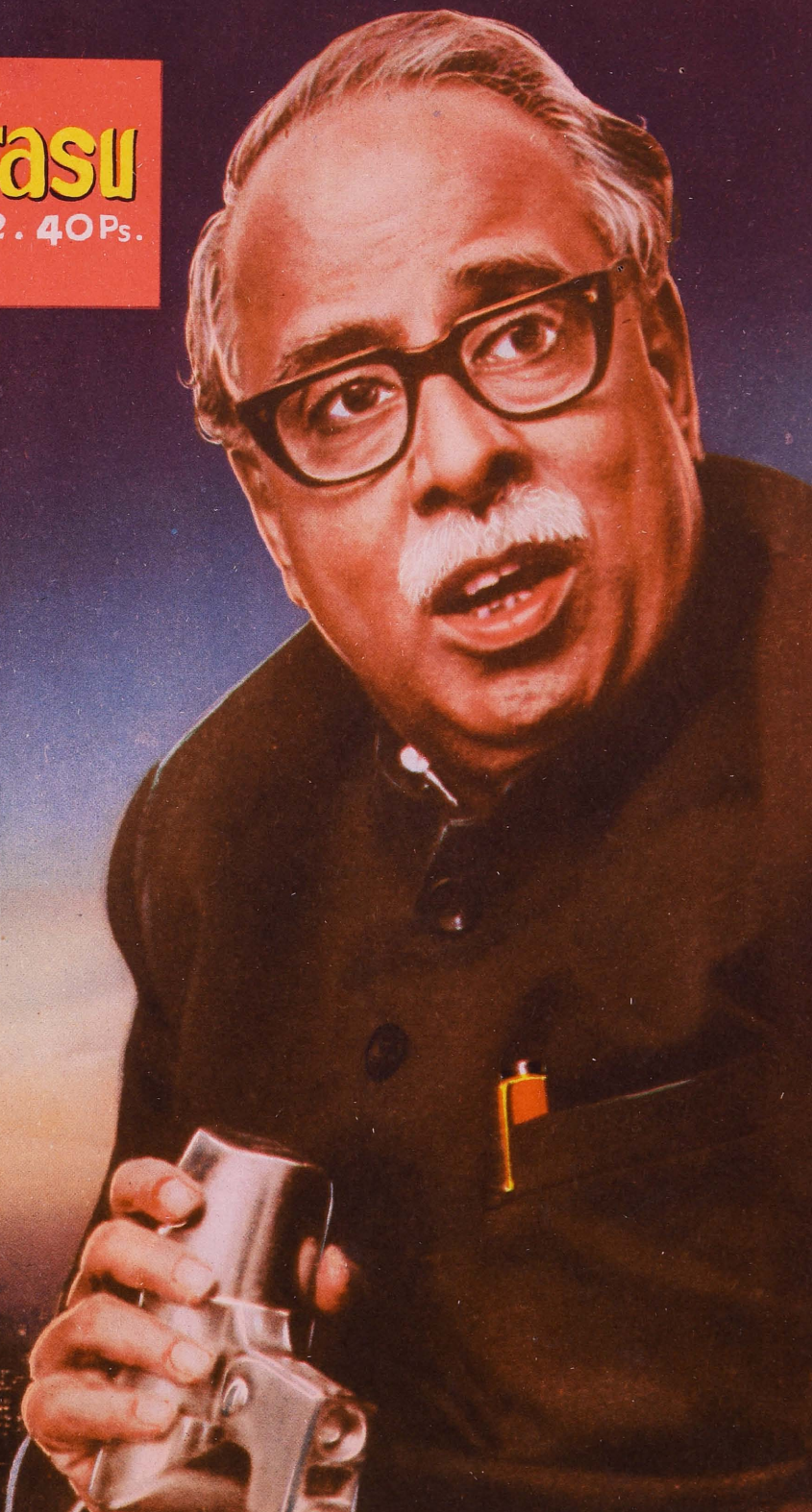


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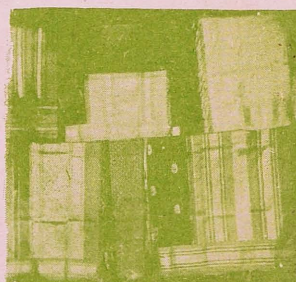
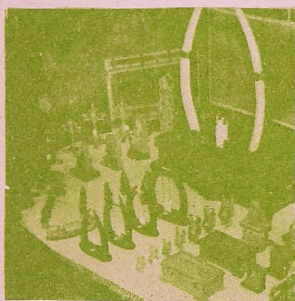
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MUTHU

TAMIL NADU IN GANDHIAN PATH

Article by

Thiru K. K. Shah on P. 4.

Vol. III OCTOBER 1st, 1972 Issue 6

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COLOURFUL CELEBRATION OF ANNA'S BIRTHDAY

Anna's 64th Birthday was zealously and colourfully celebrated throughout Tamil Nadu between 13th September and 19th September this year. On the 15th September, the celebration took place at all the district headquarters attended by Ministers in each district.

This year, on the birthday of Anna, a programme of free medical check up of all school children was commenced at the Kilpauk Medical College in Madras under the presidency of the Tamil Nadu Health Minister Prof. K. Anbazhgan.

In the City, the special feature of Anna's birthday Celebration this year was the spectacular pageant on 19th September of 64 tableaux symbolising the 64th birth anniversary. The Tableaux organised under Party auspices, depicted the achievements of the Ministry under the leadership of Anna and then under Dr. M. Karunanidhi, besides historic events and scenes from the life of Anna. In addition, a number of decorated trucks and rickshaws added to the spectacle. This procession was a unique one in recent history.

The Anna Statue had been specially decorated with multicoloured and moving lights, which became a focal point of attraction for nearly a week in the City.

The floats depicted the scenes of Anna selling handloom goods to relieve the distress of weavers collecting funds to provide succour to victims of Cyclone, that social reformation he brought about by acting on the stage, his entry into

Fort St. George legalising self-respect marriages, World Tamil Conference, his visit to America and the conferment of Chubb Fellowship of the Yale University, naming of Madras State as, Tamil Nadu and so on.

Some floats depicted how Anna was one who followed the path of peace and love preached and practised by Valluvar, Gandhi and Buddha.

The floats also illustrated the achievements of the Tamil Nadu Government formed by Anna and now headed by Dr. M. Karunanidhi. The achievements illustrated were Slum Clearance, Manu Needhi Thittam (Mass-Contact Programme), Distribution of Land and House Pattas, Grant of Medal and other incentives to inter-caste marriages, Coom Improvement-Scheme, Cauvery water to Madras City, water supply and Drainage Board, declaring May-day as holiday, Complete Rural Electrification, Youth Corps, using temple fund for Welfare Measures, Modern facilities to Fisherfolk, Beggar Rehabilitation, Tamil Archana's in temples, concessions and amenities to N.G.O.'s assistance to hair dressers and laundry-men, Tourism Development, Free-Eye-Camps, Rural Link Roads, free education, Bus-Nationalisation, etc.

The Seerani Arangam shone with brilliant illumination. Before the commencement of the meeting there was light music by prominent cine playback singers.

Then the Chief Minister, and other leaders-addressed the gathering paying glorious tributes to Anna, and reminding the people of their duty to adhere to Anna's policies and principles.



TAMIL NADU GIVES A LEAD IN GANDHIAN WAY OF LIFE

This year, Gandhi Jayanthi assumes special significance as it is celebrated in the year of the Silver Jubilee of our Independence.

From whatever I have seen and felt in Tamil Nadu, I can say with confidence that Tamil Nadu is entirely in tune with Gandhian philosophy and approach to social, economic and other issues. Gandhiji's Satya and Ahimsa (truth and non-violence) were not only a mighty weapon against the Britishers but were intended to make democracy a mode of living. The greatest Indian who rose to global stature after Gautama Buddha and who contributed a great deal to world-thought and world-endeavour was Mahatma Gandhi. If the pre-Independence era was dominated by the thoughts and influence of Mahatma Gandhi, the post-Independence era can be said to be dominated by the erudite statesman Pandit Jawaharlal Nehru, simple and serene Lal Bahadur and far-sighted and resolute Thirumathi Indira Gandhi because of their ingrained faith in Gandhian philosophy.

What we are missing is a concerted effort to interpret Gandhiji to younger generation and to put up a fight for norms in public life. Mahatmaji insisted upon not only "ends being pure" but the "means also being pure" because he was aware that unless purity of means was insisted upon, weaknesses inherent in the diversity of India, like communal and linguistic, religious and regional differences, would be exploited. Instead of

making efforts to seek unity in diversity, they would play upon these inherent differences for their personal ends. He insisted upon being a giant amongst giants because he knew that bossism was likely to prevent growth of personalities of individuals and thereby stunt the growth of India. Under him Jawahar can grow and Rajaji could work, Sardar and Subhash with all their differences in approach could take pride in accepting his leadership. One has only to go through the broadcasts of Subhash Babu to realise how he accepted Bapuji's leadership and pleaded for his blessings. He fought against casteism because he realised it was the greatest enemy of democracy. How

K. K. SHAH

Governor of Tamil Nadu

can people become masters of the country if they were divided on the basis of caste and community? Jawaharlal always turned to Bapu whenever he was in doubt or difficulties. The most glowing tribute to Mahatma was paid by Jawaharlal when he said "Gandhiji was a rock of purpose and light-house of truth".

We have yet to learn the art of seeking solutions within the inherent limitation of diversity, geographical, linguistic, etc., and

benefit by the vast opportunities that the size and the climate of the country provide. There is no other country in the world which can be self-sufficient. India can not only be self-sufficient but her diversity can provide enough material to search for solutions for the benefit of mankind. What is needed is a composite outlook and cosmopolitan approach. The moment we form the habit of judging issues by the same yardstick that we want others to adopt, our problems will be over.

The day we believe that we cannot grow unless people around us grow, that we cannot benefit at the cost of others, that people cannot be fed on slogans, that discussion and compromise are the essence of a co-operative way of living, that the collective will of the people should always prevail over factional claims, that public life is an instrument of service to the common man and not an opportunity for promoting self-interest, that real statesmanship consists in clearing confusion and establishing rule of reason and not in creating confusion and exploiting narrow selfish ends, Gandhism will pervade the spirit of public life. That is what Gandhiji stood for, lived for and ultimately died for. Gandhiji was the greatest statesman the world has ever seen.

Tamil Nadu has opened a new chapter in public life and given a lead to the country to accept Gandhian approach to the solution of problems. Let us pray for the blessings of Gandhiji to give us strength to follow him with faith.

ANNA—THE SHINING STAR AMONG HIS CONTEMPORARIANS

By

Prof.

M. K. SUBRAMANIAM

Conjeevaram Natarajan Annadurai was born on September 15, 1909 at Conjeevaram in a poor, backward family. There was no astrologer then to predict that Thiru Dr. C. N. Anna would one day shine in South Indian Politics as an unrivalled leader and carry Tamilnadu with him as its Chief Minister. Nor was there any prophet at that time to announce to the world that a Comet appeared in the sky synchronising with the birth of this humble child in a simple family. Astrology and religion bungled before Dr. Anna as he baffled the astrologers and prophets alike in later years with his rationalist, radicalist and humanist views.

After the completion of higher studies in the Pachaiyappa's College, Madras, where he had distinguished himself as a brilliant student, voracious reader and a fine orator both in Tamil and English, C. N. Annadurai left his alma mater in 1934. He served for some time as a teacher in Govindappa Naicker High School at Conjeevaram. The impatient youth in C.N.A. could not live in compromise with a stag and profession of a teacher and for that matter, any profession. He was in search of an ideology and a leader—an ideology radical enough and a leader revolutionary enough. He found such a dynamic leader in Periar E. V. Ramasami and a progressive ideology in Periar's Self-Respect Movement. He had a rigorous political training under E. V. R. for about 14 years which stood him in good stead in later years when he himself grew into an astute politician and a graceful leader.

Having served the Dravida Kazhagam and the Self-Respect Movement for about 14 years, Dr. Anna popularly, known as "Arignar Anna" by that time, severed his connections with his political and

social mentor in 1949 and founded the Dravida Munnetra Kazhagam in the same year. He carried with him Periar's social ideology and blended it with his pet political objective. Gradually, more as a political expediency than as a result of reversal of rationalism and atheism, he relegated the social objective to the background and brought the demand for an independent Dravidanadu to the forefront. Still later, in the context of changed conditions in Indian Politics, he set aside the claim for a separate sovereign State for the Dravidians, waged a war against the Indian National Congress, had a sweeping victory over it in the General Elections of 1967 in Madras State after a relentless democratic battle with for about 18 years and established the D.M.K. Government in Tamil Nadu.

There were pessimists in politics to forecast from the statistical evidence of the Congress having won three successive elections, that the Congress would remain in power for years to come both at the Centre and in the States. Those, who were disillusioned, left politics once for all. Those interested in loaves and fishes of office became turncoats. Men of wisdom there were in politics to enlighten the public on the virtues of a democracy as against the perils of a dictatorship. But they thought that it would not be dignified for them to contest the elections, for they were afraid of their own wisdom betraying them to the masses. They spoke evidently the language of the classes, not the masses. They were well equipped in aristocratic politics, not in mass democracy. They were not prepared to face the electorate. Historians like K. M. Panikkar were, in a mood of self-complacency, prepared to be content with a "Single-Party Democracy" which is obviously a self-contradictory expression. Arm-chair politicians

there were and, in fact, many who showed constitutional courage in suggesting a unitary form of Government and political foresight in predicting the downfall of democracy.

Always Optimistic

In the midst of such muddle-headed men, Dr. Anna, by contrast, stood above them, miles away from them, as a singularly exceptional, shining star, always optimistic about the future, clear about the objective and certain about its realization. He was not an opportunist to pledge his views for the sake of power. He did not allow his political career to fly away on every wind that blew.

In his political journey, Dr. Anna with patience and determination marched onward with a steady pace, without showing delight in occasional deviations to pluck every flower and repose in every shade until he reached his destination—the establishment of an alternate Government in Tamilnadu. At the same time he was not an idle politician to indulge in description and analysis of political events and be content with it. Rather an astute politician as he was, he was pragmatic enough to aim at the possible but to confront his political rivals with impossible suggestions to them.

A many-sided personality

Dr. Anna was no doubt a well read man. But the scholar and the man of action in him were never at loggerheads. Ideals he had, but never held them in antagonism to practical wisdom and pragmatic approach. He used his political wisdom to establish a perpetual contact with the masses, which alone, he realised, would help a political party to succeed in mass democracy. He had made full use

of two essential tools of mass appeal—his silver tongue and graceful pen.

His oratory and writings drew close to him millions of youths whom he introduced into the Self-Respect Movement. Though a large tree himself, he gave comfort to the youths under his shade and allowed them to grow in the sunlight which knifed through his leaves and branches. The young and the old were delighted with his oratory which had the warmth of a West Indian climate marked by bright sunlight, vernal foliage, juicy fruits and occasional thunder and lightning. If they were ready to bask in his eloquence they were equally ready to devote their nights and days to the study of his effective journal "Dravidanadu", week after week and also his novels, short stories and plays. His readers knew that the trenchant columns in his journal would march across the pages like winged angels, sweet and smiling. His close associates have enriched their knowledge in his intellectual company. The inexhaustible fund of entertaining and enlightening conversation, which Dr. Anna possessed in abundance, soothed the savage breasts and paid rich dividends to the party.

An Instinctive Democrat.

The D.M.K. as a well-knit organization of scholars, orators, writers, field workers and actors began to grow from strength to strength, captivating the imagination of the youths and electrifying the masses. And even the classes rallied under its banner. The D.M.K. is, by any standard, the only State party in the Indian Union with a wide coverage, large horizon and broad organizational set-up. Its mass appeal is total. Its words are bonds and its oaths are oracles in cosmopolitan centres, in urban areas and rural parts of the country.

After 18 years of labour in politics Dr. Anna had evolved and kept alert a political party democratically constituted, popular with the sons of the soil, well trained in democratic tradition, to offer an alternative Government in Madras in case a general debacle occurred by choice or chance.

The year 1967 was a crucial year for Indian democracy. At the time when the Congress was mercilessly thrown out of power in some States, there was neither an all India party

ANNA ON LANGUAGE PROBLEM

When asked by a newspaper reporter to comment on the Gauhati Congress resolution on the language issue. Mr. Sanjeeva Reddi, is reported to have remarked with great relief that this generation is saved. The implication therein is that the next generation is not.

I take that the task of every leader is that even though he may not do a thing benefiting his own generation, he should, in his lifetime, sow a seed so that the next generation at least may enjoy the fruit. Mr Sanjeeva Reddi's expression therefore was not based on a every landable principle. If that were so, then great leaders like Mr. Nehru and Mr. Rajagopalachari should have declared that the 'Constitution of India was meant only for this gene-

ration and would not apply to the future. On the otherhand, they have proclaimed it as the only supreme legislation to be in force in India for ever and ever.

One welcome feature of the present antipathy to Hindi is the fact that different though we are, Periyar, Rajagopalachari and myself-we have united in throwing our weight against its imposition. You know that the gods that comprise a nava-graham are all not facing the same direction. Yet the worshipper that goes around them devoutly keeps himself to only one direction. Likewise, I may say, though we face different directions, there is a common objective at present in which we share a feasible amount of common view point.

to step into her shoes nor State parties to replace her in the States. Coalition Governments of parties of self-contradictory ideologies were formed to the utter dismay of the electorate as they were confronted with instability in administration. In many States the corridor of power became the vestibule of demoralized public men who crossed and recrossed the floor unashamedly. The verdict of the electorate was not clear-cut.

In the midst of political anarchy which spread like wild forest fire, Madras with its maturity of mind and clarity of thinking allowed the Congress to rule with stability for 17 long years and gave the chance truly in a democratic spirit to the D.M.K. to rule in 1967. When choice is to be made, there must be something worthy enough to choose. Dr. Anna had a vision to foresee that the people might at any time turn away from the Congress in search of an alternative party. His calculations proved right, and he was quick enough to strengthen his party, imprint on its back the democratic tradition and pushed it into the breach caused by the fall of the Congress at the State level. He brought a new breath of realism to the democratic set-up in India.

A Man Greater than His Deeds.

In the pages of contemporary history of India, Anna has secured for himself a very high place of honour and distinction for yeoman service that he has rendered to our democracy through giving new con-

fidence to the frustrated politicians in the possibility and practicability of establishing alternative Government to the Congress through democratic means.

He was really a person "greater than his deeds and more honest than his surroundings". He was harder than a diamond to the die-hards and softer than a flower to the poor and the feeble. A critic though, he was not at the same time, a noisy, empty patriot and by the standard set by J. B. Priestley, he was not a dangerous citizen. Delhi understood it.

Though he had to face, during life time, undeserved abuse, he had also to his credit well deserved fame. If a man's fame is to be measured by the number of hearts that honour his memory, by the number of tongues, which admire, adore, and even worship, then Dr. Anna is easily the best among his contemporaries.

ANNA—A Radicalist.

The secret of C. N. A.'s success in politics lies in the fact that he saw everything as a materialist, turned a blind eye to much of it as a philosopher and corrected a little as statesman. In his political game he walked slowly and steadily but radical as he was, he never walked backwards. His shrewdness helped him to look at things and into them also; to read the lines and between them too; and he knew the pulse of the nation.

It is difficult to paint the portrait of Dr. Anna in one single colour or with an even brush. He was a

politician, statesman, orator, conversationist, dramatist, novelist, essayist, actor and even a cartoonist—all bundled up in one integrated personality.

Arignar Anna climbed up the mountain of knowledge higher and higher and saw farther and farther. For an observer from a distance, his knowledge and wisdom seemed to be oceanlike, and equally his beach line of wonder was longer. He tried his hand at short stories, novels, dramas and even cartoons and came off with flying colours. He had a quick hand to write the whole play of "One Night" in one single night. He attacked mercilessly the caste-ridden, traditional society based on religion, Vedas and Puranas through his powerful plays and novels. Hundreds of his beautiful articles and effective editorials contributed to "Dravida Nadu" linger still in our unfailing memory.

AN ORATOR PAR EXCELLENCE

In his speeches and writings there were rhyme and rhythm, alliteration, frills and figures, parables and allegory. He applied words and phrases which, in his trained hand and tongue, got embellished. He coined words which enriched literature. His prose is seductively beautiful and his rhetoric grips us with poetic charm.

His parliamentary speech was a performance par excellence in which many of his rivals, who were ready to scoff, could scarce forbear to applaud in the end. Dr. Anna adopted a method, a knack while delivering assembly speeches or addressing public meetings—alternately twitting his political rivals and pulling up his own disciples. His speeches even to the uncompromising were convincing enough as he developed with habitual thoroughness the art of scattering flowers along the path of business, to compress a weighty argument into a rosy phrase. Long before there was any suspicion of his untimely demise, he made it clear that in the adoption of the name "Tamil Nadu" to connote Madras, in the legalising of self-respect Marriages and in the introduction of the 2-language formula in education he found the utmost satisfaction. If any person, much more so a political leader, can lay claim to satiety in death it was achieved by Anna. ①

EMINENT MEN ON ANNA

Adored for Great Qualities

"A Person of cheerful disposition, 'Anna' a popular figure, was adored for his great qualities of head and heart. He had the pulse of the people and was always concerned with the improvement and well being of the common man."

of democratic way of life and socialistic pattern of society. His speeches and writings had initiated an era of Renaissance throughout the Tamil speaking world."

Dr. M. KARUNANIDHI,
Chief Minister of Tamil Nadu.

—O—

A DEMOCRAT

"A forceful orator, Anna was an outstanding Parliamentarian."

"Thiru Annadurai was a democrat. He was the product of Indian democracy. He devoted his entire life to building the fabric of democracy in Tamil Nadu. He was of the people, his life was for the people and his reward was by the people."

V. V. GIRI,
President of India.

—O—

A DEDICATED LEADER

"Mr. Annadurai gave Tamil Nadu a dedicated leadership and made a valuable contribution to the evolution of harmonious relation between the Centre and the State."

MALCOLM
S. AUDISESHIAH,
*Ex-Acting Director General,
UNESCO, PARIS.*

—O—

MORE THAN A MEMORY

"He (Anna) is more than a memory; his life is a reminder that the India that produced Sankaracharya, Vivekananda, Gandhi and so many others of larger than human stature, can still give humanity the teachers humanity will need to rise toward the new era of compassion which he so clearly foresaw."

ALBERT
B. FRANKLIN.

INDIRA GANDHI,
Prime Minister of India.

—O—

OUR GREAT LEADER

"Our great leader, Anna, had made history by his unstinted service to the people and Tamil language; with kind and tender heart like that of a mother he held sway over the youth of Tamil Nadu, and in effect was their unquestioned leader. He stood for the establishment

WIT AND WISDOM OF Dr. ANNA



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THIS IS GOVERNMENT!

"If the fields are rich with crops, there will be joy in Government offices, if comradeship smiles in the factories, if the production increases and justice and contentment prevail the state of the country would improve. If those in the markets see to it that procurement and sales are carried on honestly price increase and hoarding would be extinct. The living conditions of the people would improve. If the students in the educational institutions get themselves trained, fully realising that they are there only to work for the uplift of the country, then the country would progress. Combination of all these is Government. Government is not that which is run in some buildings alone. The Government of a country depends on the household traditions."

ALL MY FRIENDS!

"Those who sweat to convert barren lands into fertile ones, those who have will to operate to full capacity the factories which work below capacity and those who are engaged in production and distribution for the increased welfare of the people and are carrying on their work honestly are **all my friends** and they have my salutations."

OUR ENEMIES!

"Those who obstruct production and those who harm the persons working for production are enemies not only to me but to the society itself."

Those who raise the prices and those who hoard the produce are walking diseases. ruining the land.

Those who are engaged in foul methods like corruption, big spending and bribery are a humiliation to the country."

REPRESENTATIVE OF THE COMMON MAN!

"This is the age of the common man—whatever the regrets some might have—and it is his point of view that matters most and I do claim to represent him in all his ruggedness. Systems and schools of thought, whether it is in philosophy or politics, ethics or economics are certainly meant for him. Of course, the interpretation should come from scholars and experts and the art of translating them into every day activity is to be undertaken by the administrators."

WHAT IS DEMOCRACY?

"Democracy is not a form of Government alone—it is an invitation to a new life—an experiment in the art of sharing responsibilities and benefits—an attempt to generate and co-ordinate the inherent energy in each individual for the common task."

RE-DISCOVER AND RECONSTRUCT!

"In short, we have to re-discover ourselves and reconstruct our entire thought. Once we were the custodians of everything nobler, but we have allowed the germs of decay to multiply and thrive. Our task to-day is to allow fresh air and sunshine and regain the original shape and stature—that which made us (Tamils) well-known in distant lands and climes."



SUBRAMANYA BHARATHI.

THE PATRIOTIC POET OF INDIA

(Every language and every nation has produced poets, but few have soared so high as Subramanya Bharathi. He is a true poet of extraordinary merit.)

—says Thiru K.K. Shah, Governor of Tamil Nadu in this article.

The very mention of the name of Subramanya Bharathi takes our minds back to the tumultuous years of our Freedom struggle and parades before our eyes the eminent personalities of India who played a key role in different parts of the country for securing our political emancipation. I picture to my mind how freedom-fighters of Tamil Nadu valiantly marched to the martial music of Subramanya Bharathi in those days. I vividly recall the old scenes of sufferings and sacrifices; the intensity of the struggle under the dynamic leadership of Mahatma Gandhi; the stout-hearted soldiers of freedom, giving up their professions, neglecting their families and plunging headlong in the national upsurge, undaunted by the blows of lathis or shower of bullets or hardships of jail life. In this year of the Silver Jubilee of our Independence, my mind is naturally lost in reverie and recalls the past with nostalgia.

Every language and every nation has produced poets, but few have soared so high as Subramanya Bharathi. He is a true poet of extraordinary merit and uncommon characteristics. He is a divinely inspired patriotic poet of India whose greatness has acquired many dimensions not dependent on prosody, grammar and syntax. He

captured the spirit of India and all that India stands for. This is his unique distinction.

He lived only for about 39 years. Instead of a silver spoon in his mouth, Bharathi was born with poetry on his tongue. His precocious poetic powers earned for him the title "Bharathi". At the age of 15, he had neither father nor mother. Under the fostering care of his uncle and aunt, at Banaras, he acquired proficiency in Sanskrit and Hindi. What a talented young man he must have been at the age of 22 to be appointed Assistant Editor of the Tamil daily "Swadesamitran"! There he came under the healthy influence of G. Subramanya Aiyar. 1906-7 were years of hectic political activity and poetic creativity for Bharathi. Even the moderate leader V. Krishnaswami Aiyar admired Bharathi's songs so much that at his cost he printed 10,000 copies and widely distributed them gratis. With Bharathi in Madras and V. O. Chidambaram at Tuticorin, the freedom movement acquired new dimensions.

Bharathi shifted his scene to Pondicherry and immediately fell under the magnetic spell of Sri Aurobindo. The 10 years at Pondicherry in the close company of V. V. S. Aiyar and Sri Aurobindo

soaked Bharathi in Indian culture and philosophy. 1920 marked the beginning of the Gandhian epoch and Bharathi met Gandhiji in Madras in the earlier year. He made a full-scale onslaught against foreign rule through his powerful contributions to the press. Unfortunately he was cut off in the prime of his life in 1921, leaving India to mourn his irreparable loss.

Half a century has elapsed since the demise of Subramanya Bharathi. One half of this period saw the climax and the culmination of the national movement and the other half constitutes the history of Free India. But his songs, filled with patriotic fervour, have not lost their relevance even today. The fight in his time was against the foreign rulers but our fight today is against our own triple enemy of poverty, illiteracy and disease.

We have to struggle hard to be self-reliant in economy. Freedom without national unity is a chimera. Lack of cohesion and unity under foreign rule delayed our freedom and divided us. It was Mahatma Gandhi who succeeded wonderfully in gathering all the diverse forces into one dynamic force and in making us rise as one country

and one people to fight for freedom. Such solidarity, sense of purpose and discipline are needed to interpret our freedom to the coming generations and to make it inviolate for all time. Just as we demonstrated our solidarity in the face of external aggression more than once, we have now to bury our differences of caste, community, language, etc., for ever and gird up our loins to build the India of our dreams.

