjoying. Thus Visvesvaraya’s Cauvery Scheme has opened up in his own words, “a vista of possibilities of ever increasing value to the State”.

1. In the main channel which was first called ‘Irwin Canal’ and is presently known as ‘Visvesvaraya Canal’, water will be flowing continuously. The channel runs through some rugged land with many ups and downs in the first 26 miles and thereafter it passes through about 9,200 feet length tunnel which was cut to take the channel in that hilly tract area. An irrigation channel passing through a tunnel of that length is a rarity in the whole world itself. In this canal there is scope for a flow of 2,200 cusecs water. (A flow of water at the rate of one cubic foot per second will be one cusec.)
A practical suggestion made by Visvesvaraya regarding irrigation work deserves to be noted. He had seen in Italy that the control and distribution of water, after it leaves the main canal, is undertaken by societies formed by the cultivators themselves. For this they would make use of the services of private consulting engineers. Visvesvaraya suggested that this example deserved to be followed in Mysore.

Besides the Cauvery Scheme which helped power generation and irrigation, Visvesvaraya seems to have had in his mind, power development by utilising the Sharavathi waters at Jog Falls. It is said that when he first visited Jog Falls and saw the magnificent natural falls in all their grandeur and beauty, he exclaimed ‘What a colossal waste my countrymen!’ Not that he did not enjoy the splendid sight of the natural Falls, but his mind had readily grasped the potential that existed therein for generation of electrical power on a large scale. He arranged for the conduct of surveys relating to the development of power at Jog Falls on the Sharavathi River in Shimoga district. But, as he says, “Insufficiency of resources in men and money, particularly during the War, precluded the State from taking up the construction of this important and attractive hydro-electric scheme during my term of office.” The potential, however, is now being utilised.

Rural Development

Visvesvaraya was for modernizing all aspects of rural life. He showed that per capita income of India was

villagers themselves. He wanted the villagers themselves to construct inter-village roads, approach roads, look after the repairs of tanks and channels, plant trees on either side of the roads and to look after the sanitation of the villages. He revived the old custom of devoting Monday for community work for which free labour was given by the villagers to carry out programmes drawn up by village communities themselves. In 1912, Visvesvaraya formed Village Committees and Agricultural Committees 'to collect information from abroad and spread the same locally, hold public and committee meetings and conferences, issue bulletins, leaflets and newspaper articles, collect funds and do everything in its power to arouse the people and make them think, move and act together and endeavour to raise their standard of work to the highest level attainable.' The Village Committees were especially entrusted with the work of reviving the old village community spirit, to look after minor tanks, rural water supply, village forests, village courts and panchayats.

The task of the Agricultural Committees was to 'Industrialise Agriculture' a slogan which Visvesvaraya gave. He was keen on transforming traditional agriculture into scientific agriculture. The Agricultural Committee was to be in touch with the Department of Agriculture which had well-equipped laboratories and an Experimental Farm at Hebbal. It had to transfer the results of research to the farmers' fields in their respective areas. It was responsible for supply of improved strains of seeds, improved agricultural implements, for looking after the village tanks, for planting village forests, etc. For improving the cattle breed an animal husbandry station was established at Rayanakere near Mysore. Services of a livestock expert from abroad, Davison, were procured and he was placed in charge of sheep and cattle breeding and dairy-farming.

Visvesvaraya was very shrewd in selecting the best persons for key posts. He did not hesitate to get foreigners where local talent was not available. But, he also put the condition that the foreign experts would train Indians to take their place at the expiry of their terms. For the post of the head of the Agricultural Department, he secured the services of Dr. Leslie Coleman, who did very good work. Services of an Italian expert Signor Washington Mari were secured for improving sericulture in the State. A Central Sericultural Farm was opened at Channapatna to produce disease free cocoons. The best Australian rams were got for improving sheep-breeding and a sheep-breeding farm was started in Bangalore. Visvesvaraya also got the services of Krumbiegel, a German expert, to implement his programme of horticulture and fruit-gardening. This expert was responsible for the lay-out and the development of the famous Lal Bagh botanical gardens at Bangalore.

Besides establishing Village Committees and Agricultural Committees as stated above, Visvesvaraya introduced the Scheme of Model Villages and Model Taluks. He also issued detailed guidelines for the work to be carried out by the officers and others in charge of the work. Specific targets were to be laid down for each item of work to be done in a specified period. A report on the progress achieved with facts and figures were to be given to the Dewan by the Heads of Departments at the
monthly meetings presided over by the Dewan himself. Visvesvaraya arranged for the issue of taluk handbooks giving particulars of population, cattle, agricultural and industrial situation and progress, etc. With all the above measures, Visvesvaraya brought a new life in the activities of rural Mysore.