"A bridge to link Lanka let us make ;
Fill up Sethu and lay there a road ;
Excess of water flowing in Bengal—
Let it grow crops in Central Bharat.
Let us dig and bring out ores and gold from mines,
For sale in distant lands and buying what we want.
With wheat from the Gangetic region;
Let us exchange betel leaves of the Cauvery.
Ivory-ware from Kerala shall we give;
As presents to poets of leonine Mahrattas.
A device let us make for people in Kanchi;
To hear Pandits' performances in Kasi.
To the brave Rajput heroes let us give
Gifts of gold from Karnatak."

Bharathi was steeped in our ancient lore. He was a Yogi. The catholicity of his religious outlook was remarkable. He sung in praise not only of Gods and Goddesses of his own faith but also in praise of prophets and founders of other religions. To him God and humanity are one. He gave a new life and spirit to the poor and the down-trodden. He was outspoken in his condemnation of the caste system and felt bitter that caste system had brought about fragmentation of Indian people. He affirmed—

"Religion and caste shall not divide us ;
Once born in Bharat,
Be they of the priest class or any other,
All are children of the Mother."

Picturising the Indian Republic of the future, Bharathi said:

"We are of the same caste and race,
We are children of Bharat all ;
We are equal in law and stature,
And everyone is Bharat's King."

Subramanya Bharathi shows the way of national integration. His vision of India is superb. We are talking of linking up the Ganga and the Cauvery and of the Sethusamudram Project. But long ago, Bharathi visualised many things that sowed the seeds of emotional and national integration. This is how he dreamed—

There can be no better tribute to this national poet than the words of the national poetess Sarojini Naidu who said :

"Poet Bharathi has fulfilled the true mission of a poet. He has created Beauty not only through the medium of glowing and lovely words, but has kindled the souls of men and women by the million to a more passionate love of Freedom, and a richer dedication to the service of the country. Poets like Bharathi cannot be counted as the treasure of any Province. He is entitled, by his genius and his work, to rank among those who have transcended all limitation, of race, language and continent and have become the universal possession of mankind."

It is said that Bharathi's poetic genius was essentially lyrical. He excelled in sudden spurts of songs and was averse to long sustained narratives. But Kuyil Pattu (Kuyil's song) shows that Bharathi's power of narration were also of a high order, but he seemed generally to prefer to immortalise moods, emotions, waves of passion and gleams of memory to chronicling labours and linked actions.

In some of his poems, Bharathi exhorted men to give women their just rights and help them to come to their own in modern age. Woman was no weak creature, he said. She was actually man's "Shakti" the source of his strength. He sang :

"Women's Dharma destroys adharama,

Let us dance in their praise !"

In "Panchali Sapatam", Bharathi, in writing his eloquent and moving—though concise—version of the Mahabharat, made his poem a symbol of Mother Bharat's plight under alien rule by putting the main emphasis on Draupadi's ordeal. According to Mr. K. Chandrasekharan, there was an implied suggestion of the utterly humiliating circumstances in which India, his dear motherland, was then situated under foreign rule. Draupadi is not only Bharathi, she is woman, she is all women, agonised and oppressed. He makes Draupadi a fearful goddess of revenge and in a volcanic burst of resentment, leaves her dishevelled abundant tresses, ungathered turns on her unmanly tormentors in a blaze of fury and pronounces the ominous uncompromising vow that comprehends the total doom of Kaurava—a future prediction of liberation of India. Kuyil's song is unquestionably the most audacious, the most original and the most enjoyable of the creations of Bharathi's poetic imagination. If Kannan Pattu has emotional versatility and spiritual fervour, if "Panchali Sapatam" has epic sweet and passionate intensity, Kuyil Pattu is without rival for sheer projection of the poet's riotous fancy and vivid imagination.

Let us draw inspiration from the perennial source of Subramanya Bharathi and spiritualise our public life. And let us all join to give shape to the India of Bharathi's dreams.

(Speech of Thiru K. K. Shah,
Governor of Tamil Nadu at the
Bharathi Day Celebration in
Madras on 11th September
1972.)

SANKARADAS SWAMIGAL—

The Father of Tamil Drama

The drama in Tamil Nadu was rescued from the woolly versified dialogue and made an instrument of popular entertainment by Sankaradas Swamigal. In the year 1967 it was fortunate that in Tamil Nadu we had a Government which did not allow the centenary year of the birth of Sankaradas Swamigal to go unnoticed. Since then much has been done in Tamil Nadu to perpetuate the memory of one who is considered the Father of Tamil Drama. Sankaradas Swamigal was born in 1867 in Tuticorin and died in the year 1922 in Pondicherry. He was attracted to the theatre when he was 25 and remained the high priest of the dramatic muse till his death.

Sankaradas came of a family steeped in literary pursuits and himself had a good grounding in classical literature. He joined the theatre as an actor, and because of his erudition took to writing dramas and directing them himself. He had the rare business acumen too to run a troupe. His "Samarasa Sanmarga Nataka Sabha" flourished with great success for several years. It was, however, the Bala Meena Ranjani Sangita Sabai which really gave Sankaradas his first peep into the world of foot lights. In ten years the Swamigal had built up a reputation for himself which reached Tamils in other countries too. Sankaradas went to Ceylon in 1900 when he was barely 34 and was the playwright and director for Vannai Indu Vinodha Sabha. He wrote two plays for them.

He was passionately devoted to the theatre and he made the theatre a powerful medium of communication of ideas. He was a poet, yet he did not praise individuals in expectation of gain, though personal adulation of prices was the chief livelihood of poets of his time.

The fact that he wrote about forty plays shows his passions for the

theatre. The most popular among his plays are PAVALAKKODI, PRAHALADHAN, SIRUTHONDAR, VALLITHIRUMANAM, SATHYAVAN SAVITHRI, ABHIMANYU, SUNDARI, SULOCHANA SATHI, SATHI ANUSUYA AND SEEMANTHANI.

Well versed in English and Sanskrit, he translated Mrichchakatikam into Tamil as also Shakespeare's Romeo and Juliet, and Cymbeline.

Sankaradas Swamigal was a poet with great imagination and he introduced some innovations. In the Pre-Sankaradas period the drama in Tamil was in poetic form. There was hardly any prose in plays. Sankaradas Swamigal rescued the theatre from this chaotic state and introduced the written play. It was he who introduced dialogue in prose. He saw to it that the play was understood by the common man besides its music and poetry. He gave the Tamil stage the written drama for the first time.

Sankaradas Swamigal's approach to play construction was a thing of his own. But the introductory scenes are mildly Shakespearian in that they tell the audience three things: (a) what the play is about, (b) who the main characters are, and (c) the Key note. Invariably it is in the form of conversation between two or more people not directly involved in the action of the play. Readers will be entitled to compare Ilango Adigal's construction of Silapadikaram and they will not be far wrong.

When the characters speak, it is often Sankaradas who speaks. Characters are just mouth pieces for him to project his ideas. For instance Indirajit, son of Ravana, while wooing Sulochana, gives a long lecture on the beauty and meaning of Tamil. This shows his love of Tamil.



He had an exceptional grasp of music of both carnatic and the folk type. About 30 to 40 ragas are used in a play, and also all forms of Tamil poetry like "Thanippadal", "Virutham", "Venba", etc., are used in his plays. His war tunes which accompany war scenes are inimitable to this day as Swamigal had an unusual gift for bringing out the sound qualities of Tamil words. He chanced to read the episodes of Abimanyu Sundari in 'Ambanai-pattu' (a form of ballad) and it appealed to him so much that he started writing a play early that night and finished it by daybreak. There are not many instances in Tamil literature where plays were written overnight probably the only other instance was Anna who did his drama "One Night" in a single night.

The 105th birth day of this famous playwright was celebrated recently in Madras, and the Chief Minister Dr. M. Karunanidhi, himself a great dramatist, participated in the function and paid glowing tributes to Sankaradas Swamigal. ☉



Dr. M. Karunanidhi, Chief Minister of Tamil Nadu and other important personalities on the dais of the land assignment function held at Kumbakonam on 14-9-1972.

ANNA'S AMBITION FULFILLED

Over a lakh and fifty thousand agricultural labourers of Thanjavur district were made happy on Anna's Birth Anniversary this year.

The Government of Tamil Nadu fulfilled one of his long-cherished ambitions, by conferring house-site "Pattas" (right of ownership) to all agricultural labourers in Thanjavur district called "Kudiyiruppu" the cultivators so far had no right over their homestead. The gravity of their problem defied solution for centuries and a halting measure of relief was attempted in 1961 by the Tamil Nadu Occupants of Kudiyiruppu (Protection from Eviction) Act, 1961. This Act had retrospective effect in that the occupants of these homesteads (kudiyiruppu) as on 31st March 1959 were protected from eviction. The Census Report of 1961 on Thanjavur district made poignant references to the problem as follows:

"Thanjavur is an agrarian district where intensive cultivation is carried on and the land values are comparatively high. The pattern of the village is a small village site, surrounded by paddy fields. The result is that with the greater congestion in the house-site, with no possibility of expansion and with the increase of population

the people have less and less space to move about. Therefore, this district has indicated backwardness in regard to proper accommodation. Normally no one is prepared to convert wet lands into building sites."

As a first phase of work in this line, almost all poromboke lands unobjectionable by nature and upon which residential homes have been built, have been assigned to the residential owners themselves. But, however, the Government has to come across bottle necks in the implementation of the scheme in the case of more than one and a half lakhs residential homes built on the lands belonging to the private owners. To remove this obstacle and assign to these one and a half lakhs of people in need of land for residential purpose, the Government passed the Tamil Nadu Occupants of Kudiyiruppu (Conferment of Ownership) Act, 1971 in the year 1971.

This Act confers, with effect from 15-9-1972, the ownership right on agriculturists and agricultural labourers, occupying any kudiyiruppu on or before 19th June 1971 either as a tenant or as a licensee. According to a departmental survey under this enactment, in Thanjavur

alone, as many as 157,265 agriculturists and agricultural labourers are to get benefitted by this scheme.

A grand housesite patta-assignment function in a befitting manner to the revolutionary concept of the occasion was held in Tiruvaiyar on 27th February 1972, when Patta deeds were distributed to 6,764 agriculturists and agricultural labourers by Dr. M. Karunanidhi, Chief Minister of Tamil Nadu. As a consequence of further intensive work taken up by the concerned department, 26,150 poor ryots and agricultural labourers of the district received the patta deeds for their residential lands at a function held in that connection at Tiruthurai-pondi on 15th June 1972. On 14th September 1972, in a function conducted at Kumbakonam, that would assume historical importance in the annals of this land, Dr. M. Karunanidhi distributed the house-site assignment deeds to as many as 124,351 people belonging to the poor agricultural class in this district. Thus within a short span of six months period, as many as 157,265 ryots of poor category have received to their happy and joyful satisfaction the free assignment of land pattas for residential purpose, which has naturally put an end to their sorry plight of uncertainty hanging over them as Democle's sword with

regard to their living accommodations. Among the beneficiaries of the assignment of land for housing accommodation free of cost, as many as 1,00,346 assignees belong to the scheduled castes and tribes, and 47,443 families to the backward communities and only the balance of 9,476 assignees are from other communities. This figure shows how far this scheme will redress the grievances of the under-privileged classes in the State.

LIGHT IN THE LIFE OF THE POOR.

The Tamil Nadu Government have planned to execute new schemes to bring light in the lives of the lowly and the under privileged in the other sectors of the population, apart from the agricultural sector, under the scheme of Rural Housing Scheme. This scheme has been first put in operation in Thanjavur District. This scheme is executed with gusto with the financial help of the Union Government. According to this scheme, almost all the people belonging to the labour population in the rural area are expected to get the benefit of free lands for residential purpose, and all the economically lowly placed poor class people who are not benefitted under the enactment of the Tamil Nadu Occupants of Kudiyruppu Conferment of Ownership Act, 1971, are to benefit under this scheme and to acquire a piece of land for residential purpose with the right of ownership. To execute this scheme necessary staff have already been allotted and soon they are expected to plunge into activities to complete the work assigned to them.

ABOLITION OF ZAMINDHARI SYSTEM.

Tamil Nadu Estates (Abolition and Conversion into Ryotwari) Act, 1948 was passed in 1948. Accordingly all the land in possession of Zamindhars were taken over and converted into ryotwari lands.

When conducting an enquiry on the scheme of land revenue on ryotwari basis, it was found that a number of agriculturists, unaware of the procedure of rules and regulations to acquire pattas, had failed to apply for acquisition of pattas for their lands. The Government, in its just zeal and zest to help those ryots, have issued orders on and off to the effect that such people may be assigned pattas to their cultivating lands after proper enquiry with regard to the nature of the lands whether they fall under Iruvaram or Kudikkani cultivation. Ryots, who have acquired the prescriptive right over their lands by virtue of their cultivation of the lands for a long time without objection of any kind, have also been assigned pattas for their cultivating lands on the orders of the Government issued now and then.

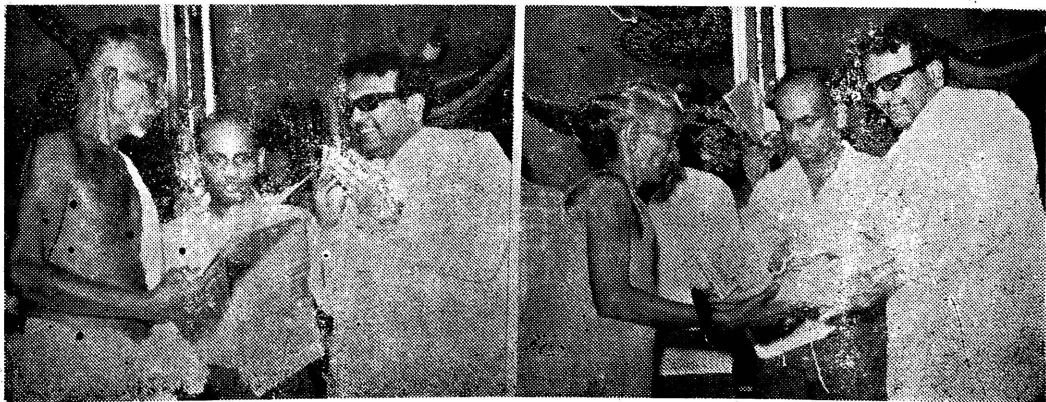
This scheme of issuing pattas has been in operation from 1960 onwards. Up to 1970-71, i.e., in a period of 11 years, actions were taken on 8,111 applications resulting in an assignment of 3,027-89 acres of land. It is to say that on an average per year, the turnout was disposal of 738 applications relating to an extent of 275 acres of land.

After viewing the dead-slow pace of the scheme on account of the involved nature of the orders of the then Government, the present

Government issued an order in G.O.No. 1300, Revenue, dated 30th April 1971 lessening the procedures in the orders of the previous Government, which, at the same time, empowers the executive authorities to issue pattas to the tillers of the soil on the principle of prescriptive rights. Along with it, to expedite the work of issuing pattas, the Government also sanctioned additional staff for a short period. On account of these steps taken within one and a half years, i.e., from April 1971 to August 1972 as many, as 5,005 patta requisition applications were disposed of and 4,367-15 acres of land were assigned pattas to the cultivators themselves. As per this scheme, as many as 3,336 applications were cleared and 2,911 acres of land were assigned pattas on an average basis per year. All achievements relate to the Kudiyruppus on the lands which had been turned into ryotwari lands on the abolition of the zamindari holdings. Apart from this, during the current year, a number of 13,289 poor families, who have encroached the Government poromboke lands to build houses, are to be assigned land pattas. Further, more than 35,000 agriculturists living in rural areas and having no residences of their own are to be provided with the developed land sites for residence purpose before the end of this year. This scheme is executed afresh with the aid of the Union Government.

From the figure noted above, it is to be seen that since the issue of G.O. No. 1300 Revenue, dated 30th April 1971 of the Tamil Nadu Government under this scheme the assignment of land pattas to the tillers of the soil have increased many more times in number and

That these poor peasant-workers have become owners of their house-sites warms the heart of Chief Minister as he distributes the pattas on 14-9-72.



benefit on average when compared to the position obtained in the previous period.

LANDS FOR CULTIVATION.

Apart from assigning pattas to the Kudiyruppu of the poor class of people in the rural areas, the Government has also plunged into other activities to help the poor agriculturists with lands to till. The scheme, which stands on the principle of Land to the tillers of the soil, is executed with added and additional vigour in Thanjavur District.

In the year 1969-70, as many as 11,810 acres of land benefiting 10,007 landless ryots were assigned pattas for their own cultivation. The figures for the year 1970-71 and 1971-72 are 1,51,118 and 9,061 acres of land and 14,432 and 9,637 beneficiaries respectively. During 1972-73, within five months, i.e., August 1972, as many as 1,993 acres of land have been assigned to 2,260 poor ryots. Further it has been proposed and under serious and speedy action to complete the assignment of 6,345 acres of land of Government Poramboke to the actual tillers of those lands before the close of the current year, i.e., 1972-73.

Land Ceiling Act :

Thanjavur district is the granary of Tamil Nadu. Lands, in large number of acres, were concentrated in a few hands of big landlords who used to cultivate their lands under the systems of Pannai and tenancy. These systems provided the upper hand to the big landlords in exploitation of the cultivators under Pannai

or tenancy system of their personal pecuniary advantage. In view of this fact and to put an end to this exploitation of the tenants by the big landlords, the *Tamil Nadu Land Reforms (Fixation of Ceiling Land) Act, 1961* was given effect from 6-4-1960 in Thanjavur district as a whole. But many parts of this enactment were effective only from 2-10-1962. Under this Act, a maximum of 30 standard acres of land was fixed for a family of five or less. But provision for a number of exemptions were built into this Act. They were lands belonging to education trusts, charity trusts and private trusts, lands under the control of the Universities and the Co-operatives, plantation lands, lands under fruit cultivation, arecanut cultivated lands, giramadhana lands, milk society lands, grass lands and sugarcane cultivated lands.

All these exemptions provided for in the Act itself and the benami transfer of lands had belied the expectation of the Government to realise lands as excess from the big landlords and in the end only an extent of 9,761 acres of land was estimated as excess over land ceiling. Out of which only 9,543 acres of land were confiscated from the landlords through the normal enforcement of Act. Under the *Tamil Nadu Land Reforms (Fixation of Ceiling on land) Act, 1961*, as many as 6,880 acres of land were assigned in the various stages of assignment.

New Land Ceiling Act :

As the expectation of the Government on the result of the Land

Ceiling Act passed in 1960, was belied and the expected lands could not be acquired by the Government from the landlords under this Act for assignment to the tillers of the soil, a new enactment was passed in 1970 drastically cutting the maximum of land possession for a family of five members from 30 standard acres to 15 standard acres. This enactment is called the *Tamil Nadu Land reforms (Records of Ceiling of Land) Act, 1970*. The Act was given effect to from 15-2-1970 and was announced on 2-10-1970. Under this Act, a complete survey of the district was made and a complete account of big landlords who hold more than 7 standard acres in general and 39 standard acres in particular have already been submitted for proper scrutiny to the high level officers concerned.

Following this enactment a fresh enactment of amendment nature was passed. According to that enactment, exemption of grass and sugarcane cultivations under the Land Ceiling Act of 1960, were abrogated. This enactment was effective from 15-1-1972 and it was announced on 16-1-1972. Under this Act, the exemption provided for the lands under sugarcane cultivation attached to Thiru Aruran Sugar Factory at Vadapathimangalam in Thanjavur District was withdrawn and the matter is under consideration of the Government. Accordingly as many as 3,174 acres under tenancy and 3,625 acres under the direct cultivation of the Thiru Aruran Sugar Factory have been taken up for consideration and necessary governmental action thereon. — (R. N.)

A poor old man and an old Woman receiving land assignment pattas for their KUDIYIRUPPUS from the Chief Minister of Tamil Nadu at Kumbakonam.



NEW DIRECTIONS IN RURAL DEVELOPMENT

Every year on the 2nd October, Gandhiji's birthday, people's thoughts turn to constructive activities. For Gandhiji was never tired of reminding the people of the debt they owed to the majority of the population living in the rural areas. Even during the freedom struggle, Gandhiji's main plank, for enlisting people's co-operation, was through the reconstruction programmes in the rural areas. As in previous years, this year also we are celebrating the Community Development Week commencing on the birthday of the Father of the Nation.

The country, in spite of having registered a marked progress in agriculture in recent years, is faced with the problem of a large number of unemployed or under-employed people in the rural areas. This is so because a large majority of the people are dependent on land. To correct this imbalance, agriculture has got to become more broad-based and diversified through intensive efforts for integrated area development. And this is the field in which presently rural reconstruction efforts are being concentrated.

In the frame-work of area development, there are numerous activities which, when tackled in an integrated manner, can offer gainful occupation to idle hands and add, at the same time, to the growth potential of the area. The activities falling in this category are minor irrigation, soil conservation, dairy and animal husbandry, forestry, fisheries, warehousing and marketing, small scale industries including agro-industries, roads and special programmes for weaker sections. The level of outlay on these employment-intensive programmes in the last year of this Plan would be around Rs. 1,075 crores.

The village community has now to draw up village production plans and ensure that the available inputs are properly distributed and utilised; that full advantage is taken of available irrigation facilities and that on the whole, the climate is

maintained favourable for the introduction of innovations and modern practices.

To ensure the community's participation in development efforts, there exists an infrastructure in the rural areas. It consists of the national extension machinery in the blocks on the one hand and the people's representative bodies, i.e., the panchayat raj institutions, on the other. Both officials and non-officials are thus associated in promoting village development programmes. The national extension service provides the expertise and looks to the supply line to ensure the availability of necessary inputs for the adoption of improved practices.

The task before C. D. is to ensure that the benefits flowing from improved agriculture and other development activities are equitably shared by the rural population. Already the requirements of social overheads and welfare services are growing in volume in the rural areas. A number of specific programmes have been taken in hand

Prof. SHER SINGH
*Union Minister of State
for Agriculture.*

in selected areas to benefit the weaker and vulnerable sections of the rural population. The main objective of these programmes is to create employment and income opportunities for the poorer sections and to increase the production potential of the economically poorer farmers.

Special agencies have been set up at the district level on a pilot basis, to look after the welfare of small farmers and marginal farmers and agricultural labourers. For the 87 projects in operation, Central Assistance for these agencies comes to Rs. 106 crores in the Fourth Plan. Another Scheme, the Crash Scheme for rural employment is intended to benefit all the districts

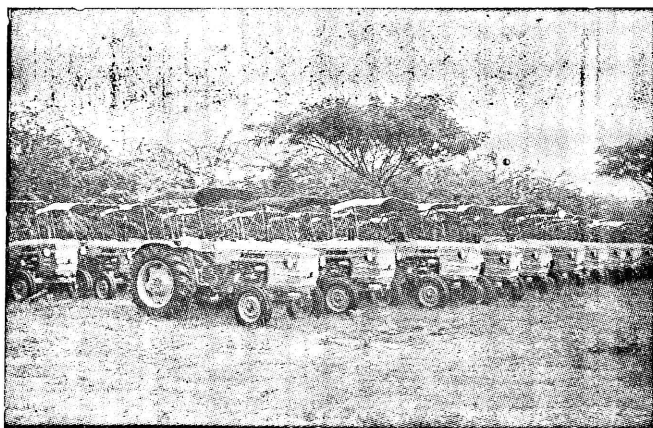
in the country. Each project provides work to the unemployed for the creation of assets of a durable nature in consonance with local development plans. In the first year of its operation in 1971-72, according to the latest reports available, it generated over 808 lakh man-days of employment. The scheme will cost Rs. 50 crores annually, i.e., Rs. 150 crores up to the end of the Fourth Plan in 1973-74. Then the programme of rural works in the chronically drought affected areas has a provision of Rs. 100 crores in the Fourth Plan. For dry land farming, in pilot projects, a provision of Rs. 20 crores has been made.

Then there are the programmes of tribal development and nutrition for vulnerable groups of weaker sections of the population. Both the composite programme for woman and pre-school children, and the applied nutrition programme seek to educate the poorer sections of the population in better dietary habits through local production, demonstration, cooking and feeding. For the development of tribals, an intensive programme is in operation in 492 tribal development blocks. Special tribal development agencies have been set up in six projects in selected districts to study the problems of tribal areas in greater depth. The expenditure in each project on economic development programmes is going to be Rs. 1.5 crores in the Fourth Plan period.

It must be realised that the Community Development Schemes, while seeking to serve the ends of social justice, have to form part of the area development proposals so that an integrated growth of the countryside can be assured. Only in this manner the general level of economy of the rural areas can be raised, benefitting all sections of the population. It is expected that the observance of the Community Development Week would serve the purpose of reaffirming people's faith in the integrated approach to rural development. Through such an approach alone, it should be possible to undertake activities of a more enduring nature.

(Tamil Nadu, during the last five years, has witnessed an all-round growth in all spheres of human activities. In the field of agriculture its performance and achievements are creditable and noteworthy ushering in 'Green Revolution'. The Tamil Nadu Agro-Industries Corporation has contributed, through its various activities, its mite towards the general economical progress of the State. It stands first over all other States in the supply of pumpsets on hire-purchase basis and it has been emulated by the other States in the matter of distribution of fertilizers to the tillers of the soil.

An interview with the Chairman of the Corporation by one of our Staff is given below in the form of question and answer.—ED)



Tractors in line to be issued to the ryots.

CREDITABLE PERFORMANCE OF AGRO INDUSTRIES CORPORATION

1. What are the objectives of the Tamil Nadu Agro-Industries Corporation Limited?

The main objectives of the Corporation are to enable modernisation of agriculture by providing proper inputs and provision of assistance to agro-based industries such as animal husbandry, pisci-culture, poultry farming, etc. The Corporation is also engaged in a wide range of functions designed to promote development by utilising agricultural produce for industrial manufactures.

2. When was the Corporation formed? How many persons are employed now?

The Corporation was constituted in 1966 and it started functioning actively from 1968.

About 300 persons are employed in the Corporation. While 150 persons are working in Madras, the rest are working at the Branch Offices.

3. How is the Corporation financed?

The Authorised Capital of our Corporation is Rs. 4 crores of which Rs. 3.3 crores have been subscribed and paid up by the State and Central Governments in equal ratio and the balance amount has been obtained as loan from commercial banks.

4. What are the services rendered by the Corporation?

Tractors, Oil Engines and Electric Motor Pumpsets are supplied to agriculturists on hire purchase basis.

Under this scheme 11,000 pumpsets and 200 tractors were supplied till 1st April 1970 and 100 tractors have been supplied since then. There are 75 pending applications for tractors on account of short supply of the kind of tractors requested by ryots.

All imported tractors are sold only through our Corporation. So far 1,500 tractors have been supplied on cash and carry basis. About 1,000 tractors are likely to be supplied during this year.

The Corporation has set Tractor Hiring-cum-Service Centre at Madurai, Tiruchi, Salem, Villupuram and Kancheepuram manned by experienced Engineers and Certified Mechanics, for the maintenance, servicing and repairing of tractors and for providing necessary spares.

Machined Implements like Cultivators and Cage Wheels manufactured by the Corporation are also distributed through these Centres.

For the benefit of poorer ryots, tractors and matched implements are given on rental basis. Apart from Service Centres where tractors are hired out, as well as repaired, sub-centres have also been set up at Madurantakam,



Thiru K.V. Subbiah, Chairman of the Corporation.

hiruvāṇṇamalai, Ponneri, Paramakudi, Theni and Pudukkottai for hiring out tractors.

The Drilling Unit of our Corporation has sunk wells in Coimbatore, South Arcot and Madurai Districts, but it has been felt that hereafter drilling may be left to other agencies of Government.

Our Corporation has attained signal success in arranging for the formulation and distribution of very high quality pesticide, Endrin 20 per cent E.C. to the farmers in the State. Arrangements are now being made for the formulation and distribution of pesticides such as D.D.T., B.H.C. and Malathion at fair prices.

5. *Has the hiring of tractors to individual ryots become popular? What are the details of hiring charges?*

Our Corporation's scheme of hiring out tractors and matched implement has received good response from the ryots. Therefore, Sub-Centres have been set up at various places. It has also been proposed to establish such centres in more places.

A sum of Rs. 100 for small tractors and Rs. 200 for big tractors are collected as hiring charges per day.

6. *Is there any proposal to increase the branches of the Corporation?*

Besides the established hire-cum-service centres and sub-centres 18 more sub-centres in all are to be established at the rate of 3 sub-centres for each Tractor Hiring-Cum-Service

Centre. Two Sub-Centres in Thanjavur district are also proposed to be opened shortly.

Six tractors are kept at each Service Centre and three at each Sub-Centre for purposes of hiring. The Number of tractors would be increased according to demand.

7. *How many Tractors and pumpsets have been distributed by the Corporation since its inception?*

292 tractors valued at Rs. 1.12 crores and 11,000 pumpsets valued at Rs. 3 crores have been distributed to the ryots in Tamil Nadu on hire purchase. If the supply of tractors on the pending applications is completed, an additional sum of Rs. 25 lakhs would be invested thereon.

Besides, 1464 tractors valued at Rs. 3 crores have been sold on cash and carry basis.

8. *Why was the Hire Purchase Scheme discontinued?*

Since the Nationalised Banks have begun giving loans for agricultural purposes and our Corporation had decided to concentrate on development of Agro-Industrial Projects this scheme was discontinued from 1970.

9. *How are the loans given to ryots collected?*

The loans payable by the ryots for Oil Engines and Electric Motor Pumpsets are collected in 7 annual instalments and those of tractors in 10 annual instalments.



These amounts can be paid either in the Office of the Corporation at Madras or at any of the Service Centres either in cash or through Bank Drafts.

Facilities for remittance of the amounts by Mail Transfer *at par* through any of the Branches of State Bank of India, Indian Bank, Canara Bank, Central Bank of India and Syndicate Bank in Tamil Nadu exist. Collection staff have been appointed to make collection of the instalments directly from the ryots.

Advance Notices and reminders are being sent to the ryots regularly.

Legal action is taken only against those who fail to pay the instalments, despite all these steps.

In view of the recent amendment of Revenue Recovery Act including the dues of our Corporation as arrears of Land Revenue, action is taken thereunder wherever necessary.

10. *Is there any scheme to collect loans in kind at the time of harvest instead of in cash?*

There are difficulties in collecting the amounts in kind at the time of harvest. Firstly, godowns are required for storing the produce and action has to be taken to sell them in time. Their prices will have to be fixed.

It would be convenient for the ryots as well as our Corporation if the hirers themselves sell their produce and remit the amounts due to our Corporation as cash.

The Chairman inspecting a workshop.



11. *How are the RSO 9 tractors working in our State?*

So far 38 numbers of RSO 9 tractors have been sold to the ryots in our State.

A Committee was appointed by the Government of India to examine complaints received from the ryots about the performance of this tractor. On the recommendations of the Committee certain modifications have been carried out in the tractors.

So far as Tamil Nadu is concerned our Engineers are attending to the complaints reported by the ryots then and there.

12. *Is the Corporation considering any proposal for supply of sprayers on hire?*

The Corporation is making arrangements in this regard as the scheme for aerial spraying is not being implemented now. It is proposed to introduce a Pilot Scheme for hiring of sprayers through the Centres of our Corporation.

13. *Has the Corporation achieved anything special as compared to other State Agro-Industries Corporations?*

In Tamil Nadu Pumpsets have been supplied on hire purchase more than any other State and on easier terms. Our Corporation is also the first to take up formulation and distribution of pesticides.

Our Corporation stands second in the country in respect of volume of hire purchase transactions made. The first position, however, goes to the State of Bihar which, besides being essentially an agricultural State, also has three times the area of our State.

14. *Has the Corporation any programme of distribution of Power Tillers and Bull dozers?*

Not many ryots have approached our Corporation for Power Tillers.

Recently, Kerala Agro-Industries Corporation Limited, who are importing Kubota Power Tillers from Japan have finalised arrangements for manufacture of these Power Tillers in their State in the next few years.

Our Corporation would be arranging for the sale of those Power Tillers in Tamil Nadu.

Bull dozers are mostly used for reclamation and levelling of lands

and as such individual ryots do not require them. Now, the Agriculture Department is hiring Bulldozers to the ryots. Therefore, we have decided not to take up this programme.

15. *Is there any proposal to provide employment opportunities in large scale to Agricultural Graduates and Engineers?*

Yes. This scheme has already been started. In order to provide employment opportunities to the Agricultural Graduates and Engineers it is proposed to train about 90 persons every year.

Suitable Graduates would be selected and sent to Tractor Training Centres at Budni and Hissar where they will be given training in the assembly and servicing of tractors. The first batch of trainees has already been sent for training.

Further training required will be given to them at Madras itself. These trainees will be given necessary assistance by our Corporation to enable them to start Agro-Service Centres in small towns on their own.

The Corporation will also arrange to secure the required capital for these trainees for starting workshops, by recommending their applications to the Banks for financial assistance on a subsidised rate of interest of 5 per cent per annum as the remaining interest will be met as subsidy by the Central Government.

They would also be given spare parts required for tractors for sale to the ryots. Fertilisers and Pesticides required by the ryots will also be distributed through them.

Besides providing employment opportunities to many, this scheme would benefit the ryots as all their requirements would be fulfilled at the nearest place.

As these Centres would be established in several places, our Corporation need not incur expenses on the establishment of more workshops which would otherwise have to be started.

16. *Does the Corporation issue pamphlets and handouts explaining its activities as well as regarding the use of tractors, sprayers, etc.?*

Booklets containing instructions as to how the tractors are to be used

are given to the ryots at the time of sale.

Besides, small pamphlets and handouts are issued by our Corporation from time to time.

17. *What are the conditions for the sale of tractors?*

Those who possess 10 acres of dry land or 5 acres of wet land can apply for a tractor in the prescribed form together with a sum of Rs. 10 as application fee and a certificate from the Panchayat Union Commissioner or District Agricultural Officer to the effect that the applicant requires a tractor for bonafide agricultural use. The applicant has to open a Savings Bank Account in the Post Office for Rs. 1,000 and get the Pass Book endorsed in the name of the Area Engineer concerned of our Corporation. (This amount can be taken back at the time of delivery of the tractor.)

Action is being taken by our Corporation to remove these conditions.

The applicant can mention three makes of tractors in order of preference, which he is willing to take. The applications received from the ryots are registered in order. As soon as the tractor is ready for delivery, a communication is sent to the applicant asking him to take delivery after paying the amount.

18. *What are the future plans of the Corporation?*

Our Corporation has taken up the following schemes which are in various stages of implementation or consideration:—

(a) Scheme of Nylon Twisting and Fish-net making.

(b) Setting up of a Freezing-Storage Unit for fish and fish products.

(c) Manufacture of Termicem.

(d) Formulation of a variety of Pesticides.

(e) Manufacture of Tanning Chemicals used for processing leather.

(f) Setting up a Maize Milling Plant.

I believe that with the help of the State and Central Governments and with the co-operation of the farmers and public at large, our Corporation would endeavour to serve extensively very soon.

By
M. S. SWAMINATHAN
DIRECTOR-GENERAL, ICAR
NEW DELHI

SUNFLOWER IN OUR OIL SEED ECONOMY

Oilseeds occupy an important position in the economy of the country not only from the point of view of area and production but also in the matter of foreign exchange earnings. The area, production and export earning in respect of oilseeds during the last 5 years are given in the table below.

Taking into account the fact that oilseed production reached 8.5 million tonnes during 1967-68, the Fourth Plan visualised a production target of 10.5 million tonnes. However, the production in 1968-69 was only 6.84 and during last year, the production is anticipated to be about 8.9 million tonnes. It is anticipated that we may produce about 9.5 million tonnes by the end of the Fourth Plan. The increase in total production witnessed in recent years appears to be mainly due to an increase in productivity per unit area as would be seen from the following data:

("Sunflower, being a short duration Crop, not season bound, rich in oil content and high in oil quality, and characterised by high productivity per unit of area, time and water, has evoked the interest and enthusiasm among cultivators, milling and Vanaspathi industry and the consumer" says the author in this interesting article—ED).

Year.	Yield per hectare in kg.	
	All oil-seeds.	Groundnut.
1968-69 ..	473	653
1969-70 ..	516	712
1970-71 ..	598	831

This increasing trend in production is reflected in all the major oil seeds growing States except Maharashtra. The stagnation in production in Maharashtra is mainly due to adverse seasonal conditions.

The shortfall in production as per the target is the outcome of several factors. Efforts under the centrally sponsored development programme were diffuse so that the project served more as a means of increasing the awareness among the farmers for improved techniques of cultivation rather than creating an impact on production. Secondly, arrangements for the supply of pure seeds of improved varieties, which forms the base for any increased production drive were not adequate. Systematic seed multiplication is still lacking in some states specially in groundnut where the multiplication factor, is as low as 8 to 10. In view of the above, the new varieties that became available during the middle of the plan period could not reach the farmers. Similarly, the production technology worked out for groundnut grown under irrigated and unirrigated areas is yet to be adopted in the field of a large scale.

Since the major area under oilseeds is rainfed and since the quality of seeds used is poor, the plant populations in the field are generally low. The plant production programmes for pre-seed treatment and protection measures in early stages of crop growth in the field are also not adequate.

Fifth plan target.

It is estimated that the requirement of the oil industry during the fifth plan would be around 12 million tonnes of oil seeds to extract about 4 million tonnes of oil. It has been

Year.	Area (million hectares).	Production (million Tonnes).	Export earnings (Rupees in millions).
1967-68 ..	15.5	8.3	490
1968-69 ..	14.6	6.8	660
1969-70 ..	14.7	7.7	500
1970-71 ..	15.3	9.2	650
1971-72 ..	..	8.9 (anticipated)	460 (up to February 1972.)

estimated that the total production requirement at the end of the fifth main period would be around 13.5 millions tonnes which includes about a million tonnes for seeds meant for sowing and 0.5 million tonnes for direct edible use. This increase would involve a compound growth rate of 6.6 per cent during the Fifth Plan period.

Intensive efforts are being planned to achieve this end, particularly, by taking recourse to a dynamic programme of seed production in the oilseed crops, particularly groundnut and castor. The improved technology would have to be transferred quickly to the field. It is also necessary to diversify the vegetable oil resources in the country in order to delink total production from the performance of groundnut. It is in this context that we should examine the role of sunflower in our oilseed economy.

As a short duration crop, not season bound, rich in oil content, and high in oil quality, characterised by high productivity per unit of area, time and water, it is not surprising that it has evoked the interest and enthusiasm among cultivators, milling and vanaspathi industry and the consumer.

Introduction of sunflower.

Historically, the introduction of sunflower as a cultivator crop in India, dates back to as early as 1916 in Maharashtra and 1924 in Tamil Nadu. Though yields of over one tonne per hectare of seeds, and 10 to 20 tonnes per hectare of green matter, were harvested, interest in this crop waned since oil content of varieties like Russian Mammoth or sunrise, that were then tried, was very low. The recent revival of interest in this crop is due to the introduction of high oil content varieties from the U.S.S.R. at the instance of Shri A. P. Shinde, Union State Minister for Agriculture in 1969, and the extensive, feasibility trials sponsored by the Indian Council of Agricultural Research under the All-India Co-ordinated Research Projects on Oilseeds and Dryland Agriculture.

SUITABILITY OF SUNFLOWER UNDER INDIAN CONDITIONS.

The plus points which are in favour of sunflower cultivation are :

(i) Short growth period (85 to 110 days).

(ii) Photo insensitivity, which renders it feasible to be cropped at any time of the year.

(iii) High level of production of oil, per unit area, per unit time and per unit water.

(iv) Its drought resistance or drought evading ability.

(v) Ease of crushing and extraction.

(vi) High quality of oil for edible purposes, with its high degree of PUFA content.

In view of the above favourable points in sunflower cultivation, we might consider its role in our agriculture :

(i) As a main oilseed crop replacing a traditional oilseed in the region. The oil production potential of sunflower under rainfed conditions is 377 kg. of oil per hectare compared with 226 kg. of oil per hectare of groundnut, a 66 per cent increase in oil production per unit area and release of the land 10 to 15 days earlier than groundnut.

(ii) As an irrigated catch crop between main crops in the existing rotation pattern, in view of its short growing period and photo insensitivity. This is of particular significance to the coastal Andhra Pradesh and Tamil Nadu, and North Indian Plains. Yields between 2.5 to 1 tonne of seeds have been harvested in Salem, Raichur, Yellamanchili, Hyderabad and Kanpur.

(iii) As a companion crop, along with a long duration crop of slow initial growth, in view of the quick rate of growth of sunflower. Studies conducted at the Indian Agricultural Research Institute, New Delhi and Central Sugarcane Research Institute at Lucknow have indicated the potentialities of this type of companion cropping of sunflower and sugarcane. Other possible companion cropping programmes that could be tried are those with Tapioca or coconut.

(iv) in the "Cafeteria" plan for dryland agriculture sunflower can serve as an important item for the choice by the farmer, particularly when Kharif sowings are delayed due to late receipt of rains, a switch to sunflower from groundnut can be extremely profitable, as shown by

the trials under the dryland Agriculture Project. In Andhra Pradesh data from the farmers fields are very encouraging in this regard. Plantings between 15th August and 15th September gave yields ranging from 2,682 Kg./ha to 857 kg./ha. (mean 1,120 kg./ha.) those between 16th September 15th October gave yields ranging from 2,637 kg./ha. to 1,061 kg./ha. (mean 1,501 kg./ha.), these high orders of yields under rainfed conditions, compare very favourably to those from late sown crops of groundnut.

Economics :

With reference to the economics of cultivation of sunflower, it is fortunate that the adaptability of sun flower is such that its cultivation is remunerative, both under stress conditions as well as input intensive conditions of cultivation. In the Mysore State, under rainfed conditions, with planting in early July, some of the cultivators who had harvested as low yields as 400 kg. per hectare, still found it remunerative since this was twice the yield of groundnut (200 kg./ha.) harvested under those adverse seasonal conditions and poor soil. On the other hand, under input intensive conditions of irrigation, fertilisation and plant protection yields of the orders of 3.6 to 3.8 tonnes of seeds/hectares were harvested compared to 2.5 tonnes of groundnut under comparable conditions. The rainfed crop would yield at a conservative estimate 6 quintals/ha. yielding about Rs. 900 at the rate of Rs. 150 per quintal. With the cost of cultivation at Rs. 440 per hectare, the net profit is Rs. 460/ha. Under irrigated conditions, with the cost of cultivation at Rs. 530/ha. and gross income of Rs. 1,800 from the sale of 1,200 kg. of seed, the net profit is Rs. 1,270/ha.

Management practices :

It should be borne in mind, however, that certain precautions are to be observed, in the cultivation of sunflower while the crop responds well to nitrogen fertilisation, over fertilisation should be avoided, since it promotes excessive vegetative growth leading to lodging and increases protein content in the seed at the expense of oil. Likewise over irrigation is also to be avoided. Results from the IARI, New Delhi, have shown that the gross income per 1,000 litres of water was Rs. 7.91

with presowing irrigation only, progressively declining to Rs. 3.07 per 1,000 litres at 4 irrigations. Another precaution to be observed is the avoidance of post emergence herbicides to which the crop is extremely sensitive.

Problems in Sunflower cultivation :

In a crop that has been newly introduced into the country, several problems needing research as well as developmental efforts are bound to arise.

The most important problem that need immediate attention is the occurrence of hollow or poorly filled seeds. This could be due to many causes like (i) non-availability of insect pollinators, (ii) rain during the blooming period resulting in pollen being washed away, (iii) presence and partial development of axillary flowers in a plant that has been bred as a monohead type, (iv) excessively large sized heads, (v) micronutrient deficiency, (vi) inbreeding depression and (vii) self-incompatibility.

While research groups are actively engaged in the solution of the above problem, there are some indications for a practical solution of the problem from the field observations already made. Plantings of sunflower at higher altitudes in Tamil Nadu (4,000 feet, Pullavalai Estate), or 7,000 feet (Vilpatti village in Kodaikanal) had no problem of non-filled seeds. This indicates the temperature factor to be operating and plantings can be so adjusted in the plains to have the most favourable temperature. At the Dry Farming Research Centre in Sholapur and at Jalgaon Research Farm, the problem of hollow seeds was negligible, in sunflower plot located near bulk plots of sunflower during the rabi season. This indicates the intensity of pollen foraging insects to be a deciding factor and the problem can be solved to a certain extent by fixing bee hives in the fields. Close plantings to discourage excessive size of heads, and nipping the axillary flowers as they appear, also might offer solutions to the problems of hollow seeds.

Since the crop has been grown in small patches only, the damage to diseases and pests have been so far negligible in the southern parts of the country. Nevertheless, we should anticipate such a damage by a variety of diseases and pests, some

of which have already made their appearance in isolated areas. Conversely, the damage of the heads by birds is likely to be minimal, once large areas get planted with the crop. Seed dressing with fungicides against Sclerotinia is an already recommended practice which should strictly followed.

Seed production :

The cross pollinated nature of the crop, makes seed production an important step in the development of sunflower cultivation. At present we have been handling, highly heterogenous populations imported from the USSR and subjected to seed increase without any selection. There are already symptoms of degeneration of the original material particularly with reference to oil content. In the USSR planting materials is released every year under the same varietal name or number, but of further upgraded quality, by what the Russian breeders as "renovation". It is necessary that under Indian conditions, we should develop our own lines, synthetics or composites and continuously keep them upgraded for desirable characters. Fortunately the seed multiplication ratio is of the order of 100. The seed production programme for sunflower should have a research component as well. It is worthwhile examining whether the successful summer irrigated crop of the northern parts of the country could be exclusively earmarked for seed production. There does not appear to be any dormancy problem involved.

Utilisation research :

Although the sunflower crop is mainly cultivated as an oilseed, the other plant parts should be utilised to the full. For this it is necessary to launch a programme of utilisation research. The use of sunflower as fodder is well known. At the Indo-Swiss Project at Mattupatty, feeding animals with whole sunflower plan just at the time of flowering has been practiced. 40 tonnes of green fodder per hectare in 70 days has been harvested. The animals appear to need some training to take this fodder. After the removal of seeds the heads are still succulent and feeding trials have been satisfactory.

The use of sunflower seed meal as a protein source is of promise. This would require dehulling of the seed

before pressing, to get rid of the fibrous hulls. Machinery for this purpose has been developed by the Oil Technological Institute, Anantapur. The presence of Chlorogenic acid in the meal should be guarded against. Preliminary studies at the IARI indicate that variety Armavirskij (EC 68415) which has proved very successful at several parts of the country has also the lowest chlorogenic acid among the four Russian types under study.

The possible uses of fibre in the stem also needs to be explored.

Conclusions :

Trials taken up in the country with sunflower have indicated the possibility of achieving a yield of one tonne/hectare even under rainfed conditions with this crop. Yields as high as about 13 to 14 quintals have been obtained under conditions of moisture stress. In addition the oil content of this crop varies from 40 to 50 per cent which is more than some of the groundnut varieties that are grown. This crop is addition can be grown due to its short duration and photo-nonsensitiveness all through the year (kharif, saba and summer) in Tamil Nadu, Mysore, Maharashtra and Andhra Pradesh. It has also been noted that this can be grown as a kharif crop in the single crop lands of Rajasthan before the rabi wheat is sown. In view of the higher yield potential and the higher oil content and its short duration (which varies from 80 to 110 days) this crop can fit into multiple cropping systems. Assessing the possibilities of the new crop in the country it is proposed to cover about 8.1 lakh hectares under this crop during the Fifth Plan. The targetted coverage during the year 1972-73 up to 1978-79 given below :—

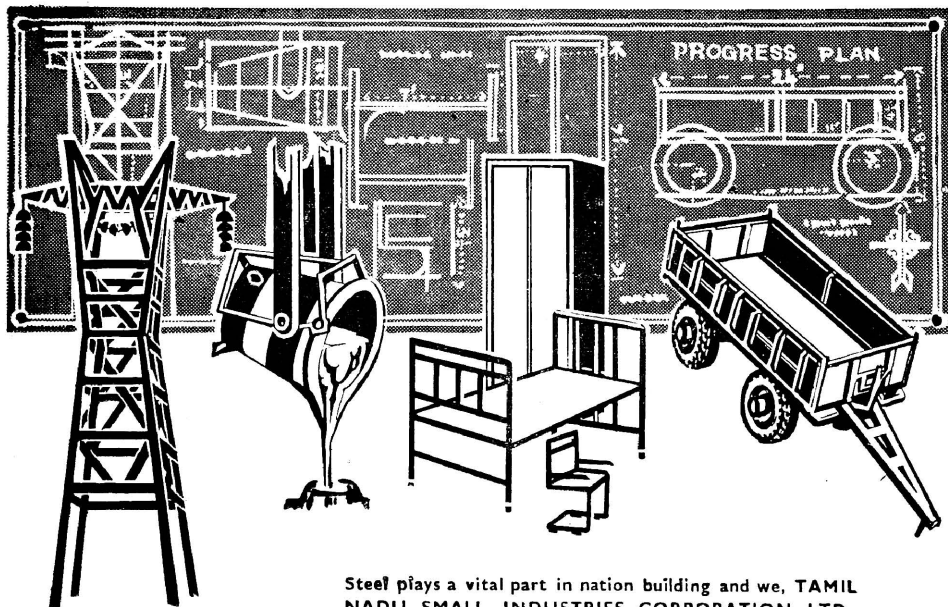
Proposed Sunflower Coverage.

1972-73	1,60,000
1973-74	3,50,000
1974-75	4,10,000
1975-76	5,10,000
1976-77	6,10,000
1977-78	7,10,000
1978-79	8,10,000

If these targets are to be accomplished, serious attention to scientific seed production, proper field management and remunerative marketing are vital. It is hence that I am happy that the Tamil Nadu Government has taken the initiative to organise this seminar.

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SIDCO ENTERS NEW FIELDS.

Tamil Nadu, among the Indian States, ranks third in the matter of Industrial advancement and is striving to go ahead at a faster pace. Nevertheless, the progress made by Tamil Nadu in the sphere of Chemical and Electronic industries is, to say the least, next to nothing when compared with the industrially advanced States in India. To see that this State is also enriched with the Chemical and Electronic Industrial Units spread all over the State, the Small Industries Development Corporation in Tamil Nadu has set out on a chain of actions conducive to the development of those much-wanted industries in this part of the land also.

As a first phase of work towards this aim, the SIDCO has set up two separate cells in its establishment, one for Chemical Industry and another for Electronic Industry. Two high level expert committees, each consisting of 14 members selected from all over India from the reputed private concerns, the Public institutions of note, etc., for their specialist knowledge and know-how in the different and varied aspects of these technically sophisticated and advanced industries.

The two committees periodically go over the implementation of the decisions taken in the previous

meetings and chalk out detailed steps both technical and practical, for the future course of actions. As a result, the feasibility as well as possibility of establishing several new industries have emerged and considerable progress has been made upon them.

Accordingly, the Company has instituted feasibility study for the development of Chemical Industries in the following areas :—

1. In and around Madras,
2. In and around Mettur,
3. In and around Tuticorin-Sahupuram,
4. Neyveli-Panruti area,
5. Coimbatore-Mettupalayam area, and
6. Karaikudi-Manamadurai area.

Studies have also been instituted for techno-economic feasibility of Chlorinated Paraffin wax and liquid fertilisers. Project profiles are also being got prepared for P.V.C.-oriented industries.

The main and important consideration in picking these centres for Chemical Industries are the possibility of utilising the raw materials available from the already functioning industries at these centres and capability of using the

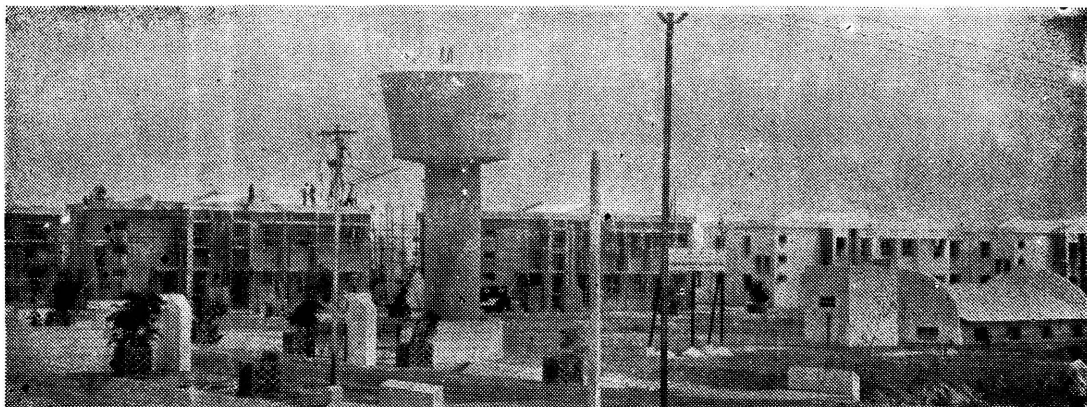
end products of the newly started chemical industries in other existing industries in those centres to the maximum extent possible. Thus the new Chemical industrial concerns and complexes would have little difficulty to thrive with not only assured raw material but an assured market within their easy reach.

A consultancy establishment has already been nominated for all the six centres to submit feasibility reports as early as possible. A single consultancy has been nominated for all the centres as it results in considerable financial saving to the Corporation. Each and every proposed Chemical Industry Centre will be functional and self-sufficient.

There are also plenty of opportunities for the growth of chemical industries in the State and a couple of Bombay entrepreneurs have initiated steps to put up some units in plastics and other lives in Tamil Nadu. These are the encouraging trends obtaining of late in Tamil Nadu industrial profile.

The high-power committee on electronic industries has advised the Corporation to offer assistance in the setting up of only growth-oriented units where the products would have market for the next five years, as the electronics products are subject to frequent changes to keep up with not only the changing

Electronic Industrial Estate, Adyar.



tastes and trends of the people but also the latest scientific and technological inventions. For instance as there is a Television Station to be commissioned in Madras in 1974, there is great scope for production of the many components that go to make up the Television receiving sets which are soon to be assembled in the State by as many as four major units. Though not aiming at cent per cent self-sufficiency in the production of electronic goods, our planners are proceeding on the assumption that it is not an unattainable aim in the long run.

SIDCO of Tamil Nadu is also thinking on the desirability of setting up an airport electronic complex as is obtaining at Santa Cruz in Bombay. The bottleneck that SIDCO is to encounter in this respect is in securing enough land adjacent to the Meenambakkam Airport in Madras for this purpose.

As imports are unavoidable in electronic goods it will be advantageous for the small units to entrust the task of obtaining their import requirements to SIDCO which will go in for bulk imports, by means of a tie-up with the State Trading Corporation both for imports and the export of the finished products.

THE OBJECTIVE OF SIDCO.

The purposes and objectives of the SIDCO are many and varied and above all, an ever-larging and ever-increasing one according to the need and necessity of the time.

The Small Industries Development Corporation was incorporated as a Private Limited Company on 23rd March, 1970 and was converted into a Public Limited Company on 20th January 1970. The main objectives of the Corporation are:—

1. Effective procurement and equitable distribution of essential raw materials required by Small Scale Industrial Units;
2. Supply of machinery required by small industries on hire purchase basis;
3. Construction of workshops and making them available to industries on hire purchase basis;

4. Offer of technical consultancy for new entrepreneurs who desire to set up small industries and preparation of technical feasibility reports for new projects;

5. Consolidation of import licence of small scale industries and effecting bulk import against them.

6. Offer of marketing assistance to small industries; and

7. Promotion of exports.

The SIDCO commenced its regular operation from 14th October 1970 by taking over three raw materials depots from Directorate of Commerce and Industry. As its first task, SIDCO devoted its attention to procuring essential raw materials for the small industries of the State. The lack of raw materials, particularly iron and steel was stifling production of engineering units in Tamil Nadu. Within a period of 23 months since its inception, SIDCO has been able to distribute iron and steel to the extent of Rs. 650 lakhs, Mutton Tallow to the extent of Rs. 47 lakhs and other materials like Caustic Soda, and zinc worth about Rs. 2.20 lakhs.