**Transport Development**

In the field of transport the major contributions of Visvesvaraya were the establishment of a separate 'Mysore Railways', the marked increase in the railway lines and the improvement of roads.

The railways running in the Mysore State were being managed by the Madras and Southern Maratha Railways. Thanks to great efforts by Visvesvaraya these lines were got transferred to Mysore Railways in 1918. He worked out a scheme to man the railway with local personnel in stages. This involved training to the local railway personnel.

The railway mileage in Mysore State when Visvesvaraya became the Dewan was 411 and at the time of retirement it was 616 with another 46 miles being under construction. He secured the services of a Government of India expert—Sir E.A.S. Bell—to survey and plan the development of railways in the State. This helped to secure the necessary prior permission of the rather unhelpful Government of India to open a few new railway lines. Though Visvesvaraya's ambition was to have a number of lines totalling to about 1,000 miles of railways, permission was given by the Government of India to only a few, chief among them being Mysore–Arsikere, Bangalore–Chikballapur–Kolar and Chitradurga–Chickajur. It is to be noted that with great forethought he had also envisaged the construction of the Mysore–Brode line, which he wanted to take up on top-priority basis, as it would give direct link from up-country to Kanyakumari and Rameswaram in the South. But the British Rulers did not sanction this as also several other railway lines which were proposed by Visvesvaraya. With this and other unfavourable circumstances due to the World War, it was an achievement that he was able to add during the short period of his regime about 251 miles of railway line to the 411 miles which existed when he assumed office as Dewan. The gross revenue from railways also increased from about Rs. 37 lakhs in 1912–1913 to about Rs. 53 lakhs in 1918–1919. It goes to the credit of Visvesvaraya’s popularity that the people were roused to great enthusiasm in the railway building programme. They readily volunteered to pay the levy of a special railway cess for the construction of new railway lines. Funds were also raised by shares and loans. Visvesvaraya was a practical minded genius. He knew how best to push ahead progressive schemes even against odds.

An outlet into the sea was considered to be useful for Mysore’s contact abroad and foreign trade even when Mysore was ruled by Hyder and Tipu. Visvesvaraya quite well aware of the importance of this, got an investigation carried out for a harbour scheme at Bhatkal, along with the railway to connect it with Shimoga. An all-weather harbour at Bhatkal was considered useful for the export of iron and steel manufactured at Bhadravathi, manganese ore and several other Malnad products like coffee.
spices and timber. Visvesvaraya proposed to extend the Birur-Shimoga railway line up to Bhaktal via Sagur and Kogar Ghat. This would link the proposed harbour to the hinterland by railway service. Projects and estimates were drawn up and sent to the Government of India for the perpetual leasing of the land and the sea-front and permission was sought for Mysore to construct the harbour at its own cost. The Government of India was not inclined to sanction the project. Visvesvaraya tried to mobilise public opinion in favour of the project through the press and platform. Resolutions were also passed in the Mysore Assembly requesting permission of the Government of India. But all these were of no avail and Visvesvaraya was disappointed with this unhelpful attitude of the Government of India.

Among other schemes under transport by Visvesvaraya were the improvement of main roads, ghat roads and the rural roads. He had proposed the construction of tramways in Bangalore, but this could not materialise chiefly due to difficulty of getting the rolling stock and other import requisites for the project.

Relinquishes office as Dewan

The reasons which made Visvesvaraya to relinquish his office as Dewan of Mysore reveal the great man’s character. When he was the Dewan, in the neighbouring Presidency, a movement against the Brahmin community was gaining ground. The non-Brahmin leaders there wanted restrictions to be placed on the entry of Brahmans to government service and educational institutions and special measures to be taken to promote the interests of the backward communities. The leading members of non-brahmin community in Mysore wanted the same policy to be adopted by Mysore Government also. Visvesvaraya was opposed to restrict admission of brahmans to government service and educational institutions. He strongly held that by ignoring merit and capacity, efficiency in administration as well as in industry would suffer. But, he tried to remedy the situation of communal inequalities by grant of liberal scholarships to the backward and depressed classes. This did not satisfy the non-brahmin leaders. They were able to gain the sympathy of the Maharaja who appointed a Committee under Sir Leslie Miller, a retired High Court Judge, to consider the question of adopting measures similar to those advocated by the non-brahmin leaders of Madras. Visvesvaraya felt that his opinion was ignored because he saw no need for such a Committee.

There occurred other instances also about the differences between the Maharaja and Visvesvaraya over the communal issue. Once, six probationary Commissioners had to be appointed. On the basis of qualifications and merit Visvesvaraya recommended six names to the Maharaja. On finding that all the six happened to be brahmans the Maharaja did not approve the list. He discussed the matter with Visvesvaraya and arrived at an understanding that Visvesvaraya should recommend three and that Maharaja would nominate three. Thus, the Maharaja could select from the non-brahmin community. Visvesvaraya began to feel that the Maharaja was losing confidence in him.