As its second task, the Company instituted a scheme of supply of machinery to small entrepreneurs on hire purchase basis. As per this scheme, the entrepreneur in Tamil Nadu can obtain SIDCO's assistance up to Rs. 3 lakhs for the purchase of machinery. The repayment period is as long as six years after a moratorium of one year. The rate of interest which is subsidised by SIDCO is only 8 per cent.

Within a period of 17 months, SIDCO has sanctioned assistance worth about Rs. 130 lakhs to 293 entrepreneurs for purchase of machinery. This would show the enthusiastic response of the entrepreneurs in Tamil Nadu to SIDCO's schemes.

In addition to supply of machinery SIDCO is implementing a scheme for construction of workshops to small entrepreneurs in Tamil Nadu. Within a period of five months, 17 workshops have been constructed in SIDCO's land at Ambattur and made available to small entrepreneurs on hire purchase basis. The sheds have been designed to suit the

individual requirements of the entrepreneurs and the repayment is spread over a period of ten years, inclusive of a moratorium of two years.

In addition to construction of sheds on its own land SIDCO is assisting entrepreneurs to set up work sheds on their own lands also. So far, assistance to the extent of Rs. 22 lakhs has been sanctioned by SIDCO on this account.

In Ambattur, SIDCO is commencing its second phase of construction of 50 workshops. These will include a number of workshops in a contiguous area, serving as ancillaries to the cycle industry.

SIDCO has indentified several specific industries which will serve as ancillaries to the textile industry. Steps have been taken to put up a textile ancillary industrial estate near Coimbatore. SIDCO also proposes to put up a number of Artisan sheds in Madurai so as to encourage the growth of artisans.

The establishment of Chemical P.V.C. complex near Tuticorin and an industrial Estate at Thiruvavur are some of the other schemes that are now under consideration.

Knowing the problems of small industries in regard to the marketing of their products SIDCO proposes to establish a Trade Centre, to actively assist entrepreneurs in the export of their products.

For assisting the film industry for exporting films, SIDCO has held a discussion with the South Indian Film Chamber of Commerce in regard to assistance that can be rendered for editing, sub-titling and reducing films to 16 mm for export purposes.

With a view to render greater service to small industries in the procurement of imported raw materials and in order to assist them in the export of their finished products, SIDCO proposes to establish a close liaison with State Trading Corporation. Discussion have already been held with the State Trading Corporation, as a result of which it is likely that close collaboration will be established between SIDCO and the State Trading Corporation. Thus SIDCO's job is not over with planning the products for our small industries, but its services are available right up to the end stage of finding markets for these products at home or abroad.—'RANA'

AGRICULTURAL INCOME-TAX

IN TAMIL NADU

The Agricultural Income-tax was first introduced in Tamil Nadu in 1955 and the tax was levied on income from plantation crops only, namely, coffee, tea, rubber, cardamom and cinchona. The Act was amended in 1958 to cover incomes from non-plantation crops also. Agricultural incomes above Rs. 3,600 per annum and holdings above 12½ standard acres were subjected to tax. The Act was further amended in 1968, by which the exemption limit was lowered to 7½ standard acres and the minimum income taxable was raised to Rs. 4,000 per annum. The Tamil Nadu Agricultural Income Tax Act is now extended to Kanyakumari district and Shenkottah taluk in Tirunelveli district (transferred to Tamil Nadu from the erstwhile Travancore-Cochin State where the Travancore-Cochin Agricultural Income Tax Act, 1950 was in force).

A substantive amendment has been made recently to the Tamil Nadu Agricultural Income Tax Act. Hitherto, land revenue based on the taram assessment (as assessment calculated on land fertility and classification) was the basis for the purpose of conversion of ordinary acres into standard acres. According to the recent amendment, the extent on which different crops are raised on the land and the irrigation sources with which such crops are raised will form the basis for conversion of ordinary acres into standard acres. This amendment seeks to bring about the rationalisation of the structure of the Tamil Nadu Agricultural Income Tax Act, by making the tax levy bear a greater correlation to the Income derived from the land. According to the latest amendment which came into force from 1st April 1972, the definition of standard acre has been revised as follows with reference to the nature of crop raised.

- (1) one-sixth of an acre of land used for growing arecanut, or
- (2) one-fourth of an acre of land used for growing grapes, or
- (3) one-third of an acre of land used for growing banana, or
- (4) two-fifths of an acre of land used for growing rubber, or—
- (a) one-half of an acre of land used for growing sugarcane, or

(b) three-fourths of an acre of land used for growing groundnut (irrigated), or

(c) three-fourths of an acre of land used for growing cotton (irrigated), or

(d) three-fourths of an acre of land used for growing coconut, or

(e) four-fifths of an acre of land used for growing tea, or

(f) one acre of land used for growing coffee, or

(g) one acre of land used for growing tobacco, or

(h) one acre of wet land assessed to land revenue at the rate of Rs. 8 and above, or

(i) one and two-thirds acres of land used for growing cardamom, or

(5) one and three-fifths acre of—
(a) wet land assessed to land revenue at the rate of Rs. 4 and above but below Rs. 8 per acre, or

(b) garden land irrigated from a Government source of irrigation, or

(6) two acres of—
(a) wet land assessed to land revenue at a rate below Rs. 4 per acre, or

(b) garden land irrigated from a well or a source of irrigation other than a Government source of irrigation, or

(c) tope, or

(7) three acres of dry land which is not irrigated and which is assessed to land revenue at the rate of Rs. 1.50 and above per acre, or

(8) four acres of dry land which is not irrigated and which is assessed to land revenue at any rate below Rs. 1.50 per acre.

In order to obviate the difficulty of maintaining accounts by the small farmers in the villages, option is given to have the tax compounded on an extent basis. If a person gets the tax compounded, he need not maintain and furnish accounts and submit returns to the Department, the annual payment of the compounded rate would suffice.

The rates of tax and also the composition fee have been revised by the amendment which came into

force from 1st April 1972. A ceiling of 30 standard acres has been fixed for purposes of composition under the Act. The revised rates are as follows :—

Rate of tax—

1. On the first Rs. 4,000 of total agricultural income—Nil.
2. On the next Rs. 1,000 of total agricultural income—Five paise in the rupee.
3. On the next Rs. 5,000 of total agricultural income—Fifteen paise in the rupee.
4. On the next Rs. 5,000 of total agricultural income—Twenty paise in the rupee.
5. On the next Rs. 5,000 of total agricultural income—Thirty paise in the rupee.
6. On the next Rs. 5,000 of total agricultural income—Thirty-five paise in the rupee.
7. On the next Rs. 10,000 of total agricultural income—Forty-five paise in the rupee.
8. On the next Rs. 15,000 of total agricultural income—Fifty paise in the rupee.
9. On the balance of total agricultural income—Fifty-five paise in the rupee.

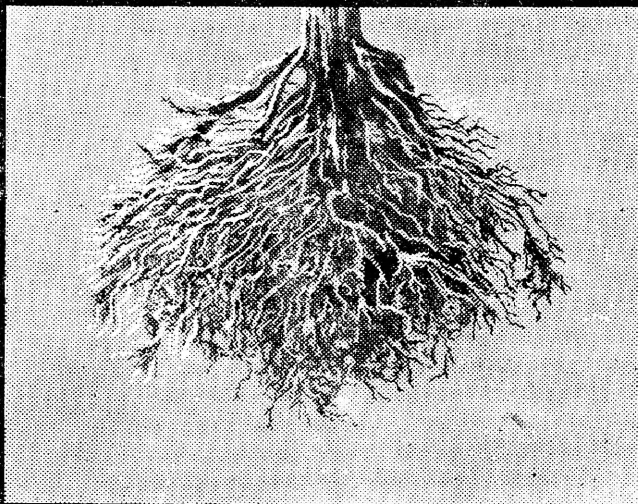
In the case of every company, agricultural income-tax is charged at the maximum rate on the whole of the total agricultural income.

Rate of composition fee—

Extent.	Rate per Standard acre. RS.
1 On the first 7½ standard acres.	Nil.
2 On the next 2½ standard acres.	15-00
3 On the next 5 standard acres.	25-00
4 On the next 5 standard acres.	35-00
5 On the next 5 standard acres.	45-00
6 On the next 5 standard acres.	60-00

In the case of every company, the lump-sum payable is charged at the maximum rate of the whole of total extent of the land in respect of which the company is permitted to compound the agricultural income-tax. ●

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gets to the root of the matter

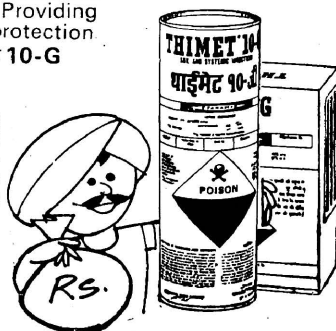
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THE SENTINEL OF OUR SHORES



The Speech delivered
by the Chief Minister
at V. O. C. Centenary
Function at Tuticorin
on 5-9-1972

Presiding over the function on the occasion of the installation of V.O.C. Statue at Tuticorin, Tamil Nadu Chief Minister Dr. M. Karunanidhi, spoke as follows :—

We are celebrating here with zeal and best the birth Centenary of a valiant freedom-fighter, V.O. Chidambaram Pillai. I extend my gratitude on behalf of the people of Tamil Nadu to Prime Minister Indira Gandhi for honouring the people of Tamil Nadu by participating in this function to unveil the Statue of V.O.C.

This birth-centenary of V.O.C. is being fervently celebrated in each village and home all over Tamil Nadu. We celebrate this day not only to express our sense of gratitude to V.O.C. but also to get inspiration from him.

The valiant freedom fighters are not with us to-day but they have been enshrined in the hearts of every one of us.

To break the monopoly of shipping between Tuticorin and Ceylon by the British India Steam Navigation Company, a British firm, V.O.C. organised a shipping company and managed the running of the shipping service from Tuticorin and Ceylon. He did it successfully

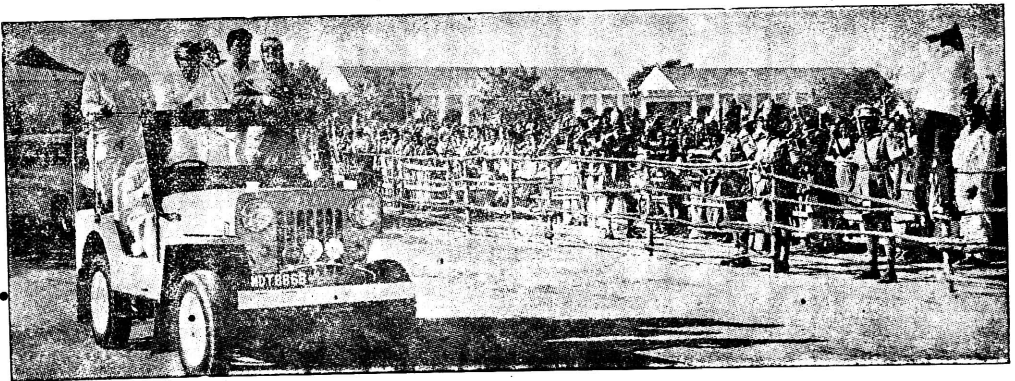
facing difficulties caused by the British imperialists. He was an embodiment of sacrifice and heroism. His speeches and writing were as powerful as those of Tilak, and so he was subjected to a sentence of two spells of twenty years of imprisonment. On appeal it was reduced to six years of rigorous imprisonment.

He was tortured in jail. He was forced to break stones, draw 'Chekku' to extract oil and to eat ill-cooked, unsavoury and poor food. He bore all those sufferings for winning freedom.

The Statue of V.O.C. is erected at a spot where, in three years, industrial mansions will rise. I thank the Prime Minister on behalf of the Tamil People.

On this occasion I wish to make a heartening announcement that George Town in Madras will be renamed as V.O.C. Nagar. This change of name is made to remind us of the sacrifice and ideals of V.O.C. In order to pay a lasting tribute to V.O.C., we invited the Prime Minister to unveil his statue.

V.O.C. was an embodiment of Tamil Culture. It is our duty to add to the greatness of his home land.



The Prime Minister and the Chief Minister of Tamil Nadu are seen in a state drive at Tuticorin on 5-9-72.

CLARION CALL TO THE YOUTH OF THE COUNTRY



A detailed account of the V. O. C. Centenary Celebrations at Tuticorin on 5—9—72 in which the Prime Minister of India, the Governor of Tamil Nadu, the Chief Minister of Tamil Nadu and other Central and State Ministers took part and delivered speeches depicting the many sided activities of Chidambaram, the Tilak of the South.

Along with the Silver Jubilee of Independence Day Celebrations, this year the country also celebrated the birth centenaries of two great pioneer freedom fighters of India. i.e., Sri Aurobindo and V.O. Chidambaram. The Centenary of Sri Aurobindo fell on 15th August 1972 and that of the latter on 5th September 1972.

As was done in the case of the former on 15th August 1972, the Centenary of V. O. Chidambaram was also celebrated in Tamil Nadu in an extensive scale befitting the stature of the patriot. Apart from the issue of special stamp to mark the occasion a life-size statue of V. O. Chidambaram was erected in Tuticorin. A Poets' Meet and Public meetings were held in Madras City and in different places of the State in his memory.

Function at Madras :

At Mylapore in the South Madras, the Tamil Nadu Goodwill Propaganda and Welfare Service conducted a Poets' meet, a Children's programme and a Public meeting. The Poets' meet was presided over by Kavignar Kothamangalam Subbu and a good number of the poets of Tamil Nadu took part in it and their Poems depicted the magnificent and many-sided personality of V. O. Chidambaram.

In the day-long Public meeting held in his honour, many dignitaries such as Dr. V. R. Nedunchezian, Education Minister, Thiru K. Anbazhagan, Health Minister, Thiru M. P. Sivagnanam,

Deputy Chairman of the Tamil Nadu Legislative Council and a hundred other speakers spoke paying glowing tributes to V.O.C.

The Health Minister Thiru K. Anbazhagan, unveiling a portrait of V. O. C., the Pioneer of the Indian Merchant Shipping, reminded the audience that V.O.C. always acted according to the dictates of his conscience, and he was also frank in opposing Gandhiji's non-violent methods of agitation advocating effective and enduring direct action to break the British Empire.

Thiru M. P. Sivagnanam, Deputy Chairman of the Legislative Council of Tamil Nadu, in his speech, said that V. O. C., besides being a freedom fighter, was a champion of the cause of the poor and devoted a good deal of his energy and knowledge to literary work in Tamil.

In the morning on the same day, as a prelude to the function, members of the Bharathi Ilaigarn Sangam marched in a procession to the entrance of Madras Harbour and garlanded the V. O. C. statue there.

Functions at Tuticorin:

In connection with the birth centenary of V. O. Chidambaram, a number of important functions took place in Tuticorin, the place where he lived the most part of his life and practised as an advocate.

The Birth Centenary of V. O. C. along with the Silver Jubilee of the V. O. C. College was celebrated on 5th September 1972 evening at the College play ground. The function was presided over by Dr. M. Karunanidhi, Chief Minister of Tamil Nadu, and was inaugurated by the Prime Minister of India, Thirumathi Indira Gandhi. The function was also attended by the Governor of Tamil Nadu, Thiru K. K. Shah, who declared open the exhibition organised in connection with the function. Thiru C. Subramaniam, Union Minister for Industrial Development, who unveiled the commemoration tablets of the visits of three Indian Prime Ministers to the college. Thiru K. Rajaram, Minister for Tourism, who laid the foundation for a library building and Dr. M. Varadarajanar, Vice-chancellor of Madurai University, who laid the foundation-stone for the extension of the laboratory and Thiru A.P.C. Veerabahu who delivered the welcome address, all paid eloquent tributes to the memory of V.O.C.

After the presidential address of the Chief Minister of Tamil Nadu, the Prime Minister inaugurated the function. In the course of her speech, Thirumathi Indira Gandhi said :

"We are free to-day not merely because we had the good fortune of having great leaders during the freedom struggle, but also because every Indian in every nook and corner of the country regarded the fight for freedom as his own fight and every Indian was prepared to suffer and sacrifice forgetting his own problems and difficulties and concentrating on the only goal, i.e., the freedom of the country. That sense of unity continues to exist among the people now. But sometimes we forget it and get ourselves involved in small things. There could not be growth if we function in a small way.

"It is not enough that we have respect and admiration for our national leaders who were in the forefront of the freedom struggle. We should emulate their example and learn from their lives.

"Every one of us has to think and contribute something to take the country forward in every direction. The youth of the country has got a special responsibility in this respect.

"I visited Tuticorin 42 years ago. Several changes have taken place since then. My generation of students and the next generation will change and worked for the change. Likewise, the present generation should also shoulder great responsibilities.

"Lakhs of people have laid down their lives, suffered imprisonment, gave up education, etc., so that you and I and all of us could live in freedom.

"All parts of the country have produced great sons and one such is V. O. Chidambaram. We can pay tributes through words, but the tribute that is worth-while depends upon what kind of young people will be going out of the college as citizens."

Presentation of Album and Stamps on V.O.C.

The next function was releasing of the V.O.C. commemoration stamp which was conducted at the college auditorium under the presidentship of Thiru H. N. Bahuguna, Union Minister for Communication. The Prime Minister released the commemoration stamp and handed over the album containing the commemoration stamp to the Chief Minister, Dr. M. Karunanidhi and Thiru V.O.C. Arumugam, the eldest son of V.O.C.

The Union Minister for Communications, Thiru Bahuguna, in his presidential speech, paid rich tributes to South India and described it as the "treasure chest of our cultural heritage". He also described V.O.C. as one of the dynamic leaders of the Congress like Lokamanya Tilak and Bepin Chandra Pal.

Dr. M. Karunanidhi, Chief Minister of Tamil Nadu, in his address, described V.O.C. as a great son of Tamil Nadu and said that the younger generation should emulate his patriotism, his service, his sacrifice and his passionate love for the mother-tongue.

Thiru K. K. Shah, Governor of Tamil Nadu, who participated in the function, paid glowing tributes to V.O.C. Thiru Dayanandan, Post-Master-General, proposed a vote of thanks.

Unveiling of V.O.C's Statue.

The last function of the Centenary celebration of V.O.C., the unveiling of the statue of V.O.C. by the Prime Minister of India, was held in the Tuticorin Harbour Project area at 6-00 p.m. on 5th September 1972. Dr. M. Karunanidhi, Chief Minister of Tamil Nadu, presided over the function and Prime Minister, Indira Gandhi unveiled the statue of V.O.C. Governor, Thiru K. K. Shah, Chief Secretary, Thiru P. Sabhanayagam, Education Secretary, Thiru K. Diraviam and many others took part in the function.

Unveiling the statue of V.O.C. at the harbour project area, the Prime Minister said :

"The growth and development of Tamil Nadu is very important as of all other States. We are now struggling against tremendous odds to fulfil the promises made by the past leaders and to make their promises come true.

"If any State or any organised group wanted to struggle only for their local demands, they would harm the interests of others, and also the overall interests of the country. Therefore, we have to see whether what we are going to do will strengthen the unity of the country and give better opportunities for the poorest of our people.

"Freedom can have no meaning unless it brought with it new life to the slums, to the villages and wherever there is misery. If there is disharmony among us, then economic progress will be slow. If the people lay emphasis on demands which the nation is not in a position to fulfil, then it slows down the progress. But, of course, if we ask any group not to make any demand, our responsibility, the responsibility of the Government and of the nation, is great to solve the people's grievances.

"India's democracy is such that it has got the means and ways of allowing us to resolve our differences and to see to what extent these differences, if they cannot be totally removed, are at least minimised. Disharmony among States would slow down the progress of the country as a whole.

There are many in the world today who are not happy about India's success, and who did not like to see India great in strength, in unity and influence. Therefore, what we are struggling for is not merely economic transformation which is important. We stand for a way of life and for certain ideals and eternal value. We think that our country could become strong only if we worked for such ideals.

Tamil Nadu has contributed much to the Freedom struggle and the nationalism of the Southern States in the last quarter of the 19th Century bore its impress on the rest of the country. Earlier leaders of the South were moderates but V.O.C. was among the extremists who believed in mobilising mass action. Swaraj and Swadeshi were their twin objectives. It was this spirit that made Dr. B. C. Roy of Bengal start the drug industry and Jamshed Tata start the steel industry. It was the same spirit

which made V.O.C. start the shipping company at Tuticorin.

The stronger nations gang up together against the weaker nations in international trade. Hence the need to develop Indian shipping.

Swadeshi spirit means that one should be self-reliant and that spirit is the expression of self-confidence and pride in our country. That does not mean that we should be isolated from other countries in fact nobody can do so in today's world.

We should aim at increasing our trade and at greater give and take with other nations. But this should be strictly on the basis of equality and mutual benefit.

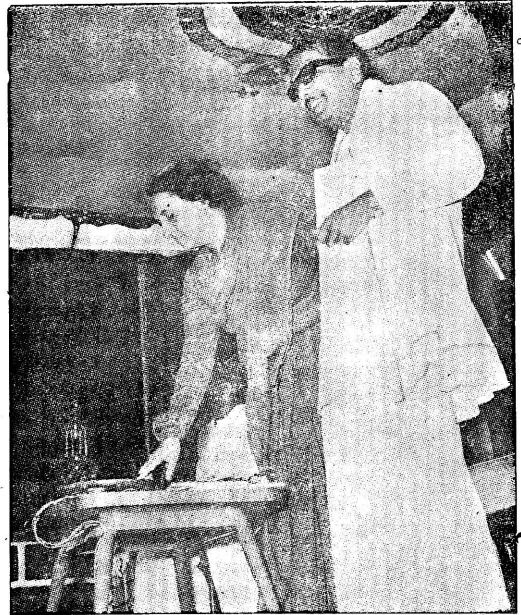
The greatest problem to-day is what it was a century ago, namely, the problem of poverty and the problem of economic and social disparities among different sections

of the people. It is by producing more and by involving every citizen in the progress of India that we would be creating a base from which poverty could be removed and the people could be elevated to a better life. Freedom will have no meaning unless it brings about a new life to the villages and remove misery.

The jetty in the Tuticorin harbour which will be ready in the next few months, will be named after V.O.C.

The Prime Minister presented a ponnadai to the sculptor, Thiru Venkatesan. Thiru K. Diraviyam, Education Secretary, translated the Prime Minister's speech into Tamil.

Thiru P. Sabhanayagam, Chief Secretary of Tamil Nadu, proposed a vote of thanks. Thus the Centenary Celebration of V.O.C. on 5th September 1972 was transformed into a National Event.



The life-size statue of V. O. C. (Left side) which was unveiled by Thirumathi Indhira Gandhi, Prime Minister of India at Tuticorin on 5-9-1972. The function was presided over by Dr. M. Karunanidhi, Chief Minister of Tamil Nadu.

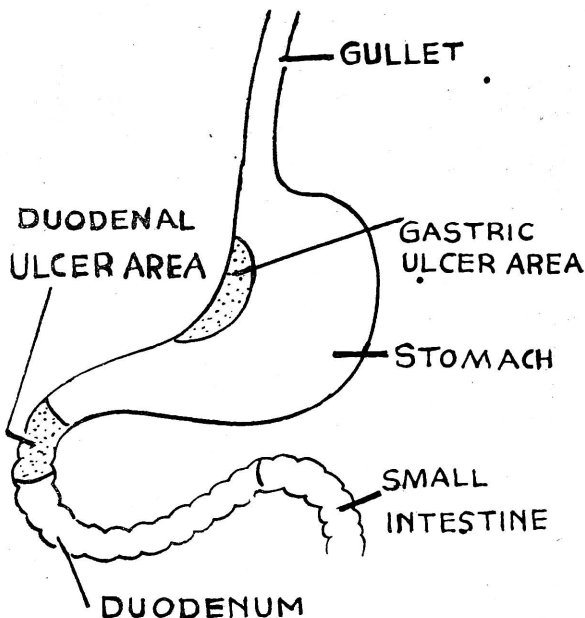
PEPTIC ULCER

Not to be
dreaded

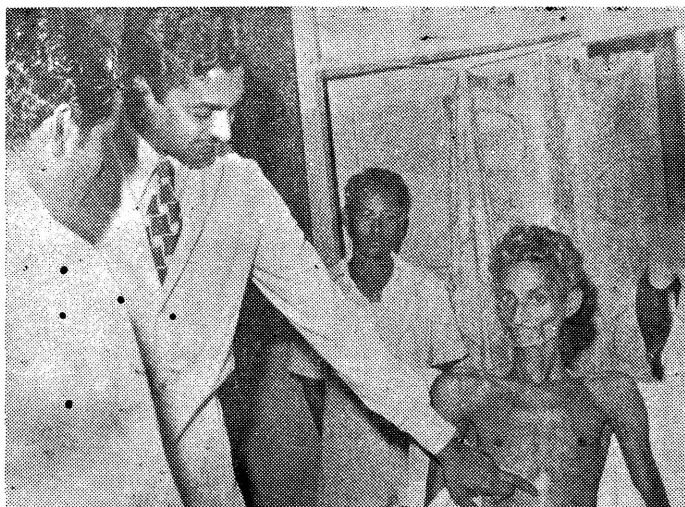
The incidence of Peptic Ulcer is higher in India than anywhere else in the world. Within India, the incidence of the disease is highest in South India. Peptic Ulcer is not a disease to be dreaded but one to be treated. Usually it can be treated by drugs or some times it heals by itself, producing obstruction.

The poorer sections of the people are exposed to peptic ulcer because of low-protein, spicy and very hot food, hurried eating, irregular food habits, smoking, alcohol, frequent consumption of coffee or tea, and chewing tobacco on an empty stomach.

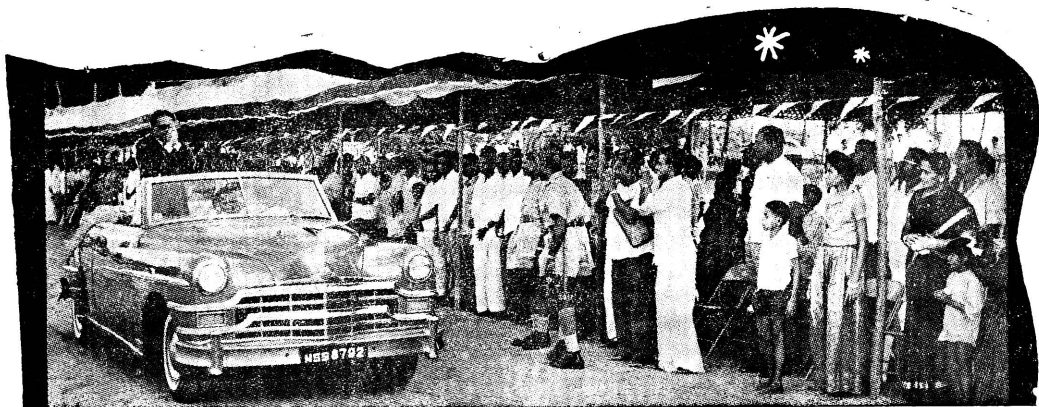
In high social status people peptic ulcer is the result of nervous tension, high intake of alcohol and smoking. The pain-killer drugs like butazolidine and aspirin P. A. S., and cortisone taken in large doses or in empty stomach produce active ulcers in the stomach and duodenum, the first portion of small intestine. It is not hereditary. Peptic ulcer is commonly seen in people between the ages of 20-40 years. Blood group 'C' persons are more likely to get peptic ulcer. There is no marked difference in the incidence of peptic ulcer between vegetarians and non-vegetarians. Mental tension keeps the ulcer active and prevents the ulcer from healing. It is the price we pay for the hurried, mechanical modern life.



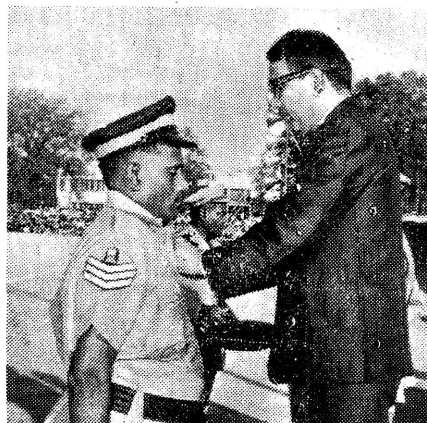
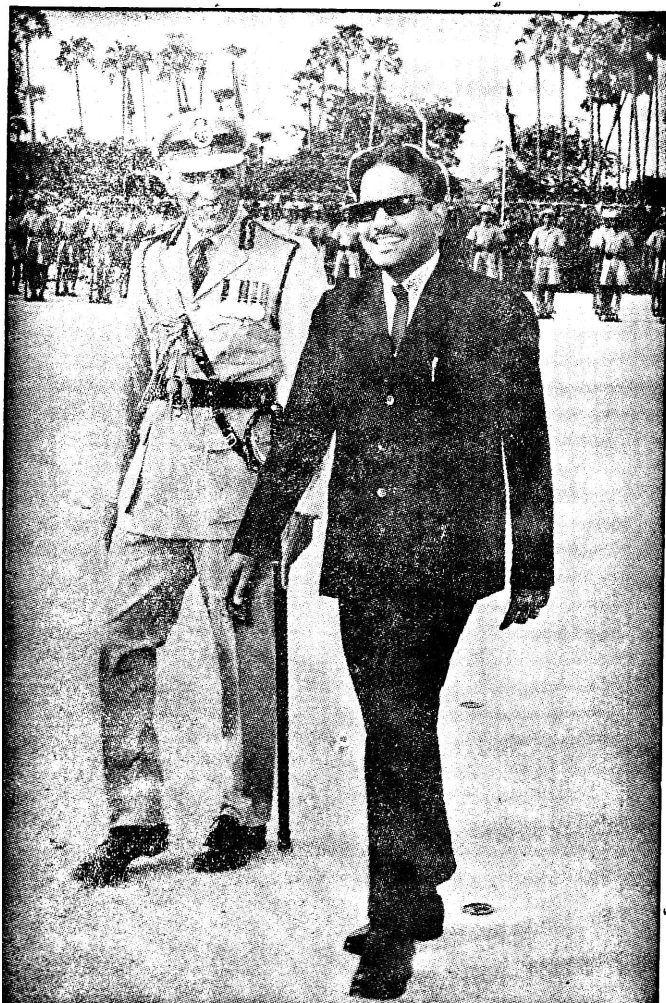
Peptic ulcer manifests itself by pain in the upper part of the abdomen and usually this pain subsides after taking food (pain-food-relief 2 to 3 hours pain). The pain may be periodical with symptom-free intervals of 2 or 3 months. Later the pain may radiate to the back and may be constant and severe. Finally the patient starts vomiting whatever food he takes. It is at this stage that most patients generally seek competent medical advice. The "Tamil Arasu" has secured the help of Dr. Rangabashyam of Stanley Hospital to give readers some useful hints on all aspects of this disease, and how the cures are effected.



Dr. Rangabashyam describing the nature of the disease of a patient whose gullet has been removed due to cancer and stomach sutured up to the remaining gullet.



THE POLICE PARADE



NAMES OF POLICE OFFICIALS HONoured

Twenty-two Officers and men of the Police and Fire Services were awarded the Chief Minister's Police Medal for outstanding services and three Police Officers, the medal for gallantry on 13-9-72.

The medals were presented by the Chief Minister at a parade held in Kanchipuram.

The recipients of the medal for gallantry were: Mr. K. Gopalakrishnan, Assistant Commissioner of Police, Madras; M. G. V. John Sunder Singh and Mr. S. C. C. Kent, Inspectors, Madras.

The recipients of the medal for outstanding services were: Mr. S. Ramaratnam, Deputy Superintendent of Police, Special Branch, C.I.D., Madras; Mr. V. S. Natarajan, Dy. S. P., Coimbatore; Mr. Joseph Peter, Dy. S. P. (Excise), Dharmapuri; Mr. C. Samuel (posthumous award). Dy. S. P. (category 2); Mr. M. Lakshmanan, Dy. S.P., Tamilnadu Special Police, IV Battalion (category 3); Mr. S. Amirthalingam, Divisional Fire Officer, Madras; Mr. C. R. Natarajan, Inspector of Police, Coimbatore; Mr. E. Ethirajulu, Inspector, Food Cell, C. I. D., Madras; Mr. R. Krishnamurthi, Inspector, Madras; Mr. L. A. Karuppiah, Inspector, S. B. C. I. D., Madras; Mr. T. R. Srinivasan, Armed Police Inspector, Tamilnadu Special Police, IV Battalion; Mr. K. Arunachalam, Inspector, Vigilance Cell, High Court; Mr. K. N. Vittal Kadiri, Inspector, Vigilance and Anti-Corruption, Madras; Mr. T. T. V. Raman, Inspector, Vigilance and Anti-Corruption, Madras; Mr. R. Manickam, Station Fire Officer, Mr. G. Rajmanickam, Sub-Inspector, North Arcot; Sheik Mohideen Azizuddin, H.C., Madras (retired); Mr. V. Shanmugam, H.C., Tiruchi Railway District; Mr. T. Chockalingam, H.C., Vigilance and Anti-Corruption, Madras; Mr. S. Sooladayar, H.C., Vigilance and Anti-Corruption, Madras; Mr. N. Pechimuthu Pillai, Constable, C.B., C.I.D., Madras (retired); and Mr. I. Pitchai, Constable, Ramanathapuram district.



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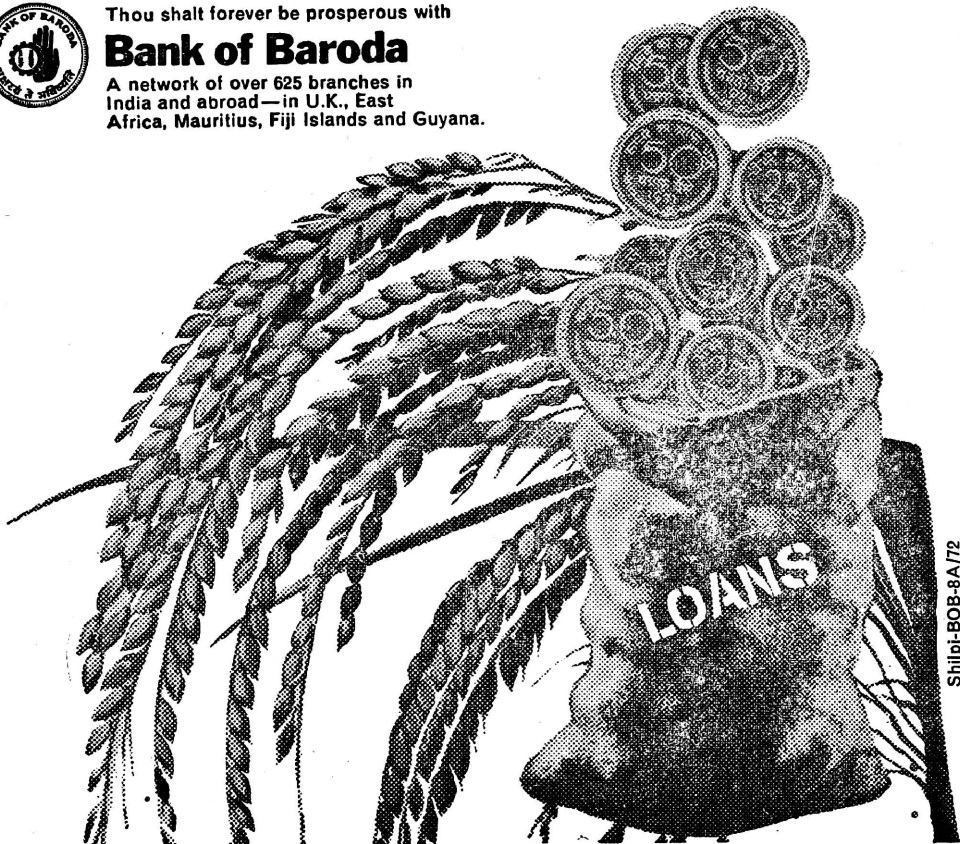
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"Chidambaram is one of the exalted makers of the history of our freedom movement, and the invaluable role he played forms part and parcel of the inerasible history of India."



V. O. C.

A MAGNANIMOUS PERSONALITY

Free India has been honouring her eminent sons and daughters in various walks of life in many ways and the release of commemorative postage stamps in honour of V.O. Chidambaram to mark his Birth Centenary today (5th September 1972) is one of the reverential tributes we pay to that great patriot and freedom-fighter Chidambaram. Even on his death-bed, he asked those who were by his side to sing that particular strain of Subrahmanya Bharathi with this opening line—"When shall our thirst for Freedom be slaked?". Though he did not live to witness the glorious dawn of Freedom for which he toiled so hard, sacrificed his all and struggled against heavy odds, how can posterity forget his life and work? Chidambaram is one of the exalted makers of the history of our freedom movement, and the invaluable role he played forms part and parcel of the inerasible history of India.

who was instrumental in restoring his *sanad*, Chidambaram gave his name to his own son. What greater proof is needed to prove that he was not against an Englishman as an individual. He was against a system which the British Imperialism personified.

India succeeded against the mighty British Empire as Indians had learnt to suppress personal likes and dislikes for common good and had learnt the art of uniting against a common enemy. When Gandhiji returned from South Africa, Chidambaram was the spearhead of the freedom movement in the South. Chidambaram was a close follower of Tilak and differed from Gandhiji basically on the efficacy of non-co-operation movement. But instead of these differences separating them, Gandhiji and Chidambaram developed great mutual esteem and love for each other. Outlook and approach might differ, but there was complete agreement about the goal. There was no personal animosity and differences only strengthened the national movement and set the pace for it. With what catholicity and broadmindedness, Chidambaram said of Gandhiji—"O Mahatmaji, thou art the embodiment of all the virtues exalted by the World!". A growing democracy like ours has this lesson to learn from our leaders like Chidambaram who shunned affectation and prudery and choose the path of rectitude in public life.

Tributes to V. O. C. by
Thiru K. K. Shah, Governor
of Tamil Nadu, on the occasion
of centenary celebration of
V. O. C. held at Tuticorin
on 5th September 1972.

As we celebrate his birth centenary, many speakers are bound to dwell at length on the varied facets of his many-sided personality. But I am very much struck by certain aspects in his personal life. After serving a long term of imprisonment, Chidambaram came out of jail, penniless and broken-hearted, with despair and anguish as to how to find his feet in life. Extreme hardships in jail life had completely shattered his health. He saw only the ruination of the Swadeshi Shipping Company which he had so fondly nurtured. To go back to law was his only resource, but his *sanad* had been forfeited by the foreign rulers. Thanks to the help of judge Wallace, he got back his *sanad*. He retraced his steps from Madras to Tuticorin, the scene of his old acquaintances and activities, to spend the evening of his life. Look at the magnanimity of Chidambaram. As a token of gratitude to the judge

Posterity will learn more about this great man when an authentic historical biography—which is a desideratum today—is brought out by eminent scholars. The people of Tamil Nadu know and have heard of Chidambaram's devoted service to the cause of Tamil, his special love for the Tamil Veda "Tirukkural", his faith in a single universal

religion and one common God for all, his generosity of disposition even when he was buffeted by penury and misfortune and several other noble personal qualities.

THE LIVING WITNESS.

I have no doubt that the high leandards which Chidambaram maintained and the supreme sacrifices that he made will continue to inspire generations to come.

The soil which has produced patriots like V. O. Chidambaram is thrice blessed. What is the relevance of Chidambaram to us today? His Birth Centenary gives the answer. Those of us who enjoy our Freedom in comparative ease and calm are reminded of the fact that the path trodden by our valiant freedom fighters was strewn with utmost sacrifices, martyrdom, privations, personal sorrows and bereavements, distress and dire poverty, hardships of jail life and complete breakdown of body and mind. Heroes like Chidambaram toiled to give us the joy of Freedom. A generation has grown now in the atmosphere of Freedom.

As a living witness, I can say with pride that in spite of terrible handicaps, freedom-fighters marched with stout hearts, inflexible will and grim determination, unmindful of victory or defeat, but firm in their conviction that India would be free. Differences of caste, community and religion were forgotten; the poorest and the mightiest offered their all in the service of the nation; volunteers used to walk for miles, sometimes without food, sometimes without shoes; freedom-fighters from all directions marched together as Indians and vied with one another in suffering and never thought of rewards except the liberation of our motherland; poverty was not a handicap and prosperity was not a virtue; and fraternity, camaraderie and unity were the guiding stars.

This is what men of my generation inherited from patriots like Chidambaram. It is our earnest desire that this heritage of ours should be vividly and passionately conveyed and interpreted to the younger generation so that it may serve as a source of inspiration in building up a vibrant and resurgent India, stretching her hands of friendship and goodwill to all.



This is the "checku" which V. O. C. had to drag at Coimbatore Jail.

Conforming to the ways of the world, we honour our great men in familiar ways such as raising statues and busts, unveiling portrait, giving their names to institutions and composing laudatory verses. Though these are not meaningless, the underlying spirit matters most. The best way of perpetuating their memory and honouring them is to make their ideals, services and sacrifices an integral part of our own lives, private or public, and go about our daily duties, charged with the spirit and tenacity of purpose that could shake even the foundation of an empire and made it possible for Freedom to dawn, though not in their own time, after centuries of political subjugation.

I recall the eloquent poetical tribute of the patriot and poet-laureate of Tamil Nadu, Ramalingam whom we lost only a few weeks back, in the pregnant words—

"Utter the name Chidambaram
Pillai,
Before your eyes arises the glow of
Freedom;
Whatever sufferings you undergo,
Strength you get to fight for
Freedom."

Let us, therefore, take a vow that whatever the frustration, whatever the irritation, whatever the provocation, we shall never, never allow the evil forces of caste, community, religion or language to raise their ugly heads and will always live as Indians devoted to the mighty cause of removing poverty and building the new India of our dreams. That is the only way to appreciate the services and sacrifices of Chidambaram.

I congratulate the organisers on having brought out an attractive and fitting souvenir on this occasion. It contains a wealth of information about Chidambaram's life and work and I am sure it will be a valuable possession in the hands of many, serving as a fountain-head of inspiration. I have now great pleasure in releasing it.

Vanakkam.

(The above are excerpts comprising tributes to V.O.C. by Governor Thiru K. K. Shah at the three Tuticorin Functions on 5th September 1972.)

By
H. N. BAHUGUNA
 Union Minister
 For Communications

V. O. C.—THE ARCHITECT OF SELF-RELIANCE

Every part of our great country has its own contribution towards the enrichment of various facets of the National life. South India, however, due to variety of reasons, has become the treasure chest of our Cultural Heritage. Its music and dance, its rich literature, its architecture, its sculpture, its exquisite temples, its saints and sages, and its noble traditions are a witness to the strength and vitality that this part of the country has bequeathed to the Nation.

Our History is crowded with names of eminent sons and daughters from this part of India, whose notable contribution to all branches of life i.e. religion, fine arts (architecture, literature, music), science, politics, i.e. all conceivable fields which enrich a Nation's values and strengthen the mainstream of its life.

In the field of religion great saints and philosophers like Sankara, Ramanuja and Madhava were the gifts of South to the Nation. Their matchless contribution to the theory and practice of Indian philosophic thought has carved out for them an eternal place in our national life. As the founders of the three main schools of Vedanta, thinkers all over the world would remember them with gratitude and reverence.

In the realm of music Saint Thygaraja, Muthuswamy Dikshitar and Shyama Sastri form the famous trinity. Bharat Natyam, the oldest of our classical dances and the one that conforms closely to the traditions of Bharata's Natya Shastra were evolved and nurtured in the South.

The great prodigy Mathematician Ramanujam and the doyen of the scientific world, Dr. Raman are some of the other illustrious sons of whom Mother India will always be proud.

V. Q. Chidambaram Pillai—popularly known as V. O. C. belongs to the category of the builders of modern India. He was a born genius. He was an erudite scholar in Tamil, a prolific writer, a social reformer, a great organiser, a fiery

speaker, a trade union leader and a dauntless fighter in the cause of the Freedom of the Nation. He lived the life of strife, struggle, sufferings, resistance and sacrifices in the cause of political, social and economic emancipation of India.

Pillai's interest in shipping was roused when he was practising law in Tuticorin,—a port of great commercial activity with Britishers having the monopoly of shipping interest. During those dark days of ruthless repression of our national interests by the British rulers, V. O. Chidambaram dared to form a Swadeshi Shipping Company. In the year 1906 he organised the Swadeshi Steam Navigation Company and entered the field of shipping trade between Tuticorin and Colombo. It was not a mere coincidence.

From the days of hoary past, South India had a creditable record of maritime activity. The great kingdoms Satavahanas, Pandyas, Cholas and Cheras, through their respective regimes, established valuable maritime intercourse with their contemporary civilizations. The Satavahana ship coins clearly illustrate this glory. All these powers maintained the noblest and the most powerful Navy of their time. This made cultural contacts with South-East Asia and Ceylon possible. This glorious tradition was revived by V. O. C. and a new flame of self-confidence blazed its way through the hearts of millions of people. The cult of Swadeshi fired the imagination of the people. One of the first attempts in the direction of self-reliance was made. The Swadeshi movement, as we all know, ultimately shook the very foundation of the British rule in India.

A friend of the poor man, V. O. C. organised labour union in the "Coral Mills" at Tuticorin. The strike organized by him in this mill broke the tyranny of the British capitalists who, in the end, agreed to enhance the wages and reduce the working hours.

He was one of the associates of dynamic leaders of Congress like Lokmanya Bal Gangadhar Tilak and Bipin Chandra Pal. He abando-

ned his legal profession; threw himself in the struggle for Swaraj and galvanised the masses by his eloquent speeches and powerful writings. On return from the Surat Congress in 1907, V. O. C. addressed a number of public meetings at Tuticorin, a port town which the Imperial power of Britain had converted into the bastion of its economic Imperialism in India. The Government who were watching the activities of V. O. C. with obvious fear and suspicion, prosecuted him for sedition along with Subramania Siva. V. O. C. was sentenced to 40 years of transportation. On appeal, the sentence was reduced to 6 years of rigorous imprisonment.

After his release in 1912 he turned to his literary pursuits. He completed his auto-biography which he had started writing in prison in verse form in Tamil. His original Tamil works like "Meyyaram" and "Meyyariivu" are the product of his creative mind—so restless for its uninhibited expression.

I may also add that Tirunelveli district, where we are meeting today, has a unique distinction of having a number of martyrs who laid down their lives in India's struggle for Freedom.

With a view to join the Nation in paying our homage to V.O.C.'s memory, we in the Posts and Telegraphs Department have brought out a special commemorative stamps in his honour and this stamp is being released today throughout India.

May I use this opportunity to say that the Posts and Telegraphs Department have so far issued 14 commemorative postage stamps on important personalities and institutions of Tamil Nadu. Prominent amongst them are stamps issued on Tiruvalluvar, Subramanya Bharati, Thygaraja, S. Ramanujam, Poet Kambar, Dr. S. Radhakrishnan, V. S. Srinivasa Sastri, Ramana Maharishi and Dr. C. N. Annadurai Stamps on V. O. C. is the latest addition to this list of great men so far enshrined in the world of philately.

(Speech of H. N. Bahuguna, Union Minister of Communications at Stamp issue Function.)

THE ROLE OF RAILWAY IN THE LIFE OF COMMON MAN

(Excerpts from the speech of the Union Railways Minister T.A. Pai on the occasion.)

We, of the Indian Railways, working on India's largest public sector undertaking, are intimately associated with the life of the common man. The Railways are the arteries of the country's economy and the most important mode of transportation for the vast majority of our countrymen. This places a special responsibility upon the Railways which have to subserve the national interest prior to everything else.

The task of the Railways to-day is entirely different from what it was before Independence. The problems of India are really the problems of the masses. In the past, most adopted solutions largely catered to the needs of the more affluent classes forming a small percentage of the people. I have no doubt in my mind that this has to change, and the Railways have to work in the interest of the billions of third class passengers who constitute the bulk of passengers and are the ultimate users of goods moved.

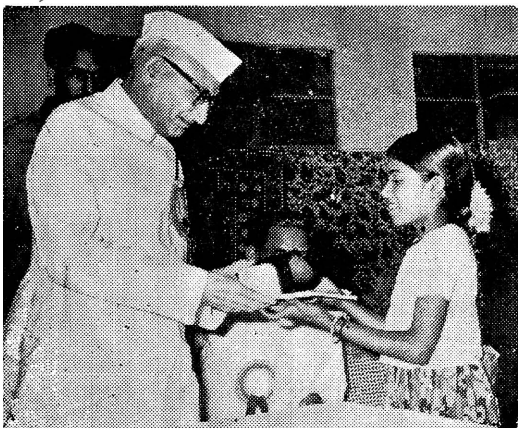
As the major carriers of goods, including raw materials and finished products, the Railways are an essential infra-structure for the overall economic development of the country. This is a master which has assumed added importance because of the industrial upsurge in the last few years. The Railway have to keep pace with the increase in agricultural and industrial production, and wherever possible, be a little ahead of them. The shortage of wagons, caused to a certain extent, by bottlenecks in movement, has to be tackled more dynamically. We have to do a great deal of forward-thinking and planning if the Railways are to meet the challenges with which we will be faced in the next decade.

Fourth Largest Network :

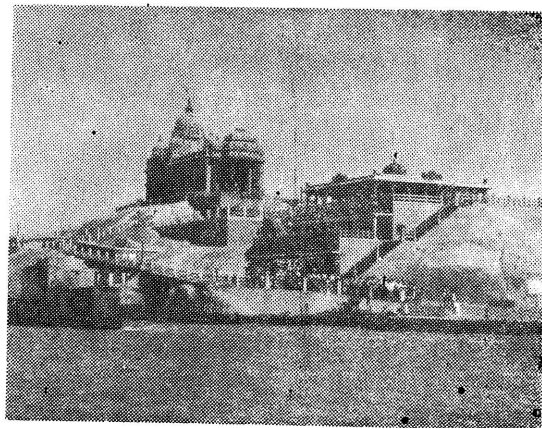
To-day, we are beginning work on a construction project which is of great significance to the Railways and the country. The broad-gauge railway line between Tirunelveli and Trivandrum, with a branch line to Kanyakumari, will help the thousands of pilgrims and tourists who come to this sacred shrine from the far corners of the country. Apart from this, it will open up a direct one-gauge rail

link from Kanyakumari on the far south to Jamu in the foot-hills of the Himalayas in the north. This is a dream many have visualised, which is, at last to become a reality. With the conversion of the metre gauge line from Trivandrum to Ernakulam now in progress, there will be a second connection in broad-gauge between the capitals of Kerala and Madras.

This project launched on its exciting course by the Prime Minister, is an outstanding example of the role of the Railways in promoting national integration. The Indian Railway network, the fourth largest in the world, has brought the people living in different parts of the country closer together in kinship and understanding. This is particularly important in a vast country like ours, where different cultures, languages, habits and religions mingle and are blended together as in a vast ocean. Nationalists in the past used to compare Railways to a steel chain holding the country in bondage. The Railways are to-day the golden chain that holds us together as a people and a nation. This project is yet another link which the Railways are forging in quest of national integration.



Governor at Bharathi Vizha, Madras.



The Vivekananda Memorial, Kanyakumari.



The Salient Features of New Railway Lines



The proposal to have a railway line connecting Trivandrum and Tirunelveli via Kanyakumari was first mooted by the South Indian Railway Company nearly 90 years ago. Though the linking of Trivandrum with Tirunelveli via Nagercoil was recommended by the Railway, the Travancore State Durbar preferred the alternative alignment via Quilon and Shencottah. The proposal for a railway line via Nagercoil gained fresh momentum in 1954, when the then Travancore-Cochin Government recommended to the Ministry of Railways that the work should be taken up in the Second Five-Year Plan period.

This scheme was supported by the then Madras State Government also. The regular Traffic Survey was sanctioned in 1955 and later the Engineering Survey was sanctioned in 1963. As the surveys revealed that, this line, if constructed as Metre Gauge, would be unremunerative it was decided that further consideration could be deferred till a clearer picture of the developments of the Tuticorin and Cochin Ports and their effect on the prospects of traffic on this line was available.

It, therefore, became necessary in 1969 to get the earlier survey reports up-dated along with a fresh survey for an alternative Broad Gauge alignment in keeping with Railway and Industrial developments in the Southern peninsula. Based on these reports, the project was sanctioned in April 1972 as a Broad Gauge one.

The proposed railway line will serve Tirunelveli and Nagercoil Districts of Tamil Nadu and Neyyattinkara and Tiruvandrum Districts of Kerala. The line will serve the highlands of the extreme South with their tea and rubber estates, the midlands rich in agricultural produce like paddy, tapioca and cashewnuts and the coastal strip with its fishing, coir and copra industries. The line will be a boon to the thousands of visitors and tourists, who flock to Kanyakumari to see the famous temple, the newly constructed memorial to the great savant of India, Swami Vivekananda, and the sunset and sunrise for which Kanyakumari is famous.

A historical
account of the
New Railway
Line between
Tirunelveli and
Trivandrum
(via) Nagercoil

The new line which is estimated to cost Rs. 14.53 crores will have 24 stations, including flag stations, and will provide Broad Gauge connection to the hinterland served by the Cochin Port on the west coast and the Tuticorin Port on the east coast, the former with its industrial complex of Refineries, Fertiliser units and Ship Yard and the latter with the large Southern Chemicals and Fertiliser Complex and Cement Factories at Talaiyuthu and Tulukapatti. The pace of economic development of this Region which lies partly in Tamil Nadu and partly in Kerala will thus receive an impetus.

In their respective plan for development, the Ministry of Railways has undertaken conversion of important Metre Gauge lines into Broad Gauge. The conversion of the Trivandrum Central—Ernakulam line into Broad Gauge was inaugurated by the Hon'ble Minister of Railways on 28th December 1971. On 5th February 1972, the Minister of Railways inaugurated also the conversion of the Bangalore—Guntakal section into Broad Gauge. The proposal to lay the new line from Tirunelveli to Trivandrum Central as Broad Gauge has thus become significant in the context of the decisions taken by the Ministry of Railways to have a unified gauge in the country on important trunk routes.

The railway is also examining the possibility of construction of a Broad Gauge link from Karur to Dindigul, a parallel Broad

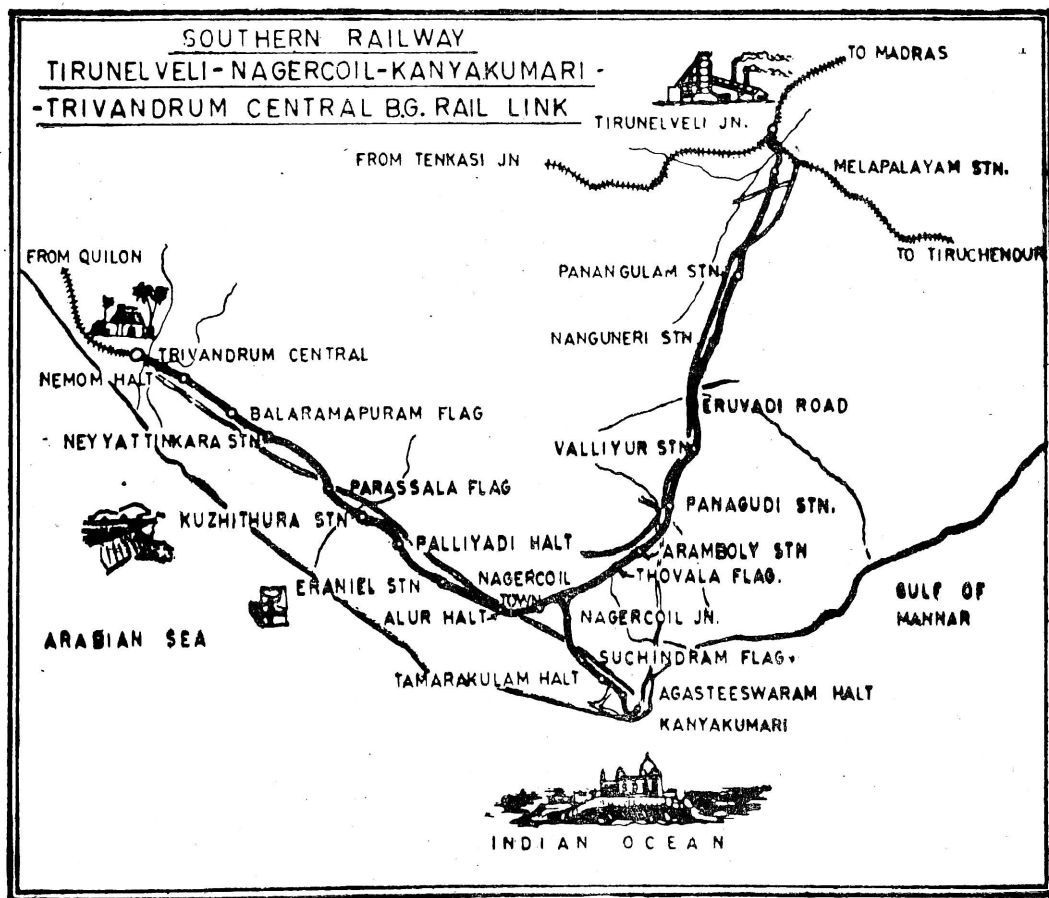
Gauge line alongside the Metre Gauge line between Dindigul and Madurai and the conversion of the Metre Gauge sections from Madurai to Tuticorin and Maniyachi to Tirunelveli. When these projects are completed, we can hope for early realisation of our dream to have a Broad Gauge train running from Kanyakumari to Kashmir in the Himalayas covering a total distance of about 3,600 kilometres.