Again, when Revenue Probationers had to be selected, the Maharaja desired that not less than 33⅓
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per cent of the vacancies should go to the non-brahmin candidates. Visvesvaraya held that 25 per cent would suffice then. But, Maharaja carried out his own wishes. In another instance, when two vacancies had to be filled up in the University Senate, Maharaja appointed a leader of the non-brahmin movement ignoring Visvesvaraya's recommendations. Instances like the above displeased Visvesvaraya. He conveyed to the Maharaja through Mr. Campbell, the Private Secretary to the Maharaja, his desire to resign. The Maharaja was sorry to know this and Visvesvaraya also was agitated over the crisis of confidence. Then followed a meeting between these two. Several friends also tried to dissuade Visvesvaraya from resigning. Visvesvaraya clarified his stand in a lengthy memorandum to the Maharaja. In this, he stated the various difficulties in the way of implementing his developmental projects and ideas. However, the difficulties and strained feelings were not patched up, Visvesvaraya tendered his resignation and the Maharaja decided to accept it. The architect of Modern Mysore ceased to be the Dewan of Mysore on December 9, 1918. It was with the express condition that he must have full freedom and opportunity to develop the State according to his plans, that Visvesvaraya had entered Mysore Government service. When he found that he no longer enjoyed that opportunity and freedom, he preferred to quit, giving up the lucrative position of the Dewanship of Mysore. But, his love of Mysore was such that he told the Maharaja that his services would be available to the State any time and in any capacity that the Maharaja desired. He was still interested that his plans for the development of the State should be implemented. On the resignation of Visvesvaraya, the Government acknowledging his signal services issued a Mysore Gazette Extraordinary stating, "...During all this period, Visvesvaraya laboured with unwearying zeal, single-minded devotion, to increase the material resources of the State. His administration as Dewan has resulted in important and far-reaching developments in education, irrigation works, railway communications and has laid the foundations for a prosperous and progressive future for the State."

Listing the developments carried out in Mysore State as the Dewan, Visvesvaraya himself says, "The aim in all the above activities was to lay a firm foundation for future progress and to introduce a civilized life of the modern type among our people." To perpetuate the memory of this greatest benefactor of 'Modern Mysore', among other things, the Government of Karnataka has rightly named a few of his creations like 'Bhadrawathi Iron and Steel Works' as 'Visvesvaraya Iron and Steel Works', the irrigation channel of the Krishnarajasagar Dam as 'Visvesvaraya Canal' and the 'Government Engineering College' at Bangalore as 'Visvesvaraya Engineering College'. Also, a Trust known as "Visvesvaraya National Memorial Trust" was formed in 1971 at Muddenahalli where he was born and cremated. In his bungalow in the village, where the Trust is functioning, a few of his treasured belongings are exhibited. A beautiful rose garden is maintained by the Department of Horticulture, Government of Karnataka, around the 'Smaraka'.

CHAPTER 4

Visvesvaraya’s Services to the Nation
(1918-1962)

Freed from Dewanship of Mysore State, Visvesvaraya’s activities spread out into the whole country. He was 58 years of age then and the rest of over four decades of his career, he devoted wholeheartedly for very many activities that have contributed to the building of the Indian nation. He had earned great reputation as a person of extraordinary abilities especially in the field of irrigation, river control, dam and canal construction, water supply, drainage and town planning. His enthusiasm to industrialize India on planned lines had been widely known. There was great demand from many quarters in the country for his services. His activities in and contributions to India’s national life were varied. Without going into the details of these activities we shall just enumerate a few of the manifold contributions made by this great son of India.

1. In 1917, even when he was the Dewan of Mysore, he served on the Committee of Princes and Ministers or Dewans. This Committee discussed several reforms relating to the relation of Indian States with the Government of India.

2. At the invitation of Pandit Madan Mohan Malaviya, Visvesvaraya joined the deputation team, which met Lord Chelmsford, the Viceroy of India, in 1921 to discuss proposals for a Round Table Conference of political leaders of India and representatives of Government. The object was to find a solution to political problems of the country. In this context an All-Party Conference was convened at Bombay. Visvesvaraya was the Chairman of this Conference. The Conference constituted a Committee headed by Visvesvaraya to interview the Viceroy and urge for a Round Table Conference to consider the demands of the National Congress for Swaraj and other related issues.

3. In 1922, the Government of India appointed a Committee which was to formulate plans for construction at Delhi of Viceroy’s residence, Central Government offices, Assembly buildings, etc. Visvesvaraya served as a useful Member of the Committee.