Salient Features of the line are given below :—

Total length.	KM.
Trivandrum—Nagercoil.	66.03
Nagercoil—Tirunelveli.	75.93
Nagercoil—Kanyakumari.	22.06
Total ..	164.02

Of this, 30.50 km. will be in Kerala State and the balance in Tamil Nadu.

Estimated Cost—Rs. 14.53 crores.
Total number of stations—24.
Number of crossing stations—7.
Total land to be acquired (approx.)—567 heactares.
Major Bridges—16.
Minor bridges—405.
Road overbridges—29
Road underbridges—12.



The historic occasion of laying of foundation stone for the new Railway line by Prime Minister Thirumathi Indira Gandhi.

THE TIRUNELVELI-TRIVANDRUM NEW RAIL LINE

HERALDS GOOD TIMES

Kanyakumari district which has never been traversed by railways will soon lose this dismal distinction. September 6, 1972 was a jovial and jubilant day for the people of Kanyakumari district. It was on that memorable day that the Prime Minister of India, Indira Gandhi inaugurated the construction work on the new 167-KM. long broad gauge rail link between Tirunelveli and Trivandrum via Nagercoil with provision for a separate rail line to Kanyakumari.

The function was graced by Dr. M. Karunanidhi, Chief Minister of Tamil Nadu, Thiru C. Achutha Menon, Chief Minister of Kerala, Thiru T. A. Pai, Union Minister for Railway, Thiru B. S. D. Baliga, Chairman of the Railway Board, Thiru K. N. Chennabasappah, General Manager of the Southern Railway, Thiru K. Kamaraj, M.P. and a number of other high dignitaries among the officials and the public.

Chairman's Welcome Address

The Chairman of the Railway Board, while welcoming the guests and the gathering said the new line would immensely benefit both Kerala and Tamil Nadu and the line

FOR

KANYAKUMARI

DISTRICT.

constructed at a cost of Rs. 14.53 crores, would be commissioned in about three years. Later, the Chairman told the newsmen that the Union Finance Ministry had agreed to exempt the Railway Ministry for two years from paying dividends on capital investment in the New Tirunelveli-Kanyakumari-Trivandrum line to enable it to become economically viable.

The Railway Minister's Speech

The Union Railways Minister, T. A. Pai was of the opinion that the Railways had to keep pace with the increase in agricultural and industrial production and wherever possible, be a little ahead of production. He further observed that "shortage of wagons, which causes, to a certain extent, bottlenecks in movements, has to be

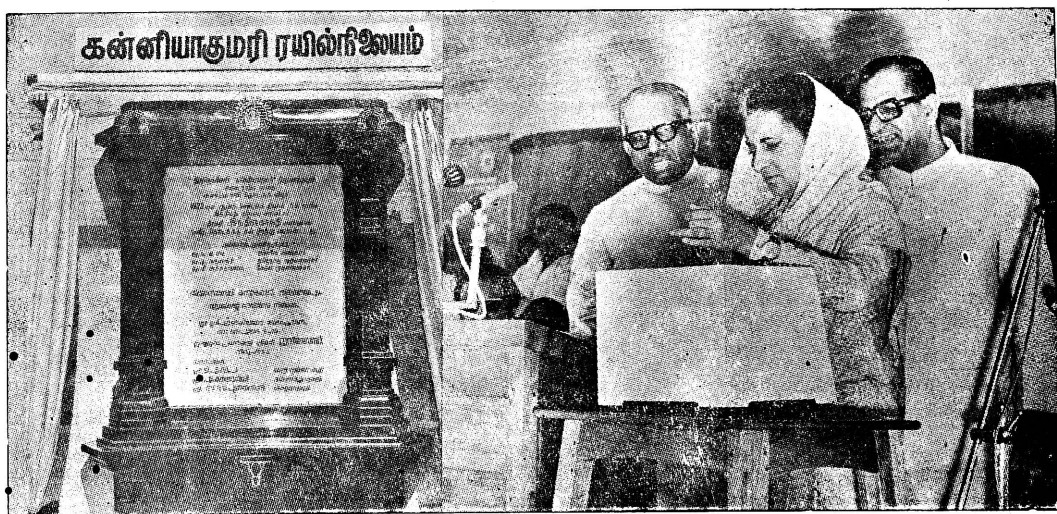
tackled more dynamically. He called upon 'the people of Railways' to do a great deal more of forward thinking and planning to enable the railways to meet the challenges in the next decade."

Kerala Chief Minister, C. Achutha Menon and Union Deputy Railway Minister, Mohamed Shafi Qureshi also spoke.

Dr. Karunanidhi's Speech

Dr. Karunanidhi, Chief Minister of Tamil Nadu, presiding over the function, expressed his heartfelt thanks to the Prime Minister and the Railways Minister for inaugurating the new project and making it a reality.

In his speech, he emphasised the importance of bringing under electrification more lines in Tamil Nadu. In this respect, he urged the Prime Minister to expedite the schemes for electrification of the lines between Madras and Arkonam and Madras and Gummidipoondi. He also put in a firm plea for a "Circular railway in Madras City in view of its growing population and the stress and strain it has created on the transport system."



Prime Minister's Speech

"Prime Minister, Thirumathi Indira Gandhi, in the course of her inaugural address, said :—

"Kanyakumari at the Southernmost tip of the vast Indian sub-continent is hallowed by tradition and memory. For centuries Kanyakumari has been exercising a fascination in the Indian mind, and it is now closely connected with the rest of the country. The words Kashmir to Kanyakumari signifies the unity of the country, and this becomes a reality with the proposed Rail link.

"It has been an unfailing wonder how from the earliest times our people, great and small, had been on the move in search of knowledge and experience, visiting various parts of the country when travel was so difficult and full of hazards. Men and women, young and old, from the South went to Kasi, Prayag, Gaya and Badrinath in the North. Since Delhi is on the way, I derive some fringe benefit as I have also an opportunity of meeting many of these pilgrims. Similarly people from the North are irresistibly drawn to Rameswaram and Kanyakumari in the South.

"I regret we have lost something very precious by the way Kanyakumari has been developed. I still remember the thrill of my first visit here in 1931. To-day we do not find that string of multi-coloured sands which made Kanyakumari world famous. I wish that the Vivekananda Memorial was not located on the rock. We should have retained the quiet and peaceful atmosphere which attracted Swami Vivekananda to that place. Is there now such a place for contemplation and for reaching the range of philosophy?

"Distances are shrinking and one could go from one country to another in less time than it took to traverse our own country in the Part. However, little by little, here and in other parts of the country, we are encroaching on the serenity which alone can give inner strength to the people.

"Our country is large enough for commercialism without encroaching on our beauty spots and places of pilgrimage. It is easier to master technology and build railways than to recapture the old spirit of beauty

and contemplation. At the same time, there cannot be contemplation unless we improve the standard of living of the people.

"Only after Independence, when we abolished the old political divisions with their unequal laws and after we had undertaken national planning, has the country become a single economic entity. Railways have made a distinct contribution to progress in the last 25 years of freedom.

"The thrill and adventure decrease as commerce increases. The game is worthwhile if this movement aids understanding and national feeling.

"The emotional concept of Indian unity has always been there. But economic unity has grown largely after the expansion of the railway lines.

"In a short time, a new railway line is going to be provided in Jammu also.

"I am aware of the problems of railway men. Each section has special problems and difficulties. But we are at a particular stage in our national life when for a couple of years or so all sections should be prepared to put up with added hardship in order to give that extra and essential push to economic regeneration. We should do our best to look into the grievances, but sectional demands, even if genuine, will use up our energy and resources. If we get involved in them, we shall not be able to haul the train of national economy over the hump.

"Traffic and travel increase, serenity and beauty and even cleanliness decrease. One must feel sorry that bus stands and railway stations are unattractive and unclean, dominated by bill boards and other posters.

"Good communications are the very base of economic progress and open the doors of opportunity to all.

"May this railway line bring prosperity to the people who live here.

"Let prosperity be not confined to those who are engaged in trade but permits the homes of the poorest and the under privileged.

"May it help bring about equality of trade.

"May it help lessen the disparity among different sections of the people.

"Only when we achieve these things shall we be able to live up to the preachings of saints like Vivekananda and Aurobindo whose centenary we are celebrating".

ELECTRICITY FOR BACKWARD AND UNDER-DEVELOPED AREAS.

The Rural Electrification Corporation has approved for assistance 16 rural electrification projects of which eight are for backward and specially under-developed areas. Two of the eight projects are for the hill districts of Himachal Pradesh and Uttar Pradesh. A third is for extension of high voltage transmission lines and connected sub-stations in three districts of West Bengal. The 16 approved projects will benefit 1,552 villages in 14 States, by helping to energise more than 14,200 agricultural pump sets, tubewells and lift irrigation schemes and to provide power for over 1,300 agro industries and about 850 small and cottage industries. They will also provide over 55,000 domestic and commercial connections and about 6,400 street lights in the rural areas. A sum of about Rs. 7.54 crores has been sanctioned as loan assistance for these projects. With these sanctions the Rural Electrification Corporation has so far given assistance to 280 projects including five rural electric co-operatives in 17 States. These projects will benefit about 26,500 villages. More than 3.62 lakh agricultural pumpsets will be energised, over 55,000 agro industries and small scale industries supplied with power and several thousand domestic and commercial connections and street lights provided. The projects include 5 rural electric co-operatives and 120 projects for backward areas and specially under-developed areas like hilly, desert and tribal areas. The total financial assistance provided is nearly Rs. 167 crores. The Rural Electrification Corporation has also provided Rs. 72 lakhs as financial assistance for extension of electricity to nearly 1,500 Harijan bastis.

ROLE OF TAMIL NADU IN THE PRODUCTION OF SUPERIOR QUALITY COTTONS

The Indian textile industry requires, at present, nearly 18 lakh bales of lint to spin fine (35s to 48s) and superfine (48s and above) cottons. But, the production in the country in these two count groups is only 12.5 lakh bales. The remaining requirement of nearly 6 lakh bales is made good by imports—out of which, 2-3 lakh bales belong to extra-long staple category and the remaining 3-4 lakh bales are long staple cottons. The gap between availability and need for fine and superfine cottons will become much wider, when the projected demand for 1973-74 is 20 lakh bales, compared to the present level of production of 12.5 lakh bales. There is, therefore, an urgent need for an immediate and significant break through to achieve self-sufficiency in superior cottons to minimise the drain on foreign exchange, which even today, amounts to Rs. 85 crores. In this mighty task, research has to provide the lead and can pave the way for a leap forward in cotton production. In this regard, Tamil Nadu can claim substantial improvement in quality and also in increasing yield potential of cottons under cultivation.

Cotton area in Tamil Nadu is only 4.4 per cent to the total cotton area in the country. Yet, it accounts for 7.5 per cent to the total production. Tamil Nadu ranks second in production of lint yield per hectare, among the cotton growing States in the Union, inspite of 77 per cent of cotton crops being raised under rainfed conditions and 46 per cent of area being grown under DESI cotton.

The Cotton Zones : Based on seasons of cultivation species of cotton grown and agro-techniques followed, cotton cultivation in the State admits division into five broad zones. As a result of breeding research, cotton strains

of superior quality specifically suitable for each zone have been evolved.

Winter American Zone :—The strain MCU 1 yielding 11 quintals/ha with a staple length of 1" and spinning 40s counts was hitherto under cultivation. The new strain, MCU 5 released in the year 1968, belongs to extra-long staple category with 1-3/16" and spins 70s counts. It also yields two quintals more than MCU 1 in a shorter crop period of 15 days. It is expected to cover an area of 77,600 hectares in Tamil Nadu alone, with a production of 2.72 lakh bales of superior long staple cotton. This strain is reported to have shown its adaptability to certain localities in the States of Mysore, Andhra Pradesh and especially in Maharashtra. Large quantities of seeds have been supplied to the States of Maharashtra and Andhra Pradesh for general cultivation. When large areas are thus grown under this superior quality and plastic strain, covering a wide range of climatic conditions as prevailing in the country, we can hope to reduce substantially the import of extra-long staple cottons.

Summer American Zone.—American cotton is being grown in summer months in long rice-fallows of Tamil Nadu in an area of 28,000 hectares. A new strain MCU 4, released in the year 1967, is far superior to the then existing strain MCU 2, in yield and quality. Compared to MCU 2, the new strain yields about one quintal of seed cotton more per hectare. MCU 4 belongs to superior long staple category with 1/3-1/16" and spins 70s counts, compared to 40s spun by MCU 2 having 1-1/16" staple. Cultivation of MCU 4 in Tamil Nadu alone is estimated to yield 67,900 bales of extra-long staple cotton.

The strains MCU 4 and MCU constitute a major break through in quality breeding, unsurpassed by

any *hirsutums* under commercial cultivation in the country and have placed Madras-American Cotton region in the forefront in the production of extra long staple cottons, suitable for spinning 70s counts. The cultivation of these two strains in Tamil Nadu alone is estimated to yield 3-40 lakh bales of superior long staple cotton, thus effectively contributing to the reduction in the drain of foreign exchange for importing cottons of extra long staple category. In addition, the cotton growers stand to gain an extra profit of Rs. 50 per quintal of seed cotton compared to the previous strains and their cultivation, over the entire State of Tamil Nadu, is expected to increase the level of national income by about Rs. 5.9 crores annually, at the present market rate.

Eighty Counts Cotton :—Two strains, EL 031 with significant superior yield to MCU 4, but equal to it, in quality and EL 0162 which is equal yielding as MCU 4, but spinning 80s counts compared to 70s for MCU 4 are under pre-release multiplication stage for replacing MCU 4 in the Southern districts. Based on mill tests, which are awaited, one of them is to be released shortly. When EL 031 is released, it is expected to increase the production of extra long staple cotton by about 14 per cent. If EL 0162 is released, it will be a land mark in the history of cultivated *hirsutums*, since an American Cotton spinning 80s counts is not only a great achievement, but also contribute substantially to the reduction in the import of foreign cotton of extra-long staple category of higher counts.

Rainfed Black Soil Hirsutum Region : *Laxmi* cotton from Mysore is being grown as rainfed crop to an extent of 68,000 hectares in black soil regions of the State.

In the year 1970, a new strain *Bharathi* was released for replacing it. The new strain gives 50 per cent higher lint yield than *Laxmi*. Further, while *Laxmi* has a staple length of 30/32" and spinning 34s counts, *Bharathi* has a staple of 1" and spins 40s counts. The replacement of *Laxmi* cotton by *Bharathi* in Tamil Nadu is expected to yield 56,800 bales of long staple cotton, spinning 40s counts, in place of 37,900 bales of lint of superior medium staple spinning only 34s counts. To the grower *Bharathi* Cotton is expected to yield an additional profit of Rs. 504/ha. over *Laxmi*. By switching over to the cultivation of *Bharathi*, the country will be benefitted by an additional production of 19,000 bales of long staple cotton valued at Rs. 1.92 crores.

23 per cent, longer staple by 2 mm and yielding extra profit of Rs. 88 per hectare. When this is grown in the entire *arhoreum* region of Tamil Nadu, the production of long staple cotton in the State is expected to increase by about 10,600 bales, valued at Rs. 58 lakhs.

At present, Tamil Nadu produces 3.96 lakh bales, of which 12,200 bales belong to superior long staple, 3.32 lakh bales to long staple and 51,900 bales to superior medium staple categories. The recent improvements effected in cottons of Tamil Nadu, have resulted in a substantial shift to longer staple and finer

quality, with spectacular advancement in spinning, in addition to increase in yield. The past breeding research has already eliminated the medium and short staple cottons from Tamil Nadu. The recent research will wipe out the cultivation of superior medium staple cotton, leaving only the superior long and long staple cottons under cultivation in the State. These two alone will contribute annually 4.71 lakh bales, out of which 3.39 lakh bales will be of superior long staple category and 1.32 lakh bales of long staple category, accounting for 38 per cent of total production of superfine and fine cottons in the country.

Medium duration Rice-fallows:

P216F, an introduced variety from Punjab, is under cultivation in an area of 8,000 ha. as an off-seasonal crop in the medium duration rice-fallows of the State, producing annually 14,000 bales. An early maturing mutant, L1143 EM is proposed to replace it. The early mutant is superior to P216F, both in yield and quality. It gives 32 per cent higher lint yield. It has a staple length of 1" and spins 46s counts, compared to 15/16" and 37s counts for P216F. Cultivation of L1143 EM, in place of P216F, is expected to increase the production of long staple cotton in the State by 18,500 bales. At the current value of the produce, the cultivators of L1143 EM, as a whole will stand to gain annually, Rs. 50 lakhs. This strains, L1143 EM is a significant achievement in cotton breeding, as it is the only cotton variety evolved through mutation breeding for commercial cultivation in the country.

Arhoreum Zone :

Karunganni 7 is being grown in the State as a rainfed crop over an area of 1.54 lakh hectares in the black-soil regions, yielding annually 46,000 bales of long staple cotton. This is the only *arhoreum* strain in India, enjoying the status of long staple cotton. A new strain, 0078F under pre-release multiplication has already proved its superiority over K7 with an increased lint yield of

NEW CHOLAM HYBRID FOR BLACK-SOILS OF TAMIL NADU

The Chalam Hybrid M.S. 2219 I.S. 3541 studied and selected at the Regional Agricultural Research Station, Kovilpatti excels in performance over K-3, the present cultivated variety both in yield and quality of grain as well as straw in the rainfed black-soil tract of the Southern region of Tamil Nadu. Besides being adaptable to this tract, this new hybrid yields 44-25 quintals of grain and 119-23 quintals of straw per hectare as compared to 31-11 quintals of grain and 100-26 quintals of straw per hectare recorded by K-3. Thus, the new hybrid yields 42 per cent and 19 per cent extra grain and straw respectively over K-3. In addition to the higher yield of grain and straw, this new hybrid possesses the following desirable attributes:—

- (ii) Matures in 90 days (shorter than K-3 by 30 days in duration),
- (iii) Easy threshability,
- (iv) Pearly white grain and
- (v) Juicy straw which is relished more by cattle.

Due to the qualitative and quantitative improvement in the grain and straw, the hybrid gives an additional income of Rs. 1,040 per hectare over K-3.

Because of the above mentioned advantages, the State Agricultural Council has approved the release of the new hybrid Chalam for general cultivation in the rainfed black-soil tracts of Tamil Nadu.

- (i) Tolerant to droughts,

CHEMICAL INDUSTRIES OF TAMIL NADU AND INDIA

By

PROF. R. RAMANUJAM

Head of the Department of Economics,
Vaishnava College, Madras.

The chemical Industry is an aggregate of products like fertilizers, heavy chemicals, dye stuffs, drugs and Pharmaceuticals, synthetic fibres, and miscellaneous chemicals including plastics and resins, synthetic rubbers and fine chemicals. It has recorded considerable progress in the last two decades. Investment in these sphere has risen from a modest figure of Rs. 304 crores in 1960 to Rs. 1,630 crores by 1970. It accounts for an output of the value of Rs. 2,616 crores and ranks fourth amongst the top industries in the country. Twenty-five years ago India was dependent for most of its chemicals on imports and the few units that were in existence were struggling for survival. The stimulus given by the World War II and the planned development that has been taking place since Independence has changed the situation. The country is today an exporter of various chemicals.

The development of the chemical industry is an important factor in the growth and development of the country. In fact, modern ways have become so "chemical based" that Stalin declared the Third plan of the Soviet Union, a 'chemistry plan'. In analysing this Industry various approaches are possible. For instance, we can show that chemical Industry plays a part in providing food, clothing, shelter and all amenities to the people. Again it is possible to show that it plays a part in the primary, secondary and the tertiary sectors. In this paper, the relation of

various Chemical Industries to the agriculture and industrial sectors and the consumer industries is presented. In the last section of the paper an attempt is made to highlight the important problems that the chemical industries face in general.

AGRICULTURAL SECTOR AND THE CHEMICAL INDUSTRY.

Fertilisers.—The modest success of the 'Green Revolution' through the H.Y.V's. is largely traceable to the chemical base that has been created by the fertilizer and the pesticide production. The targets in food and commercial crops are closely linked to the availability of these chemicals. The farmer in fact today does not want to invest in fertilizers, unless, he is assured of adequate plant protection chemicals. The targets of 129 million tonnes of foodgrains, 8 million bales of cotton, 10.9 million tonnes of oilseeds, 7.4 million tonnes of jute and 15 million tonnes of sugarcane by 1973-74 are dependent on a corresponding growth of fertilizer consumption and production leading to 23 per cent addition to Nitrogen, 29 per cent to Phosphoric and 41 per cent to Potash as against the actual rate of increase of 11 per cent, 9 per cent and 19 per cent for the period 1969-71. There is brisk activity in all the States to increase production in order to ensure self-sufficiency by the year 1973.

Chemicals for crop Protection.—Chemicals play an important part in preventing the frustration caused

to farmers by losses due to pests and diseases in agricultural production. Nearly 20 per cent of our agricultural production goes to waste, amounting to nearly Rs. 1,000 crores of our G.N.P. Farmers become hesitant to adopt new methods unless they are assured of adequate plant protection schemes. The small farmer is seriously handicapped, if to his efforts to promote the growth of intensive cultivation with chemical manures, the variety and complexity of the pest problem have also been growing. Pesticide consumption in 1970, shows the need to make plant protection a part of the routine operations of agriculture such as ploughing or harvesting. Research is needed to expand this part of chemical Industry.

CHEMICALS AND THE INDUSTRIAL SECTOR.

Basic Chemicals.—In the industrial structure of the country chemical industries find a place in almost all spheres under basic industries. There are the heavy inorganic chemicals, and chemical plant fabrication under goods industry. Petroleum, dye-stuffs, man-made fibres, and dyes are the intermediate goods. Drugs and pharmaceuticals, cosmetics and toilet preparations constitute the consumer goods industry. The sixties witnessed a rapid growth of alkali industry raising the production from 1.29 lakh tonnes to nearly 3.62 lakh tonnes with the number of

units moving from 19 to 29. In Soda Ash a marginal import has had to be effected though it might have been avoided by an imaginative policy. The position seems to be more difficult with regard to caustic soda.

Capital Goods:—In the capital goods industry chemical plant fabrication has grown with the value rising from Rs. 7.5 crores in 1965 to Rs. 13.3 crores in 1969 and is expected to reach Rs. 25 crores by 1973. To-day the indigenous fabrication of machinery capable of manufacturing fertilizers, paper and such other goods is increasing. The big push in the economy largely depends upon the building up of an infra-structure of capital goods for industries.

Petro-Chemicals:—The most phenomenal development has been in the petro-chemical industry. That industry has also the greatest spread effect around it. Nearly 12 chemical items come out of this industry providing raw-materials and other inputs for the development of many other industries. The Manali complex in Tamil Nadu and similar units elsewhere have also shown remarkable capacity as an employment generator in various ancillary industries, as nearly 25 by-products are available for ancillary industries from this units.

Plastics:—Yet another wonder child of the modern era is the plastic, which is a multi-purpose product having an ever increasing range of application. It has become a product that can transform our way of life and change the significance of various chemicals and metals that go into the making of our day-to-day life. The petro-chemical complexes have given a great fillip to this industry by providing it raw materials. Consumption of raw plastic in flexible film cables, food-wear, rigid pipes, coated fabrics, and other industries account for 31,200M. tonnes in 1970-71. We are yet no where near the international levels of consumption. It is 0.1 Kg. head in India as compared with 29.5 Kgs. in U.S., 32.5 Kgs. in Germany and 16.7 Kgs. in Japan. The rigid in P.V.C. pipes have almost replaced steel and other pipes. Vast strides have been made in packing industry with plastics. Many of the textiles manufacturers are using films, shrink wrapping and have great market potentiality. Blown bottle in

P.V.C. are being used as versatile packing medium. The use of plastics for utility and decorative purposes is gradually expanding. Yet another aspect of this industry is that it has been rightly described as an industry of the small man since no other field offers so many opportunities for entrepreneurs with little investment resources. This industry has special relevance for our developing economy.

CONSUMER GOODS INDUSTRIES.

Synthetic Fibres: In the consumer goods industry there are two important areas—(a) synthetic fibres, (b) drugs and pharmaceuticals. It is an accepted national policy that the manufacture of cheap cloth must have priority in our poor country. But in the market the demand for man-made fibres are fast expanding. Traditional fibres are being pushed back to a second place. A study of the comparative development of synthetic and traditional fibres shows that the demand for traditional fibres brought down from 70 per cent to 53 per cent. As one scans through the pages of textile industry, all over the world it becomes evident that the meteoric rise of man-made fibres to a position of enduring significance in the domain of textiles is not due to any fortuitous circumstance. It is the result of a growing mass appreciation of its inherent virtues of economy, utility, durability and versatility.

Drugs and pharmaceuticals: Yet another subsector in the chemical sector is the manufacture of drugs and pharmaceuticals. From a meagre production of Rs. 10 crores in 1947, it is today touched the figure of Rs. 250 crores. The total investment in this sphere will reach Rs. 300 crores by the end of the Fourth Plan period. There are about 2,300 units in the country registered, out of which 100 are large sized units, with others falling under medium and small-scale units. While basic manufactures are of the value of Rs. 35 crores, other formulations can be produced to a value of Rs. 175 crores. Basic manufactures are expected to be pushed up to Rs. 50 crores by the end of the Fourth Plan.

Paints and Varnish: Paints and dyes form another important area that is gaining significance with the

growth of structural industries. Colour affords both aesthetic and material protection and as such should be expanded to save losses arising from corrosion. It is estimated that industries loose about Rs. 250 crores due to lack of protection against surface corrosion. The market potential here is enormous and it is again the small-scale sector that comes into play in this area.

Others: In the sphere of infra-structure both economic and social, chemical industries have a great part to play. Transport, road and air, is getting on its feet, thanks to the petroleum industry; power transmission is helped by cables with plastic covering. Education and Research, Public Health, Preventive and Curative, are other areas where many chemicals are required. The entire gamut of socio-economic development requires a broad-based chemical industry.

Raw materials: The most important problem faced by the industry is that of raw materials. In almost all parts of the chemical industries this is the bottleneck. We can take for instance the Paint and Varnish industry which has a raw material base of 60 per cent to 70 per cent. The S.T.C. no doubt has done some good work in obtaining materials from U.K. and U.S.A. at competitive prices. But due to lack of co-ordination the industry hardly benefits by this action. The duties imposed are also prohibitive. The problem becomes more acute in regard to local raw materials, like mineral Turpentine. There is again the shortage of linseed oils. Therefore a careful assessment of the raw material requirements should be worked out and channel of supply established for the development of the chemical Industries.

Market study and Technology: A more important problem is that of expanding the markets and devising measures to keep pace with the progress with other countries. In this regard it is possible to reverse our brain drain, as is evident from the experience of the recruitment teams which found many employed Indians abroad willing to come to India on much lower salaries, provided their talents are used creatively for effective growth of the Industrial base of our country.