4. There were requisitions to Visvesvaraya from several cities like Bombay, Karachi, Madras, Ahmedabad, etc., for his advice regarding civic administration and affairs. He undertook the work relating to Bombay and Karachi and contributed to their improvement. He had seen city surveys being conducted in the modernized countries like U.S.A. and Canada and had benefited by this. In 1924 the Corporation of Bombay City appointed Visvesvaraya as Retrenchment Adviser and also set up a Committee under him to suggest ways and means of securing economy and efficiency in the Corporation administration. This Committee recommended decentralization of functions, constant vigilance and review of corporation work, strict control over public
utilities managed by private companies and reduction in annual expenditure. This report was so thorough in all aspects of Corporation services that several other cities also appointed him for advice and guidance.

5. An Indian Economic Enquiry Committee was appointed by the Government of India in 1925 with Visvesvaraya as Chairman. The object of this Committee was to enquire into various aspects of the economic condition of the country and the people of India such as the general resources of the country, per capita income of the people, their ability to bear the existing burden of taxation, distribution of the burden of taxation, soundness of the tax system, tax administration, etc. The Committee was also to recommend measures of tax reform.

The Members of the Committee toured different parts of the country, including Burma which was then a part of India, to collect data and information. A questionnaire was also prepared and data collected through this from many individuals. After seven months of hard labour, the Visvesvaraya committee produced an elaborate Report. The need for collecting statistical data and publication of particulars regarding income, labour, wages, prices, cost of living index and other relevant matters was pointed out. The Committee recommended the establishment of a good Statistical Organization for this purpose. The Report was very valuable to the government in shaping its economic and financial policies in the due course.

6. In 1926 Visvesvaraya conducted an investigation into the administration and finances of Karachi Corporation. He said that this enquiry was a kind of city survey of local needs and deficiencies, the city’s administrative equipment and methods and its financial affairs. Over a dozen other cities which approached him could not have the benefit of his services as he had to take up works of greater importance.

7. Another important Committee on which he served as a technical expert Member was the 'Bombay Backbay Enquiry Committee' which was set up by the Government of India in May 1926. The object was to enquire in detail into the on-going Backbay Reclamation Scheme, which had been prepared by foreign experts, but which had not made good progress and to make recommendations as regards future operations. The Committee held its sitting both in India and England to examine a number of witnesses. Its Report was published from Whitehall, London. The Report pointed out several defects in the technical, engineering and the financial aspects of the Scheme which was being carried out. It was Visvesvaraya who detected the technical flaws as well as wrong financial estimates and stated these in the Report duly supported by all facts and figures. The constructive suggestions given by him proved very helpful in carrying out the reclamation work at Bombay.

8. In 1928 in Bangalore city there occurred a Hindu-Muslim clash. This arose over the shifting of the Ganesha idol in the premises of A. V. School in Arcot Sreenivasachar Street near the City market. There were several ugly incidents in which innocent persons of both Muslim and Hindu communities became the victims. The Government appointed a Committee under Visvesvaraya’s Chairmanship. It was asked to enquire
into the causes and course of events leading to the communal disturbances, the steps taken by the officers to cope with the situation and to recommend measures to remove misunderstandings and restore harmony among the two communities. Visvesvaraya Committee produced a very comprehensive report. It was frank and bold too, as it pointed out clearly the failure of the Government in preventing the disturbances. It also referred to the influence of non-brahmin movement, political movements in British India, communal electorates in British India, etc. Several constructive suggestions were made to restore communal harmony. It does high credit to Visvesvaraya that he could handle this most sensitive Hindu-Muslim issue in such a remarkable way.

9. Visvesvaraya presided over the South India States Peoples' Conference held in Trivandrum on January 14 and 15, 1929. Questions relating to the place of Indian States in the Indian Constitutional Reforms were discussed. Visvesvaraya expressed his views about the position of Indian States and the Chamber of Princes in any future scheme of Federation for India.

10. In 1923, the Government had sanctioned a scheme for construction of a barrage to be known as Lloyd Barrage (Lloyd, the then Governor of Bombay) across the river Indus at Sukkur in Sind. The planning of the Scheme was done by expert European engineers. Though the people of Sind welcomed the project, it raised a controversy and public opinion demanded a further probe into the Scheme. In May 1929, the Government requested Visvesvaraya and the Chief Engineer of Hyderabad to investigate and report on the technical, financial and administrative aspects of Lloyd Barrage Scheme. After a detailed enquiry, Visvesvaraya gave his report to the Bombay Government in September 1929. Commending the Report, Sir Frederick Sykes, the Governor of Bombay at the time, wrote a personal letter to Visvesvaraya in which he said: ""The Report is obviously an excellent one. I feel convinced that the Report will help in many ways to forward the project, and its objects to the conclusion of great benefit we all so much desire."" The constructive suggestions given in the valuable Report helped the completion of the Scheme which made Sind then 'the Granary of India' and presently of Pakistan.

11. A very strange event happened once to the Tigra Dam in Gwalior State. Two big masses of the Dam wall—each about 70 feet long and 55 feet high—severed from the bottom foundation rock and moved bodily forward down the stream for about 120 and 150 feet respectively and stood there quite well. Visvesvaraya's advice was sought by the Government about this breakaway dam. On investigation, Visvesvaraya was able to hit upon the real technical reasons for the dam running away from the foundation en masse and suggest also the way of rebuilding the dam.

12. In 1930, Bombay University appointed a Committee with Visvesvaraya as Chairman to plan out a scheme for a Department of Chemical Technology and also to examine the prospects of developing chemical industries in Bombay. The Committee's Report given after six months of close study was accepted and the Bombay University established a Chemical Technology

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Institute. This Institute has been contributing much to the development of chemical technology in the country.

13. In 1937, the Bombay Government set up an Irrigation Inquiry Committee with the 77-year old (young) Visvesvaraya as Chairman. Its object was to examine all matters and problems relating to supply of water both for agricultural uses and non-agricultural uses. The Report given by this Committee dealt with such questions like the existing position of irrigation works in the Presidency, equitable distribution of water to different crops, to industries, to municipalities, etc., supervision and control of canals, rates of assessment, steps to be taken in case of water logging and such other related matters. The Committee recommended the ‘Block System’ of irrigation, which was designed by Visvesvaraya to secure the advantages of economy of water and simplification of canal administration. The establishment of a Provincial Irrigation Board, Bureau of Irrigation Research, Canal Advisory Committees were among other measures recommended with a view to promote better irrigation. The Government of Bombay accepted the Committee’s recommendations and took necessary measures to implement them.

14. In the same year 1937, Visvesvaraya, still in his youthful spirit, was requested by the Government of Orissa, at the instance of Mahatma Gandhi, to help in flood control measures. Gandhi also wrote to Visvesvaraya a personal letter about this. Floods in Orissa were causing great suffering to the people of many areas. An Expert Committee under one Mr. B. Adams Williams had made a study of the problem and come to the conclusion that flood control reservoirs on any of the rivers were not practicable. Visvesvaraya was given a copy of the Committee’s Report and requested to give his advice to overcome the problem created by devastating floods. Visvesvaraya boldly declared that the Committee’s view was wrong and constructing flood control reservoirs was quite feasible. He cited instances of very big rivers like Mississippi and Ohio in United States being controlled by such reservoirs. At his instance, a Committee was constituted to carry out necessary investigations for making full recommendations. After these investigations, Visvesvaraya recommended three series of dams which would impound the surplus flood waters ensuring a steady stream of water throughout the year both for power generation and irrigation. His plans were subsequently implemented. It is interesting to note here that Visvesvaraya returned the cheque sent to him for his great services, with a note that he had taken up the work out of regard for his great countryman Gandhiji and therefore, he would not accept any payment for the work done. This shows his regard for Gandhiji and also the fact that he never worked for money.

15. The monumental Indian Institute of Science at Bangalore was established in 1909, with an endowment by the illustrious industrialist J. N. Tata. Visvesvaraya is one among the great luminaries who have built up this Institute into its present preeminence in the world of Scientific Research and Education. He was closely associated with this Institute in its formative period as the President of the Court of the Institute. It was due to his initiative that Departments like Power Engineering, Chemical Engineering, Aeronautics and Internal Combustion Engineering were started. He urged for
close contact between Industry and the Institute to serve
the vital needs of the Industry and secure a proper
coordination between pure and applied research.

16. Visvesvaraya served for a period of 28 years
(1927 to 1955) as a Director of the Tata Iron and Steel
Company and his contribution to the development of the
Iron and Steel Industry was most valuable.

17. In 1940, a few industrialists requested
Visvesvaraya to preside over a Conference of
Manufacturers. Quite readily he made use of this
occasion to sponsor the All-India Manufacturers’
Organization (AIMO) which has since then done much to
promote the cause of Industrializing India. He worked as
the President of this AIMO from 1941 to 1954. During
1946–47 he led at the age of 86, a delegation of nine
leading members of the AIMO to several developed
countries of Europe and America. He asked each
delegeate to prepare a detailed note on the industry in
which he was interested and also gave some guidelines
regarding the report to be prepared on visiting the
industrial centres abroad. The Reports of the five
months’ tour experience were published by the AIMO.
It included facts about their study of several major
industries like Iron and Steel, Automobile, Aircraft,
Shipping and Shipbuilding, Rayon and Silk, Textiles,
Heavy Chemicals, Fertilizers and Electrical Machinery.
The delegation was very much impressed by the
technological advances and the organizational
developments in the countries they visited. They desired
similar advances and developments to be made in India
too.