EMPLOYMENT MARKET INFORMATION PROGRAMME IN TAMIL NADU

Employment Marketing is a complex process. It is a process by which supplies of a particular type of labour and the demands therefore are balanced or seek to attain a balance it is a process whereby buyers of and sellers of specific service bargain and gain satisfaction; it is a process that may take place in small town, in a large city, in a whole region or perhaps even a wider area. The area in which the process takes place is frequently described as the employment market for that particular type of labour.

Employment market research, part of labour dynamics, is a science of recent origin. Till recently the supply of and demand for labour were all functions of economic and industrial drifts rather than pre-determined and planned action. It is now admitted that employment planning could be pragmatic, as the offering and hiring of labour in a given area at a given time follow certain matrices of movement.

The need for employment market intelligence in the entire gamut of manpower planning, development and utilisation can hardly be over-emphasized. The demand for and supply of labour are important factors in local labour markets. The regional or national markets are but the aggregates of these myriad local markets all over the country and the aggregative summaries of these may be typical of none of the local markets. The reason for budgeting manpower at local levels is that they are the sites where, for the most manpower, is the beginning and the end of the marketing process. Local supplies and demands, shortages and surpluses growth or decline of the labour force, the changing rate of labour participation, etc., are significant factors that make the local market the logical area for appropriate action. There is thus, a felt need for a thorough understanding of the local markets without which national generalisations lose much of their point and purpose. Such intelligence is also essential in the assessment of the progress and achievements of the developmental efforts in terms of employment generation.

The programme of employment Market Information being operated in this State by the Director of Employment and Training from the turn of the last decade is designed to help fill the many gaps in the chain of employment intelligence. The Employment Market Information Programme is operated on an area basis, an area being defined to include a revenue district, as it has the merit of practical and administrative convenience. Each Employment Office in the State, barring the specialised offices, has an employment Market Information Cell. Each Employment Market Information Cell maintains a register of employers, which serves as the frame of enquiry. Employers included in this frame comprises those in private and public sectors in the organised sector of the economy. In the private sector, however, only employers with at least 10 workers are included. Thus the whole of public sector and all significant employment in the private sector are covered under the programme. The programme does not cover agricultural employment through it covers plantation industry. Self employed, domestic and part time employment are outside the purview of the Employment Market Information Programme. The employers covered in the frame are approached every quarter for information about their total employment, vacancies occurred filled and outstanding and shortages of manpower felt during the quarter. The employers furnish data in a prescribed form known as E.R.I. The methodology of collection of such data is known as Establishment Reporting System. The data so collected are compared with those for the previous period, analysed and reported upon. Each area Employment Market Information Unit prepares and publishes its quarterly reports; at the State Headquarters, the State Employment Market Information Unit compiles the quarterly State Report. Up to the quarter ending September, 1971, forty quarterly State Reviews have been issued. Full statistical details as to the total number of establishments addressed, responded, etc. for the latest quarterly round of enquiry are appended to this note.

Once in two years, the employers on the frame are requested to render a statement of their employees by occupations and educational levels (the coverage of employers in respect of educational level information varies as regards public and private sectors). The data are analysed in the State Employment Market Information Unit and a report issued. The biennial study of occupational pattern of employees is being separately done for public and private sectors in alternate years. So much so there will be one such biennial study every year covering either the public sector establishments or those in private sector.

Once in two years, for the quarter ending June employment in 5-9 size class establishments in private sector is also ascertained in the same way as in the case of establishments with 10 employers and over. The data in respect of 5-9 size establishments is reported upon separately by Director-General of Employment and Training, New Delhi. The last such report relates to June 1970.

Besides the regular time-series described above ad hoc studies/surveys, as and when required, are also carried out to investigate special problems in respect of different critical categories of manpower such as educated applicants, engineering manpower, etc. For investigating in depth such manpower pockets of special concern and significance as also other related matter on a continuing trend, a depth study cell has been established recently in the State Employment Market Information Unit at the Directorate of Employment and Training, Madras which started functioning from December 1971.

The State Employment Market Information Unit has done the following special ad hoc studies :

1. Employment Market for graduate teachers in Science and Mathematics in Madras State.
2. Duration of jobs by Employment Exchanges in Madras State (January-March 1964).
3. A study on Cement Industry (Madras State).

4. Manning pattern in Madras Sugar Industry.

5. Employment in the Industrial Estate, Guindy.

6. The Madras Labour Market (A pilot study).

7. Survey of passed out Technical Trainees from Industrial Training Institutes registered with Employment Exchanges in Madras State.

8. Requirements for Engineering personnel in Madras State (1966-71)—Study.

9. Study of Engineering applicants seeking work through Employment Exchanges in Madras State.

10. Employment of Apprenticed Craftsmen in Madras State—A Study.

11. Short term study of the utilisation pattern of educated persons produced during the Third Plan period in Madras State.

12. Utilisation of Trained Craftsmen in Madras State—A note.

The following studies/surveys are in progress in the Depth Study Cell :

1. Survey to estimate employment in Salt Industry.

2. Pilot study of Construction Employment.

3. Depth Study on shortage occupations in Tamil Nadu.

The reports and studies issued under the Employment Market Information Programme are useful for educational planning, setting up of technical training, placement, vocational guidance, etc. They also indicate the economic health of the area at a given point of time. They are good materials for policy decisions and setting up sound procedures for operating meaningful programmes.

At present fifteen field Employment Market Information units are functioning in the State. They are attached to the respective district Employment Offices. These field units carry out the field work for the regular quarterly and biennial Employment Market Information enquiries and also the field work, if any, for special studies sponsored either by the State Directorate of Employment and Training, Madras or by the Directorate-General of Employment and Training, New Delhi.

(Table at page 49).

HONORARY PRESIDENCY MAGISTRATES.

In November 1971, the Government issued a Press Release requesting persons who are willing to be considered for appointment as Honorary Presidency Magistrates and Special Honorary Presidency Magistrates to apply to the Chief Presidency Magistrate, Madras furnishing information pertaining to their age, qualification, occupation, social status, income, etc. to fill in vacancies of 200 Honorary Presidency Magistrates and 31 Special Honorary Presidency Magistrates.

2. It has been found that sufficient number of applications from qualified persons have not been received and the Government have not been able to fill in all the vacancies of the posts of Honorary Presidency Magistrates and Special Honorary Presidency Magistrate. There are still 45 posts of Honorary Presidency Magistrates and 3 posts of Special Honorary Presidency Magistrates which remain unfilled for want of suitable applicants.

3. Those who are willing to be considered for appointment as Honorary Presidency Magistrates and Special Honorary Presidency Magistrates may apply furnishing information pertaining to their age, qualification, occupation, income, social service rendered, etc. to the Chief Presidency Magistrate, Egmore, Madras not later than 31st October 1972. The applicant must be:—(i) over 35 years of age and below 65 years of age ; (ii) (a) a retired Government servant (other than one who had served in the Police Department) with experience in deciding cases between parties ; or (b) if a non-official, of outstanding merit and commanding the confidence of the people ; and (iii) sufficiently conversant with the official language to be able to interpret the statutes.

4. Preference will be given to retired officials, doctors, professors and lecturers and retired advocates in the matter of appointment to these offices.

Issued by the Director of Information and Public Relations.

BANK OF BARODA

EXECUTES NEW SCHEME

Bank of Baroda, one of the big five out of the 14 Nationalised Banks in India, which is in the forefront in financing the neglected sectors of the economy, has evolved a new scheme, to help fertilizer distributors and agriculturists in co-ordination with M/s. E.I.D. Parry Ltd., Madras, one of the reputed firms in fertilizer manufacture in Tamil Nadu.

Bank of Baroda has evolved a scheme to help about 100 fertilizer distributors in Coimbatore, Dharmapuri and Salem Districts. This Scheme will help the distributors to purchase, stock and distribute adequate quantity of farm inputs like fertilizers, seeds, pesticides, and poultry feed to the progressive farmers. This scheme particularly envisages timely distribution of fertilizers to the ryots.

Fertilizer distributors recommended by M/s. E.I.D. Parry Ltd. are eligible to avail of this facility. Such of those rejected distributors will in turn, recommend progressive farmers to get loans from the Bank to buy the recommended doses of farm inputs to cultivate high yielding varieties of short term crops, Agricultural borrowers who repay the dues promptly will be eligible for $\frac{1}{2}$ per cent rebate on the interest charged.

It is expected that a sum of Rs. 25 lacs will be utilised by both the distributors and the ryots per season as per this scheme.

The scheme was inaugurated by R. Venkataswamy Naidu, Chairman of M/s. E.I.D. Parry Group at 5-30 p.m on Monday, the 25th September 1972 at the Coimbatore Bank Office. In connection with the function an Agricultural Exhibition (Karuthukaatshi) was conducted by the Department of Agriculture, Government of Tamil Nadu in co-ordination with Bank of Baroda.

APPENDIX.

I. STATEMENT SHOWING EMPLOYMENT AS ON 31ST DECEMBER 1971 IN TAMIL NADU BY BROAD INDUSTRIAL DIVISION.

ICL	Description.	Employment in thousands.
0	Agriculture, Livestock, Plantation, Forestry and Fishing.	84.1
1	Mining and Quarrying	30.1
2 & 3	Manufacturing	424.1
4	Construction	58.3
5	Electricity, Gas, Water and Sanitary Services.	75.7
6	Trade and Commerce	83.3
7	Transport, Storage and Communication.	186.6
8	Services	619.3
	Total	1,561.5

II. EMPLOYMENT AT THE END OF 31ST DECEMBER 1971 IN PUBLIC AND PRIVATE SECTORS.

Sector.	Employment in thousands.
Public	914.5
Private	647.0
Total	1,561.5

III. TOTAL EMPLOYMENT IN THE PUBLIC SECTOR AS ON 31ST DECEMBER 1971 CLASSIFIED BY BRANCHES.

Branch.	Employment in thousands.
Central Government	198.5
State Government	346.5
Quasi Government	175.8
Local Body	193.7
Total	914.5

IV. TOTAL WOMEN EMPLOYMENT SECTOR-WISE AS ON 31ST DECEMBER 1971.

Sector.	Employment in thousands.
Public	101.7
Private	126.3
Total	228.0

V. BRANCH-WISE DISTRIBUTION OF WOMEN EMPLOYMENT IN THE PUBLIC SECTOR AS ON 31ST DECEMBER 1971.

Branch.	Employment in thousands.
Central Government	6.9
State Government	32.7
Quasi Government	6.9
Local Bodies	55.2
Total	101.7

VI. TOTAL NUMBER OF ESTABLISHMENTS ADDRESSED FOR THE QUARTER ENDED DECEMBER 1971.

Sector.	Number of establishments addressed.
Public—	
Central Government	375
State Government	2,205
Quasi Government	1,018
Local Bodies	1,793
Total	5,391

Private—

Larger Establishments (25 employees and over)..	4,079
Smaller establishments (between 10—24 employees).	8,256
Total	12,335
Grand Total	17,726

VII. PERCENTAGE OF RESPONSE FROM THE ESTABLISHMENTS ADDRESSED FOR THE QUARTER ENDING DECEMBER, 1971.

Total number addressed	17,726
Total number responded	15,578
Percentage of response	87.9%

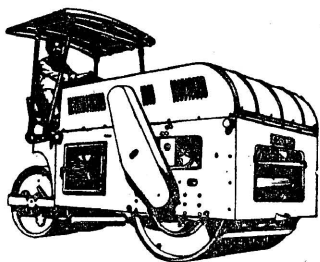
**make
an entire
road
from start
to finish**

**... with
just**

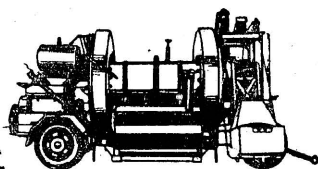
GARLICK

Road Making Machinery

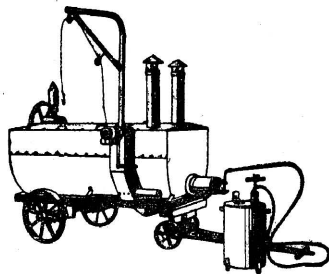
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Shri. G. K. K. 22

IRRIGATION DEVELOPMENT IN TAMIL NADU IN 25 YEARS

Historically, civilization has followed the development of Irrigation. It has arisen on irrigated lands and also decayed and disintegrated in irrigated regions. The duration of civilized people is probably dependant on many factors, of which a permanently profitable agriculture is vitally important. "Irrigation in many countries is an age old art—as old as civilization but for the whole world it is a modern science—the science of survival." The pressure of survival and the need for additional food suppliers are necessitating a rapid expansion of irrigation throughout the world.

The art of irrigation engineering is not a new venture in Tamil Nadu. Irrigation for increasing the yield from soils dates back to the era of Chola Kings in the 2nd Century. A.D. and the benefits have been enjoyed by extensive tracts in the various districts of Tamil Nadu. Even during the days of foreign rule lasting well over 150 years prior to 1947, irrigation projects were constructed in our State in the form of anicut systems along the major rivers. These works were mainly commercial ventures with assured return on the capital. It does not mean that there had been no planned development of irrigation with regard to the necessities of individual areas.

The heart of India lies in its villages; many of our ancient rulers took great pains to provide irrigation facilities to extensive rural areas. They tried their best in controlling and diverting more and more water in each locality for the larger benefit of the people. Just like the Great Karikalan built the 'Grand Anicut', others have built number of tanks, big and small which are very useful for irrigation.

Viranam, Mamandur, Kauveri-paukkam, and Chembrapakkam tanks are typical of this type.

During British rule, before independence, Sir Arthur Cotton built the Upper Anicut and Lower Anicut on Coleroon in 1836. The Thirukoilur anicut across Penniar, Palar anicut across Palar and other anicuts were built later. Then the Periar dam was constructed to divert the west flowing water to the Madurai District to irrigate about 1,40,000 acres. The Mettur dam is the next that got constructed and is the largest in the south. The above mentioned developments took place before the country achieved independence.

Prof. R. K. SIVANAPPAN,

*Tamil Nadu Agricultural
University.*

It was only after the nation became independent, the development of irrigation systems was taken up intensively in planned way. The 1st, 2nd, 3rd and 4th five year Plans helped to nationalise study on the needs of the various regions and the tempo of construction of the irrigation projects on hand were stepped up.

India is blessed with one of the largest water supplies of any country in the world. The average rainfall is about 45 inches. About 1,356 m. acft of water is flowing annually in the rivers, of which only 450 m. acft can be used for irrigation purposes due to physiological condition. Of this, 70 m. acft or 16 per cent of the harnessable water was used before 1950

and the total area irrigated was only about 51.5 m. acft from all the sources and the food production was 40 to 50 m. tonnes. The amount of water used is about 23 per cent and the area of the land irrigated comes to 95 to 100 m. a cft at present. We have already crossed 100 m. tonnes of food production last year.

The size of erstwhile Madras State during 1947 was bigger and it included part of Andhra Pradesh, Mysore and Kerala. The sources of water supply was abundant at that time. Even then the area of irrigation was only about 30 per cent of the sown area (taking into consideration the present districts only) and the number of wells was also 5 to 6 lakhs. The pumpsets were provided only for about 14,000 wells during 1950 in the composite Madras State.

With the formation of Andhra Pradesh, major share of the water resources of the composite state went over to that area and the plan schemes were proposed to utilise the surplus water of the major rivers without detriment to the existing ayacuts. Subsequently with the formation of Kerala State, Tamil Nadu lost some more area which have got assured water potential. This lead to think of possibilities of diverting the surplus waters of the western ghat rivers flowing west on to the Arabian Sea, into the eastern plains of the districts of Coimbatore, Ramanathapuram, Tirunelveli without detriment to the needs of the Kerala State. The result of this objective is initiation of the Parambikulam-Aliyar Project which is still under construction.

The following table will indicate the number of irrigation projects taken up during the last 25 years in the Tamil Nadu State.

IRRIGATION SCHEME TAKEN DURING FIVE-YEAR PLANS IN TAMIL NADU

Serial number and name of Scheme.	Year of completion.	River.	District benefitted.	Cost (Rupees in Million).	Area benefitted in acres (Lakhs).	
					New.	Old.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1st Five-Year Plan—						
1 Lower Bhavani ..	1956	Bhavani ..	Coimbatore and Tiruchirappalli.	102-00	2-07	..
2 Perunchani ..	..	Kodayar ..	Kanyakumari ..	4-37	..	0-58
3 Cauvery Delta Drainage Scheme.	..	Thanjavur ..	Thanjavur ..	3-00	0-40	..
4 Araniar ..	1957	Araniar ..	Chingleput ..	10-59	0-02	0-09
5 Mettur Canal ..	1957	Cauvery ..	Coimbatore and Salem.	10-29	0-45	..
6 Manimuthar ..	1958	Manimuthar ..	Tirunelveli ..	50-50	0-20	0-83
7 Amaravathi ..	1958	Amaravathi ..	Coimbatore ..	32-98	0-22	0-32
8 Vaigai ..	1959	Vaigai ..	Madurai and Ramanathapuram.	33-00	0-23	..
9 Krishnagiri ..	1958	Penniar ..	Dharmapuri ..	20-24	0-09	..
10 Sathanur ..	1958	Do.	South Arcot and North Arcot.	25-80	0-21	..
2nd Five-Year Plan—						
11 New Kattalar High Level Canal	1960	Cauvery ..	Tiruchirappalli and Thanjavur.	22-45	0-20	..
12 Pullambadi Canal	1960	Do.	Tiruchirappalli ..	20-61	0-22	..
13 Vidur Project ..	1959	Varahanathi ..	South Arcot ..	8-89	0-03	..
14 Neyyar Project ..	1963	Neyyar ..	Kanyakumari ..	9-03	0-09	..
15 Parambikulam- Aliyar Project.	Still in progress.	Parambikulam Aliyar River.	Coimbatore ..	320-00	2-40	..
16 Meduri Irrigation.	1961	Kodayar ..	Kanyakumari ..	2-20	..	..
3rd Five-Year Plan—						
17 Palar Anicut ..	1965	Palar ..	North Arcot and Chingleput.	4-81	0-03	..
18 Sathanur II Scheme	1966	Penniyar ..	South Arcot ..	6-00	0-05	..
19 Gomuki Scheme	1966	Gomuki ..	Do. ..	1-25	0-05	..
20 Manjalar ..	1966	Manjalar ..	Madurai ..	6-58	0-01	0-30
21 Chittar-pattanamkal Scheme.	1968	Kodayar ..	Kanyakumari ..	66-70	0-33	0-15
22 Modernising Vaigai	..	Vaigai ..	Madurai and Ramanathapuram.	39-50	0-14	0-95
23 Gatana Project ..	1972	Gatana ..	Tirunelveli ..	15-80	0-01	0-07
24 Ramanadhi Scheme.	..	Ramanadhi ..	Do. ..	8-07	0-05	0-03
25 Manimukthanadhi Scheme.	1972		South Arcot ..	9-10	0-04	..

Serial number and name of scheme.	Year of completion.	River.	District benefited.	Cost (Rupees in million)	Area benefited In acres. (Lakhs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
4th Five Year Plan—						
26 Palar-Porandalar	..	Palar— Porandalar	Madurai	28.16	0.04	1.00
27 Parappalar Scheme.	..	Nangajiar— Parappalar	Madurai	3.91	0.01	0.01
28 Chinnar Scheme	..	Chinnar	Dharmapuri	(work in progress.) 11.82	0.08	0.02
29 Thandarai Anicut Scheme.	..	Cheyar	North Arcot	(Work in progress.) 5.18	0.01	0.06
30 Karuppanadhi Scheme.	..	Karuppanadhi ..	Tirunelveli	(Work in progress.) 15.04	0.01	0.07
31 Ponnaniar Scheme	..	Ponnaniar	Tiruchirappalli ..	(Work in progress.) 5.07	0.118	0.002
32 Pilavukkal Scheme	..	Kovilar		(Work in progress.) 8.32	0.013	0.74

In addition the schemes such as (1) Modernizing Thanjavur delta, (2) Improvements to Periyar delta, (3) Marudhanadhi Scheme, (4) Doddahalli Scheme and (5) Reservoir across Ayyar near Killi holls, have been included in the 4th Five-Year Plan.

In 1947-48, the area irrigated from various sources was 4.85 ma. or 1.94m. hect. out of 13.9 ma or 5.56m. hect. sown area which works out to be 30 per cent. In 1970-71 the gross area irrigated is 3.28 m. hect. out of 7.5 m. hect. of sown area which works out 44.0 per cent. Tamil Nadu stands first in percentage of area irrigated to the cropped land in India.

During the last 25 years though the gross sown area has increased from 5.56 m. hect. or 13.9 m.a. to 7.5 m. hect. or 18.3 ma. (i.e. only 1.94 m. hect. or 4.85 ma.) the area of irrigation has increased nearly two fold from 1.94 m. hect. to 3.28 m. hect. The percentage of irrigation during 1947-48 and 1970-71 was 30 and 44 respectively. The reason for this increase is not only due to the construction of many dams and anicuts but also for the various improvements such as special minor irrigation programme, desilting reclamation of irrigation tanks, filter point schemes and sinking and deepening of wells and tube wells, etc., taken up after independence.

Nowhere in the world, there are as many tanks per unit area as we have in Tamil Nadu. There are at present, about 38,000 tanks throughout the state. Many tanks were silted up and desilting work was not taken up by the then British Government. Only after 1947, many tanks were desilted and reclaimed. This has increased the capacity of the tank to irrigate more acres. Further, the Government took up the special minor irrigation programme by which number of tanks were constructed in the last quarter of the century. These tanks are in a position to irrigate more than 1/3 of the net area irrigated and hence it is as important as that of reservoirs and canals which also irrigate a little less than that of tanks.

Ground water is an important source for irrigation. The sporadic use of ground water dates from ancient times. Recently, large scale development of ground water resources has assumed critical importance in the economic advancement of the country. Even in canal fed areas like Thanjavur, it is the ground water well which helps in raising the seedlings in time and also to take second and third crops. Though there were thousands of wells constructed, the last few years have witnessed a spectacular expansion in the field of construction of open, tube and filter point wells in Tamil Nadu. There are about 11 lakhs wells in Tamil Nadu and the net area irrigated by the wells is about 1.50 m. acres which is about 1/4th of the total net area irrigated. There is still very good scope for tapping the under ground water in our state. It is estimated that out of 7,000 thousand million cubic feet of utilisable ground water, we have harnessed only about 100 to 120 thousand million cubic feet. The Government of Tamil Nadu by creating a new Department of Ground Water and by getting money from Agricultural Refinance Corporation and World Bank encourages to construct number of wells in the State. Similarly the energisation of wells have increased tremendously in the last 25 years. In 1951, the energised wells in Tamil Nadu were only 14,373, in 1956 it was 111,965 and in 1971 it has touched 450,000 which is 50 per cent of the total wells energised in India.

The achievement of Tamil Nadu in tapping the irrigation potential of the State particularly, the surface water resources, has been remarkable. Out of an estimated utilisable surface water resources of 700,000 m. cft. we have already harnessed about 95 per cent which is a world record and strange enough, our state is still very much in need of water. We have constructed many tanks and it has also come to a saturation point except for percolation ponds which can be constructed to conserve rain water. The remaining source is only tapping the ground water and large scale extraction is in progress by way of constructing open wells, tubewells, and filter points wells. Further, there is a possibility of bringing northern river water to Tamil Nadu by way of linking Ganges to Cauvery and diverting west flowing from Kerala to Tamil Nadu.

Our population is growing steadily. Unless irrigation also keeps on expanding, the gap in food production will also widen. Though we have little scope for surface irrigation, it has to be done by co-operation from other States. Before that we must first see that the existing waters are put to maximum use without waste, modernising the old irrigation systems in a scientific way to use the water economically, and conserve the rain water by providing percolation tanks.



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HANDLOOM FABRICS

SINKING CITIES

By
LEV AND VALADIMIR BANKOVSKY

Disturbing reports of cities threatened by advances of the sea appear in the press with increasing frequency. Who has not heard of the present tragic plight of Venice? Every year now flood waters inundate basements and ground storeys, destroying foundations and walls. The city's historical and artistic treasures—all its architectural monuments, precious statues, paintings, frescoes—are endangered. Alas, Venice is no exception.

Japan's capital is sinking rapidly. Whereas certain sections of Venice have subsided 18 centimetres in the last fifty years, that figures in the annual "Standard" for Tokyo. Since World War I its eastern edge has sunk more than two metres. Thailand's capital, Bangkok, is submerging into the Gulf of Siam at the rate of nearly seven centimetres a year, the Indian cities of Bombay and Madras are gradually going under.

What has happened? Is it man who has disturbed elemental forces drowsing in the depths of our planet?

Rock Contraction :

Scientists and specialists who have studied the problem of the subsidence of big coastal cities remarked that often such cities stood above intensively exploited deposits of artesian waters, oil or gas. It was natural to arrive at the conclusion that where the subterranean treasures of the earth are energetically extracted the surrounding rock strata contract and the overlying strata subside. This hypothesis is highly popular at present. One of the projects for saving Venice is to fill the voids formed under the city with a mixture of sea water, sand and clay.

Certainly, the factors engendered by man's incautious invasion into the entrails of the earth cannot be disregarded, but history tells us that the sea threatened cities and often swallowed them up long before the first wells were dug. The Roman

historian Lucius Annaeus Florus wrote of the Cimbri, Teutones and others fleeing from Gaul because the ocean overflowed their lands.

There are also many present-day facts that are hard to explain solely by the "cutting-the-branch" theory. Exploration for oil and gas in the environs of Bombay is but in the initial stages and water for communal needs is piped down to the city from mountains areas, yet the ocean is already washing the buildings in its suburbs.

Neotectonics :

If man is not to blame, or, to put it more cautiously, not always to blame for the sinking of cities, then who, or, rather, what is? The answer can be supplied by a remarkably interesting and swiftly developing science born in the Soviet Union (its founder was Academician V.A. Obruchev) some twenty-five years ago, the science of neotectonics, which studies present-day movements of the earth's crust.

Not so long ago it was still believed that our planet, having given rise to such mighty mountain ranges as the Himalayas, the Caucasus, the Alps and the Cordilleras, entered into a state of temporary tectonic rest. It now appears that this is not so. We know now that the earth's crust is in reality broken up by deep vertical and inclined fractures into separate blocks and sheets of rock which are constantly shifting., rearing up one upon the other, thrusting aside neighbouring blocks and sheets much in the manner of ice-floes in a river in spring time. Judged by human measures, the absolute magnitude of these shifts is insignificant, but their scale and the energy involved are vast. Digressing for a moment, we may note that perhaps it is here that we may in future find inexhaustible power resources.

It is noteworthy that as a rule sinking cities are located in zones where active neotectonic processes are at work. This is borne out by

seismological data. In Italy there have been about 150 earthquakes of Force-7 and higher strength in the past 70 years. Earthquakes are also frequent in central Japan. Greater seismic activity is now observed in India. There is one other feature Venice, Bombay, Bangkok and other endangered cities share in common: they all stand, as deep drilling has shown, on the surface of mighty sedimentary strata filling the vast depressions or folds in the earth's crust. This gives us a new perspective of the causes of tectonic changes and means of combating their ill effects.

Tectonic Flexures:

There is reason to believe that tectonic flexures arose as a result of one block of the earth's crust piling up on another over the deep inclined fracture dividing them. The edges of the bottom block sag-forming depressions that are gradually filled with sedimentary rock. Sometimes the advancing blocks, acting like the blade of a giant bulldozer, press the loose rock into folds, crack them and raise them up in mountain ridges. Such, for instance, is the tectonic situation in the area of the Adriatic Sea.

As for Tokyo, just south of it there is a deep fissure in the earth's crust called the Fossa Magna. Until recently it was thought to be a vertical fracture. Only the discovery by Soviet geologists of the South Maritime fissure on a direct line with the Fossa Magna made it possible to conduct a geological comparison of the opposite shores of the Sea of Japan and establish the fact that the Fossa Magna follows an inclined plane. Now it is clear that along this fissure the Southern Part of Honshu Island is vigorously advancing upon the northern, causing the neotectonic subsidence of the Kwanto Plain together with Tokyo, Yokohama and other cities.

These and many other discoveries in various branches of the science of the earth put the problem of saving the sinking coastal cities on a different plane. Whereas efforts

to remove or neutralize the present commonly accepted causes of subsidence require comparatively small material outlays, establishment of the major role of tectonic processes changes the picture completely, for as yet man is unable to pit himself against the subterranean elements.