18. Visvesvaraya’s zest for rapid industrialization
was such that he was eager to see that both an automobile
works and Aircrafts factory were started soon. The
leading Indian industrialist Walchand Hirachand was
prepared to take up these industries. But, the attitude of
the alien Ruling Power was initially hostile to the
proposals. But after some reverses in the War with
Germany, especially the Dunkirk disaster, as Visvesvaraya
put it “the British Government woke-up to the necessity
of having ship-building industry and aircraft industry”
to manufacture ships and aircraft in India. The British
Government gave its consent for an Aircraft factory for
India and wanted it to be established soon. Walchand
who was already thinking of it, was asked by the
Government of India to take it up. It was the joint
persuasion of Visvesvaraya and Sir Mirza Ismail, who
was then the Dewan of Mysore, that made Walchand to
agree to start it in Bangalore. The Mysore Government
offered land, water, electricity and also financial support.
The Hindustan Aircraft Limited was started in 1940 as a
private limited company with Walchand Hirachand and
Co., as the Managing Agents. It was taken over by the
Government of India in 1942 and placed under the
Defence Department.

Visvesvaraya was jubilant when his dream of an
Aircraft factory for Mysore materialised. When the
construction work was in progress he took extraordinary
pains to visit the site of construction daily and discuss
with the chief in charge one Mr. Shah. Even here he was
most systematic. He fixed up an engagement with
Mr. Shah to meet him everyday at 5 p.m. and spend an
hour. He put searching questions about machinery,
equipment, raw-materials, design of planes, type of steel required, import components, etc. He was eager to help in procuring these in the best way possible. Engineer Shah was greatly struck with the great interest and enthusiasm of Visvesvaraya at that advanced age of 80 years. He said that he had yet to see another person of Visvesvaraya's type—"bubbling with enthusiasm, beaming with penetrating intelligence, upright in character, charming in courtesy and full of patriotic fervour."

19. Visvesvaraya's desire to promote ship-building also was fulfilled. This was again chiefly due to Britain's self-interest. As the war was in progress, the strategy of Germany was to destroy British ships which were the lifeline of Britain. German submarine, war-ships and bombing aircraft began to sink Britain's ships. This greatly alarmed the British Government. It was in this predicament that the British Government thought of establishing ship-building industry in India also. The place selected was Vizagpatnam (the present Vishakapatnam). Walchand Hirachand, the reputed industrialist was requested to take up the project. As Vizagpatnam is a deep-sea harbour there was difficulty in controlling the turbulent waters for constructing the sea-wall. The engineers who were engaged in this work did not know what to do. Visvesvaraya helped the Engineers by suggesting that the situation could be best met by sinking ships laden with cement. This proved useful and the engineers thanked Visvesvaraya.

20. Establishment of an automobile industry was another pet scheme of Visvesvaraya. To him the automobile stood for science, technology, speed, progress and prosperity. In 1935, at his instance, a meeting of representative industrialists was held and it was resolved that preliminary investigation should be taken up for starting the automobile industry as early as possible. The task fell on Visvesvaraya. He undertook at his own expense, a foreign tour covering England, United States, Italy, Germany and France to study the details of the industry at the ripe age of 75 not minding the strain it involved. He visited several automobile factories including the famous Morris Motors at Oxford, the Austin Motor Co., in Birmingham, Ford Motors Works, Vauxhall Motors Ltd., Fiat Co., Chrysler of Detroit, etc. The study he made was both extensive covering a large number of automobile firms, as well as intensive collecting every detail of all aspects of the industry such as technical, financial and business aspects. On returning to India he published a very detailed Report entitled 'Proposals for an Automobile Factory in India' in April 1936.

The proposal for the automobile works did not receive the consent of the Government of India. When the popular Congress Ministry came to power, Visvesvaraya used his good offices with the Bombay Chief Minister and got his support. He and Walchand Hirachand and his associates negotiated with some foreign firms for collaboration and finally in 1940 the Chrysler Corporation of Detroit agreed to provide technical assistance and know-how for the proposed factory at Bombay on a royalty basis. But, the Government of India did not approve the proposal on the ground that it would impede war efforts. Undaunted by these discouraging things, Visvesvaraya continued his
efforts. He tried to get the automobile factory located at Bangalore. He got the support of Sir Mirza Ismail, the Dewan and the Maharaja. But, here again the British Resident in Mysore, under instruction from the Viceroy, obstructed the progress of the proposal. Visvesvaraya corresponded with the Viceroy himself. But his attempts as well those of the Mysore Government proved futile against the obstinate attitude of the Government of India. He felt extremely disappointed. So also Sir Mirza Ismail who resigned.

Visvesvaraya thought it necessary to tell the public why the proposed scheme for automobile industry did not materialise. So, he released the entire correspondence relating to this in the form of a booklet, 'Government of India's Obstructive Attitude to Indian Automobile Factory Scheme.' This covered 32 letters, along with a brief account of the various efforts made over a period of seven years by the promoters to establish an automobile factory. In concluding the narrative, he indicted the Government of India in these words. "They have created and reiterated every difficulty that they could think of, but obstinately refused to concede or consider a single request or point calculated to favour the scheme." Thus Visvesvaraya's ambition to have an automobile factory in our country was not fulfilled. However, the spadework he did by way of amassing every detail about the automobile industry and the contacts he had established with foreign manufacturers of automobile, proved helpful subsequently when the time came for establishing the automobile industry in India.

21. In 1947, when a high dam was under construction on the Tunga-Bhadra river there arose some controversy about the design and construction techniques. Then the Governments of Madras and Hyderabad appointed a Board of Directors with Visvesvaraya as Chairman to settle the disputed points and issues. After the discussion an agreed decision was arrived at.

22. In 1949 Visvesvaraya visited Saurashtra at the request of its Government to advise on the sites chosen for locating dams for several storage reservoirs in that state.

23. At the request of His Highness the Nawab of Bhopal, Visvesvaraya examined the question of power and water supply to Bhopal city and submitted suitable proposals. Schemes for water-supply were given by him for several other places including Goa, Nagpur, Rajkot, Bhavnagar, Indore, Aden, Ahmednagar, Baroda, Sangli, Pandharpur, etc.

24. Visvesvaraya played the decisive role in the selection of sites for the construction of two bridges across the Ganga river. Between 1945–1952 when this question was being considered, Bihar, West Bengal and Assam governments presented sites in their respective States and even expert opinion was divided. In this predicament, Prime Minister Jawaharlal Nehru suggested that the matter be referred to Visvesvaraya, who is an 'engineer of integrity, character and broad rational outlook who could take an unbiased view, resist local pressures and whose views would be respected and accepted by all.' The then Minister for Transport, N. Gopalaswamy Ayyangar, wrote a letter on January 7, 1952 to Visvesvaraya requesting his great and competent assistance in selecting the most advantageous location for
the Ganga railroad bridge. Before finally accepting the assignment, in his characteristic fashion, Visvesvaraya got an assurance from the Minister for Transport that his recommendations on the issue would be fully implemented. The Government of India gave the 92-year old Visvesvaraya all the necessary facilities to carry out the work. It is astonishing that at that age Visvesvaraya personally inspected the alternative sites—Mokameh, Sakrigali Ghat, Farakka and Rajmahal. With a few other colleagues concerned with the work, he also went in an aeroplane flying at low height for an aerial reconnaissance of the course of river Ganga over the required distance. It is interesting also to know that during the flight, Visvesvaraya went to the cockpit and sat in the co-pilot’s seat so that he could have a better view. Most extraordinary activity indeed, for a person of his advanced age of 92 years. In consideration of his age, the Governor of Bihar, M. S. Aney, personally invited Visvesvaraya to stay with him at the Raj Bhavan when he visited Patna. Visvesvaraya replied that for the sake of work, he would rather stay with other Committee Members in the railway inspection carriages. Appreciating Visvesvaraya’s principled stand, the Governor invited all the members of the Committee to stay at the Government House and Visvesvaraya accepted it. This Grand old Man who preferred to stay in a saloon in the summer heat of Patna drew the admiration of all. ‘Duty before comfort is the ideal of Visvesvaraya’, remarked Aney the Governor.

After all the investigations, Visvesvaraya gave his valuable Report. Since the Government wanted to construct only one bridge then, he suggested Mokameh as the most suitable site. His other recommendations related to the multipurpose barrage across the Ganga at Farakka and improvement of the river crossing arrangements at Patna. The Government of India accepted his recommendations and carried out the work in the due course.

25. As stated earlier, as the Dewan of Mysore, Visvesvaraya had set up the Economic Conference which was, indeed, a planning body. Even before Soviet Russia, the first country to adopt systematic Five Year Plans, adopted planning, Visvesvaraya had thought of planning for India. The Government of India has referred to him as “the Father of the idea of Planning in India.” In 1920, he published his work ‘Reconstructing India’ to make people plan conscious. In 1934, he published his comprehensive book on planning ‘Planned Economy for India.’ With facts and figures he produced a feasible plan and also made a passionate and powerful plea for developing India on a well thought out coherent plan. His idea about the kind of planning that India should have is expressed in this book. He says that Indian planning should avoid communistic tendencies; its basic policy should be to encourage collective effort without interfering with individual initiative. He was for democratic planning of the type we are having in India today.

He had become so well known for his advocacy of planning that Subhas Chandra Bose, the President of the

2. Sir M. Visvesvaraya, Planned Economy for India, 1934, passim.
National Congress invited him to serve as a member of the All-India Planning Committee which he set up in 1937 under the Chairmanship of Jawaharlal Nehru. This Committee set up 29 Sub-Committees and carried on its work in detail for eleven years and submitted its report in 1949. It is noteworthy that Visvesvaraya was really the inspiring force behind this work and his contributions to the twenty-five Reports on various aspects of the plan for India which the Committee published were most valuable.

CHAPTER 5

Conclusion

It is difficult to find a parallel to Visvesvaraya whose span of active working life covers about eight decades. In this long period he worked practically all the waking hours (leaving 5 hours of sleep in a day) excepting for his cherished constitutional walks and lunch time. "It is better to work out than rust out", "Work, work hard, hard work does not kill, it is worry that kills." "Work is worship and service to the nation is the goal and purpose of all education and knowledge"—These are the slogans he often repeated. He never wasted a minute. His personal life was as well planned as his public activities. He was most regular in his habits. He led a very disciplined and methodical life. He himself attributed his longevity and remarkably sound health and vitality to his strict diet, his self-discipline and self-control. Maintaining perfect health he was able to carry out lots of work for the country throughout his long life and his contribution to our country is unique.

In the words of Jayachamaraja Wadiyar who presided over the function arranged to celebrate the birth centenary of Visvesvaraya, "There are few fields of thought and constructive endeavour, of technical advancement and nation-building in which he has not made a signal
contribution. Engineering, in all its branches, particularly those of irrigation, reservoirs, dam and water supply, power generation and bridge-building; University education; technical and occupational training; town-planning, industry and manufacture; banking, commerce—in every one of these he has left the mark of his hand and brain in many parts of our great country. The State of Mysore, in particular, is full of abiding monuments of his skill and forethought, his expert knowledge and his wisdom.” No field of activity escaped his attention. As the survey given in the earlier chapters show, he tried his best to inculcate the modern spirit, ideas and methods in the political, social and economic fields. He was eager to see that India caught up with the advanced countries of the world in every way soon.

Visvesvaraya earned the love and admiration of all in the country. He never sought publicity or fame, but honours came to him from many quarters spontaneously. In 1911, he received the title of C.I.E. (Companion of the Indian Empire) in 1915 that of K.C.I.E. (Knight Commander of the Indian Empire), honorary Doctorate by eight Indian universities and a large number of other honorary positions, medals and such other awards. In 1955, the highest distinction of ‘Bharat Ratna’ was conferred on him by the President of India.2

Visvesvaraya’s birth centenary was celebrated all over India and abroad on 15th September 1960. The Government of India issued a special Visvesvaraya postal stamp carrying a picture of Sir M. Visvesvaraya and also released a news reel depicting his notable achievements. The All-India Radio broadcast a biographical narrative of Visvesvaraya. Several newspapers issued special supplements in his honour. Statues of Visvesvaraya were erected in several places. A birth Centenary Volume was published by the Centenary Celebration Committee. Eminent persons who have paid glowing tributes to the Grand Old Man find no words to adequately express Visvesvaraya’s greatness. There is no other person with whom he could be compared. As two eminent persons have put it, “... It is said in ancient Indian lore that an ocean can be compared only with itself and the Himalayas with themselves and with no other. Visvesvaraya can be

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1. When Visvesvaraya was honoured by the British Government with the title K.C.I.E. a politician friend brought to the notice of Visvesvaraya that Tagore when he was offered that title refused it in protest against the British Policy at the time of the division of Bengal and asked him why he too should not do so. Back came the straight reply from Visvesvaraya, “The title is not an honour done to me as an Indian. It is for the knowledge that I possess and no learned person should reject the honour given for learning/knowledge. Learning should not be mixed up with politics and misconstrued too... This is not the way to protest against the British Policies. It is by banishing poverty from our villages; it is by making our ryots economically prosperous, by making them

2. It is said that when he was informed of the Award of Bharata Ratna he sent word to Jawaharlal Nehru saying “If you feel that by giving this title, I will praise your Government, you will be disappointed. I am a fact-finding man.” Nehru appreciating his frankness requested Visvesvaraya to accept the Award.
compared only with himself, for there is no other like him. He is a rare combination of the ancient Hindu Bhishma and modern American Ford.¹

Visvesvaraya has carved out for himself by his enduring works and exemplary way of life a place in the hearts of millions of Indians of several generations, including the generations to come. Three cheers to the Sublime Visvesvaraya Spirit.

¹ H. Rangachar and P. Kodanda Rao, A Brief Life Sketch, in "M. V." (Dr. M. Visvesvaraya)—Birth Centenary Commemoration Volume by his Contemporaries and Admirers. Published by Visvesvaraya Centenary Celebration Committee, Bangalore, 1960. p. 334.

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