It is interesting to note that way back in the Middle Ages the people of the Netherlands already found what is probably the only effective way of combating the advances of the sea: construction of a system of protective dams, the total length of which now comes to more than three thousand kilometres. Naturally, before effective measures can be taken to prevent the submergence of coastal cities, scientists must study all the features of present-day tectonic movements. Not in all countries are such studies being adequately pursued.

International Co-operation.

To forecast the subsidence of cities is almost as difficult as to forecast earthquakes. All the same, with the aid of modern technical means, this is already becoming possible, not only as regards saving Venice, Tokyo and other big cities, but also in regard to drawing up a long-term international programme for building structures to protect all densely populated coastlines from the advances of the sea.

Possibly, one of the first steps in this direction will be the organisation of a global tectonic service to ensure the gathering and study of information about the rapid and slow movements of the earth's crust, co-ordinate immediate measures for saving sinking cities and for building coastal cities of a new type.

In organizing close international co-operation on the problems of the dynamics of coastlines mankind will be working not only for the optimal adaptation of the biotechnosphere to the ocean. Reliable prognosis of tectonic processes and technical advances will make man better able to drain inlets of the sea, erect artificial islands, extract minerals from the ocean bed. A knowledge of the laws of the evolution of seashores is especially necessary for man's speedy and energetic conquest of the continental shelves—the establishment of big underwater settlements on the shelves to make rational use of and multiply the mineral, vegetable and animal wealth of oceans.

UNDERSEA FARMS SET UP IN SEA OF AZOV

The first undersea farms of the Soviet Union have been set up in the Sea of Azov. Each farm consists of a section of sea, contained on all sides by nets. These nets are expected to serve for five years and quickly recoup their cost.

In experimental "cultivation" last year, these farms yielded over 8 tons of fish to the acre, enormously more than ever achieved in ordinary fishing. The farms are breeding mainly bester (a hybrid of the beluga and sturgeon) and carp at present.

Last summer their bester reached weights of 3½ lb and their carp up to 2½ lb. The bester has inherited the best properties of its parents—the taste of the sturgeon and the size of the beluga. Throughout civilisation, man has hitherto failed to evolve a single marine species. Like our prehistoric ancestors, we are still in the stage of hunting fish. The ocean is fabulously rich—according to the most cautious estimates, it could provide sustenance for 30,000 million people. But these food resources must be exploited rationally. Scientists are now convinced that the ocean should be utilised in the same way as the land—by setting up undersea farms and kitchen gardens.

Hence the Azov farms.

The Azov—Black Sea Marine Research Institute has also laid out under-sea oyster and mussel pastures. And they have found that the shell-fish grow much faster in the experimental basin than they do in the wild state. Over three tons of mussels are collected from every acre of such under-sea pastureland. Mussels are also being "bred" in Posyet Bay, in the Soviet Far East. Scientists are trying to "domesticate" this valuable food creature—pure protein, containing amino acids, vitamins and important minerals.

There are, of course, many problems in laying out under-sea pastures—especially when more mobile creatures than mussels are being "farmed". Obviously you can't order fish to live where you want them to, and we have no marine equivalent of a sheep dog. Fencing off-shore areas would, to say the least, be expensive and difficult, but the Azov net system seems a successful compromise.

Biological Zones.

The ocean is divided into biological zones, differing in temperature, salinity, illumination, food character and supply. And marine species live in strictly defined habitats. They do not normally cross the natural barriers between them. These limited zones are easily divided off into "fields" by the nets. Other possible dividing lines would be screens of air bubbles or electronic impulses.

Sound, too, can be used to attract fish to pastures. And natural food can be concentrated by careful use of light. Many scientists pin their hopes on the language of odours. Fish communicate with one another through chemical substances that are differentiated by the sense of smell. And so, by using various odours, fish can be herded as a shepherd herds cattle.

It has been estimated that such off-shore fish farms could yield harvests of 2½—3 tons to the acre. It is not lack of technological facilities that delays the setting up of such farms, but our inadequate knowledge of the life of the sea itself. To reproduce life in the ocean, man must have a clear understanding of natural conditions of animal life there. So far there are quite a few blank spots in marine ecology. And the sea animals themselves have been studied mostly as the object of fishing.

HOW TO IMPROVE ENGLISH WRITING

In my twelve years' experience of teaching English to post-graduate students, I have found that their written English is rather poor. They possess an impressive vocabulary, but have no command over it. They tend to mistake flowery writing for good writing and load their sentences with too many big words and high-sounding phrases. Words used in this fashion blur thoughts instead of presenting them sharply and clearly. They accept clichés readily as a comfortable alternative to thoughts. Stilted, official and JOURNALESE English are considered better than plain and clean English, i.e., "Expectoration is forbidden" is generally preferred to "please do not spit". There is also an instinctive liking for abstract words and roundabout expressions. This is partly due to their inability to choose the right word that will hit the nail neatly on the head.

•The students must be taught to write clearly and effectively what they want to say. This can be done well if they can be first taught to think clearly. Most of the students worry over how they should say rather than what they should say. A silly idea is sometimes gorgeously dressed and the effect is ludicrous.

PRECIS WRITING.

To begin with, the students should be given passages that they at any rate, a vast majority of them—consider good, i.e., purple patches, JOURNALESE and officialese English. These should be boiled down to the essentials. A sentence like "He was conveyed to his place of residence in an intoxicated condition" sounds pompous and unnecessarily lengthy, but this is the kind of style that the average student considers good. He must be told that "he was carried home drunk" is better in diction and style. The student should be asked to watch out for (a) trite metaphors and phrases, (b) roundabout expressions, (c) ambiguous words, (d) repetition of words, phrases and arguments, (e) mixed constructions, (f) inappropriate mixture of styles, (g) confused and obscure sentences and (h) mixed figures of speech.

Working through some exercises of the kind suggested above will convince the student that prefabricated phrases are no substitutes for thought. Such exercises will also convince him that a lucid style comes from clear thinking.

TRAINING IN THE ECONOMIC USE OF WORDS.

When the students have learnt what they should avoid they could be asked to write on simple subjects. The merely correct may be all right at the P.U. level, but at the post-graduate level the written work of the students should have integrity in the sense that it faces the problems proposed squarely and without equivocation. It is essential that they learn to (a) narrow the scope of a subject to fit the length required, (b) prepare the material in outline form, (c) to construct paragraphs suitable for the beginning, middle and end of an essay and (d) use language correctly and forcefully.

To write anything in a limited number of words is very difficult for most of the students. They almost always exceed the prescribed length. While the ideas are not many, the sentences are too many. Brevity and concreteness are lamentably missing in their writings. They must pay more attention to simplicity, economy and precision.

Again very few students begin their composition with an outline and hence paragraphing is very haphazardly done. An outline would enable one to arrange their ideas in proper order and co-ordinate the ones that go together. It is also a check on one's tendency to stray from his subject.

PARAGRAPHING.

Paragraphs should be written on the basis of the outline. Each paragraph should have a consistent point of view. It must be organized within itself. Every paragraph should flow from the preceding one into the one following it. Repetition of ideas and phrases must be avoided. There must also be a pleasing variety in the length and structure of sentences used, viz., the paragraph should not consist of a series of loose

ANNA'S ENGLISH

The English Professor, was one day struck by the wealth of new ideas and facts in Anna's essay. He doubted whether Anna had copied some work and he enquired Anna. Anna told the Professor that the essay was an original one containing his own ideas and facts. And the Professor, wonder-stricken, was all praise for Anna.

or periodic sentences. There should be a good blending of all varieties of sentences. This would break monotony. For a paragraph to be effective, every word must pull its weight in every sentence in it. There should be no vague expressions, straggling sentences and stock phrases.

PUNCTUATION.

In punctuation, only the full stop and the question mark are used fairly correctly by all. The most difficult stop is the comma and many mistakes spring from the misuse of this stop. The use of this can be taught well through passages where this is used well. It should also be made clear that the current practice is to keep punctuation marks at a minimum.

THE HALLMARK OF STYLE.

Many students think that style is a detachable thing, a sauce that may be added to a dull dish. Brooks and Warren say in their book, "Fundamentals of Good Writing", "The style of a work is not a veneer glued over the outside. On the contrary, it is like the pattern of the grain in a piece of wood. It is a pattern that goes all the way through a manifestation of the growth and development of the structure itself".

The student must be told that any approach to a good style should be by way of simplicity and sincerity. Accuracy, precision, grace and ease add to its beauty and effectiveness. It is profitable to emulate the style of modern writers like Maugham, Stephen Spender, Priestley, Huxley, etc. A passage by one of these writers may be given and the student asked to write in similar style on a different subject. Such exercises will make them sensitive to good English and help them acquire a reasonably good style.

K. SUBRAMANIAN.

[Courtesy: "Educational Quarterly."

The Tamil Nadu Industrial Investment Corpn., Ltd.

The Tamil Nadu Industrial Investment Corporation is sponsored by the Government of Tamil Nadu to provide all types of financial assistance to industrial units in the State of Tamil Nadu and Pondicherry. The financial assistance is given to all types of units including proprietary, partnership and Joint-stock companies. Special schemes have been framed to help Technocrats and Rural Medical and Veterinary Practitioners. Concessional terms have also been offered to backward areas and backward districts.

The terms and conditions of assistance

Minimum: Rs. 1,00,000 (for small-scale industries : Rs. 25,000).

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7 per cent in the case of units in backward areas and for Technocrats and Rural Medical and Veterinary Practitioners.

8½ per cent in the case of other small-scale industries.

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Up to 4 years in the case of units in backward districts.

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NATIONAL AWARDS FOR INVENTIONS

AND IMPORT SUBSTITUTES

AWARDS FOR INVENTIONS

Inventions Promotion Board, New Delhi, has announced Independence Day awards for meritorious inventions and pioneering work of our technologists and industrial workers at development of import substitutes. Fifty inventors have been awarded a total of Rs. 31,000 and Certificates of Merit for twenty-three meritorious inventions; the highest award of Rs. 5,000 going to an engineering couple from Bombay, Smt. S. A. Bhagat and Shri A. S. Bhagat for their invention 'Unishear Connector for Quadricon Pre-fabricated Jointing Members' for fabricating structures like bridges, girders, towers, cranes, etc. The highest award of a gold shield for import substitution is given to Messrs. United Phosphorous, Ltd., Vapi, Gujarat, for pioneering contribution in developing indigenous know-how and plant for the production of red phosphorous, a strategic material for match and pesticides industry. In all, 21 organisations and 29 individuals have been awarded a total of Rs. 19,500 in cash, gold shield, one silver shield, 16 bronze shields and 7 Certificates of Merit for development and manufacture of 23 items which were being imported hitherto. Other important items awarded are an 'improved cerebrospinal fluid shunt valve' by Dr. P. Upadhyaya of A.I.I.M.S., New Delhi; 'Intra Ovarian Injection Device for Sterilization of Unproductive Cattle' by Central Drug Research Institute, Lucknow; 'Smoke Meter' by I.I.T., Madras; 'Areca nut De-husking Machine' by Shri B. N. Bhat of South Canara District; 'Numbered Door locking Device' by Shri Sathe of Khemgaon and 'Ultrasonic Sensing Device' by Dr. Bindal of National Physical Laboratory.

Inventions Promotion Board was established in 1960 to generate a climate for innovative effort in support of the national objective of techno-economic self-reliance and to harness the creative talent of scientific and technical personnel working outside the institutionalised R. & D. centres and industrial workers. Amongst its multifarious promotional activities the Board grants financial assistance up to Rs. 25,000 for patenting and development of new innovations which promise utility to industry and

society. The Board also gives awards upto Rs. 10,000 in cash and Certificates of Merit for accomplished inventions whose techno-economic viability and utility has been adequately testified. The awards for import substitution are given for pioneering work at developing substitutes for items hitherto imported, to individuals, groups of individuals, institutions and industrial organisations in the form of cash awards ranging up to Rs. 25,000 or gold, silver or bronze shields or certificates of merit depending upon the quantum of foreign exchange saved, indigenous know-how utilised, R. & D. effort involved in development of the product and consumer acceptance. The awards are announced twice a year on the eve of Independence Day and Republic Day. The Board also runs an All-India Essay Contest and All-India Inventions Talent Competition to engage the attention of the student community towards creative effort for which cash awards up to Rs. 1,500 are given.

Since last year, the Board has launched several new schemes to stimulate innovative effort amongst the unorganised sector of scientific and technical community which include assisting award winners to get loans from nationalised banks for commercialisation of their awarded innovation, sponsor research and development on behalf of trade and industry. Since its inception the Board has sanctioned financial assistance for patenting and development of 346 promising inventions; 325 inventions have been awarded a total of Rs. 3.7 lakhs and 157 items of import substitutes have been awarded a total of Rs. 2.1 lakhs besides 4 gold shields, 24 silver shields and 44 bronze shields.

Details of the inventions and import substitutes awarded on the eve of this year's Independence Day are as under :

1. Srimathi S. A. Bhagat and Shri A. S. Bhagat of 68-B, Woollen Mill Lane, Dadar, Bombay-28, are jointly awarded Rs. 5,000 for their invention "Unishear Connectors for Quadricon Pre-fabricated Jointing Members" for erecting structures like bridges, crane structures, girders, towers, etc. The heart of the invention is a simple forged lapping joint which takes the entire load on the pre-fabricated light weight triangular structural member that enables quick assembling of a structure.

2. Dr. A. B. Kar and Shri S.N. Chatterjee and Khalil Ahmed of Central Drug Research Institute, Lucknow, are awarded Rs. 1,000 each for developing "A Device for Intra Ovarian Injection in Large Animals". By using this device the uneconomical and unproductive cattle can be sterilized with a view to controlling population of inferior breed of cattle.

3. Dr. S. C. Sen of 113-226, Swarup Nagar, Kanpur-2, is awarded Rs. 2,000 for developing and implementing his technique of "Pre-harvest Maturity Test" in sugar industry. By adopting this technique the sugar out-put is increased considerably benefiting the industry as a whole.

4. Shri Shubhashis Bhattacharyya of Union Carbide (India), Ltd., Carbon & Metal Division, P. O. Box 2170, Calcutta-1, is awarded Rs. 2,000 for developing "A Process for Utilising Indigenous Rock Phosphate in the Production of Cast Iron Spun Pipes by Centrifugal Casting in Metal Moulds".

5. Shri D. R. Baxi and Shri M.C. Modi of Central Salt and Marine Chemicals Research Institute, Bhavnagar, are jointly awarded Rs. 2,000 for developing a process for the manufacture of "Potassium Carbonate and N. K. Fertilizer" using iron-exchange technique.

6. Dr. M. S. Iyengar and Shri P. R. Baruah, B. P. Chaliah and

S. B. Lodh of Regional Research Laboratory, Jorhat, are jointly awarded Rs. 2,000 for developing a process for the production of "Grease Proof Paper" from the waste material of jute industry known as "Jute Caddis".

7. Dr. J. N. Nanda, Dr. B. Sanyal and Sarvashri T. K. Grover and G. C. Gupta of Defence Research Laboratory (Materials), Kanpur, are jointly awarded Rs. 2,000 for developing "A Chemical Composition for Cleaning the Gun Barrels After Use". By using this composition, cleaning of the barrels is much easier and less time consuming than the present mechanical-cum chemical process.

8. Dr. D. Sanyal, Sarvashri D. P. Sinha and S. K. Sanyal of Defence Research Laboratory (Materials), Kanpur, are jointly awarded Rs. 1,500 for developing "A Chemical Composition to Prevent the Formation of Scale on Injector Cones of Steam Locomotive".

9. Dr. H. V. K. Udupa, Dr. M. S. Venkatachalapathy and Shri R. I. Kanakam of Central Electro-chemical Research Institute, Karaikudi-3, are jointly awarded Rs. 1,500 for developing a process for making "Succinic Acid from either Fumaric Acid or Maleic Acid" by electro-chemical method.

10. Dr. B. S. Murthy and Sarvashri K. V. Gopalakrishnan, R. G. Narayanamurthy, M. Sivaswamy, S. Ganapathy Subramaniam and B. N. Somasekhara of Indian Institute of Technology, Madras, are jointly awarded Rs. 1,500 for their invention "Smoke Meter", intended mainly to monitor smoke emissions from automobile vehicles and thereby help in controlling atmospheric pollution.

11. Shri Mohan Lal Verma of 17, Indira Colony, Bani Park, Jaipur-6 (Rajasthan), is awarded Rs. 1,000 for his invention "Automatic-Feeding Device", a mechanism for feeding the balls automatically to the "Shaker" Hearth Furnace by the strokes of hearth plate of the furnace itself moving to and fro in it.

12. Shri K. J. Pherwani, Superintendent, Machine Shop, Larsen and Toubro Limited Powai Works, Bombay-72, is awarded Rs. 1,000

for his invention "Grooving Tool" especially designed to cut grooves on large diameter machine members.

13. Shri B. N. Bhat P. B. No. 10, Puttur, South Kanara District Mysore State, is awarded Rs. 1,000 for his invention "Arecanut Dehusking Machine". It comprises of two rotary hard rubber wheels rotating in opposite directions. Because of their being elastic, the rubber wheels peel off the husk from the nut without causing any damage to the nut, thus ensuring better yield both in quantity and quality.

14. Shri S. Prakash, Shri P. Nandakumaran, Shri V. Chandrasekaran Shri V. H. Joshi and Shri H. C. Dhiman of School of Research and Training in Earthquake Engineering, University of Roorkee, Roorkee, are jointly awarded Rs. 1,000 for their invention "Oscillatory Shear Box". The apparatus is used for studying the dynamic behaviour of soils during vibrations.

15. Shri D. L. Amore of M/s. D. L. Amore & Co., Cecil Courts, Landsdown Road, Apollo Bunder, Bombay-1, is awarded Rs. 1,000 for developing a chemical composition and disposable cleaning and polishing paper for cleaning and polishing of the glass, gramophone records and allied materials.

16. Shri S. S. Sapor of Steelmet Industries, 327, Ghorpade Peth, Poona, is awarded Rs. 500 for his invention "Tail Stock Turret". This turret provided with easy means of indexing makes it possible to use as many as five different tools as against only one conventionally mounted on the tail stock.

17. Shri Balram Singh of Messrs. Shanker Hume Pipe Company Dalmia nagar (Bihar), is awarded Rs. 500 for developing a technique of utilising cement concrete pipes as septic tank which will provide better sanitation.

18. Shri K. G. Bhat of Enmakaje Village, P.O. Perla, Kasargod Taluk, Kerala State, is awarded a Certificate of Merit for his invention "Swinging Sprayer with Stirring Arrangement". The novel feature in this equipment is that the mixture is agitated before spraying by directing a current of compressed air at it.

19. Dr. M. A. Pai, Sarvashri N. K. Buzruk, R. N. Paul and G. V. Potnis of National Chemical Laboratory,

Poona, are awarded Certificates of Merit for developing a process for the recovery of anhydrous pyridine basis from their aqueous solution.

20. Shri Guriqbal Singh Hunjan, a Pre-medical student of Qr. No. 1674 (F-32), Netaji Nagar, New Delhi-23, is awarded a Certificate of Merit for his invention "Cylindrical-Spherometer", an improved device for measuring radius of curvature of cylindrical or spherical surface, etc.

Import Substitution Awards.

1. Messrs. United Phosphorous Private, Limited, Vapi (Gujarat), are awarded a Gold Shield for their pioneering contribution in developing indigenous know-how and plant for the production of Red Phosphorous, a strategic material for match and pesticides industry. The item has already saved Rs. 25 lakhs worth of foreign exchange and in the course of next few years, the foreign exchange saving would be of the order of Rs. 1 crore annually.

2. Messrs. Bombay Textile Research Association, Lal Bahadur Sastri Marg, Bombay-86, are awarded a Silver Shield for indigenous development of a process for the partial substitution of Sodium Hydrosulphite in Vat Dyeing. This process has been gainfully utilised by various textile mills leading to substantial savings in foreign exchange.

3. The Chief Inspectorate of Electronics (D.G.I.), Hebbal P.O., Ministry of Defence, Bangalore-6, is awarded a Bronze Shield and their scientists Major T. S. Chowdhary and Shri G. S. Pillai jointly Rs. 4,000 for their pioneering contribution in developing indigenously Bothway Selector for use on controller Gear Box for Armoured Vehicles for defence use.

This development has already saved Rs. 80,000 in foreign exchange and is likely to save Rs. 2 lakhs annually.

4. Central Mechanical Engineering Research Institute, Durgapur-3, District Burdwan (W. Bengal), are awarded a Bronze Shield and its scientists, Sarvashri Chandrasekhar Kholia, Jayadev Madgula, Krishna Gopal Kushari, Vasant Govind Nene and Mathews Pattalattu, are collectively awarded Rs. 3,000 for developing a Commercial Creep

Testing Machine. The machine is simple to operate and has an accurate loading system.

As against the price of Rs. 27,000 of the imported machine, this machine is expected to cost Rs. 10,500 indigenously when produced commercially. The development is expected to save about Rs. 10 lakhs in foreign exchange annually.

5. All India Institute of Medical Sciences, Ansari Nagar, New Delhi, are awarded a Bronze Shield and their Dr. P. Upadhyaya, Associate Professor in-charge, Department of Paediatric Surgery, is awarded a sum of Rs. 2,500 for the development of an Improved Cerebrospinal Fluid Shunt Valve used in the treatment of hydrocephalus, a disease by which many children are rendered blind, mentally retarded or physically handicapped. The cost of indigenous product is Rs. 30 compared to the imported price of about Rs. 500 to Rs. 1,100 in foreign exchange.

The development is likely to effect a saving of about Rs. 2 lakhs annually in foreign exchange besides curing many children.

6. Indian Institute of Technology, Madras, is awarded a Bronze Shield and S/Shri Dr. B. S. Murthy and K. V. Gopalakrishnan of Indian Institute of Technology, Madras and Shri R. Ramamoorthy of Mechanical Engineers, 74, M. K. N. Road, Madras-32, are collectively awarded Rs. 1,500 for development of A Torsional Vibration Damper for automotive Diesel Engines.

7. Defence Electronics Research Laboratory, R. & D. Organisation, Ministry of Defence, Chandrayanagutta Lines, Hyderabad-5, are awarded a Bronze Shield and their scientists, S/Shri G. Ramachandran, A. R. Thandavarayan and C. Ramakrishna, Rs. 1,500 jointly for their pioneering contribution in indigenous development of "V.H.F." Ground Plane Antenna.

This development has already saved Rs. 90,000 in foreign exchange and is likely to save Rs. 30 lakhs annually.

8. Messrs. National Instruments and Ophthalmic Glass Limited, 1/1, Raja Subodh Chandra Mullick Road, Calcutta-31, are awarded a Bronze Shield and their Design

and Development Engineer, Shri B. B. Sarkar, Rs. 1,000 for their pioneering contribution in the indigenous development of Optical Measuring Instrument for Horizontal Boring and Milling Machine. The device provides more precise setting for machining in modern sophisticated machine tools.

This development has already saved Rs. 1,00,000 and is likely to save Rs. 25 lakhs per annum.

9. National Physical Laboratory, Hill Side Road, New Delhi-12, are awarded a Bronze Shield and their scientist, Dr. Vishwa Nath Bindal, Rs. 1,000 for their indigenous development of Ultrasonic Sensing Device. This device has many industrial applications for automation and remote control.

This development has already saved Rs. 5,000 in foreign exchange and is likely to save Rs. 1½ lakh annually.

10. Messrs. Harish Industrial Engineers of 19, Parsi Panchayat Road, Andheri East, Bombay-69 (A.S.), are awarded a Bronze Shield for their development 'Harish Hydraulic Variable Speed Gear' which consists of a power driven hydraulic pump supplying pressurised oil to the hydraulic motor both mounted integrally. Output speeds ranging from '0' to the maximum can easily be obtained by simply controlling the flow of the fluid by a suitable handle.

The development has so far saved about Rs. 80 lakhs and is estimated to effect a saving of Rs. 10-12 lakhs in foreign exchange annually.

11. Messrs. Mukund Iron and Steel Company Limited, Lal Bahadur Sastri Marg, Kurla, Bombay-70, are awarded a Bronze Shield for development of Zircon Nozzles of different diameters used in the continuous casting of steel.

The item has already saved foreign exchange of more than Rs. 1 lakh and it is likely to save more than Rs. 2 lakhs annually.

12. Messrs. Century Bayons, Kalyan, District Thana, are awarded a Bronze Shield for motivating indigenous development and successfully utilising of the scheme Modifier (Ethomin C-25 Type) Dope Type. In addition. Certificates of

Merit are awarded to Messrs. HICO Products Private Limited and Messrs. Dai-Ichi Karkaria Private Limited, of Bombay for developing the above product.

The item has already saved foreign exchange of Rs. 4 lakhs and it is likely to save approximately Rs. 7 lakhs annually in the near future.

13. Central Salt and Marine Chemicals Research Institute, Bhavnagar, is awarded a Bronze Shield for their pioneering contribution in developing know-how for manufacture of Agar-Agar from Indian Sea weeds.

Messrs. Cellulose Products of India Limited, P.O. Kathwada, Maize Products, Ahmedabad, are also awarded a Bronze Shield for the development and manufacturing independently Agar-Agar from Indian Sea Weeds for the first time in India.

The product has already saved more than Rs. 4 lakhs of foreign exchange and annual saving of Rs. 6 lakhs are expected in the near future.

14. Messrs. T. Maneklal Manufacturing Company Limited, Vaswani Mansion, Dinshaw Vaocha Road, Post Box No. 11068, Marine Lines, Bombay-20, are awarded a Bronze Shield for their pioneering efforts in the indigenous manufacturing of Expansion Joints which are generally used in power plants and chemical industry.

The item has already saved Rs. 5 lakhs in foreign exchange and is likely to save Rs. 12 lakhs annually within next ½ year.

15. Sarvashri Dilip Kumar Mitra and Kalidas Banerjee of Messrs. Andrew Yule and Co. Limited, 8, Clive Row, Calcutta-1, are jointly awarded Rs. 3,000 for their contribution in indigenous development of "6 Way Process Timer Unit" The device is useful for Petochemical Industries, Sugar Machinery, Tyre Factories, Plastics and Fertilizer Industries.

This development which is now being marketed by Messrs. Andrew Yule & Co., Ltd., is likely to save Rs. 1.5 lakhs in foreign exchange annually.

16. Dr. N. V. Desai and Dr. V. J. Daftry of Messrs. Bharat Laboratory, 534, Sand-Hurst Bridge, Bombay-7, are jointly awarded Rs.2,000 for developing and manufacture of Blood Type Serum Anti-D.

This development is giving a saving of more than Rs. 3 lakhs in foreign exchange annually.

17. Messrs. Heavy Electricals (I) Ltd., of Bhopal, are awarded a Certificate of Merit for developing "Mica-Folium Coil Wrapping Machine". The machine is used for the compact wrapping and simultaneous curing of insulation around the slot length of stator or rotor coils of traction machines. The

cost of the indigenous machine is Rs. 30,000 as compared to Rs. 60,000 of an imported one.

18. Sarvashri M. A. Ganapathy, G. Gopalakrishnan, C. V. Subramanian, S. K. Gupta, R. C. Palta and S. K. Verma of Instruments Laboratory, Oil and Natural Gas Commission, Dehradun, are awarded Certificates of Merit for developing indigenously "Seismic Unit", useful in exploration of oil.

This development has already saved Rs. 1½ lakhs, and is likely to save Rs. 2½ lakhs annually.

19. Dr. V. G. Agnihotri of J. K. Synthetics, 3, Barakhamba Road, J. K. House, New Delhi and D. V. Parikh of C-45, Pandurang Wadi,

Military Road, Jahu, Bombay-2 are awarded Certificates, of Merit for development of a process making peracetic acid and its subsequent utilisation in Textile Industry as bleaching agent.

This development has already saved Rs.80,000 in foreign exchange.

20. Prof. N. C. Dey of 36, Dr. Sundari Mohan Avenue, Calcutta-14 is awarded a Certificate of Merit for developing of (a) Kahn Antigen, (b) Super Mount, which are useful for pathological laboratories, etc.

The item is likely to save Rs. 10,000 in foreign exchange annually.

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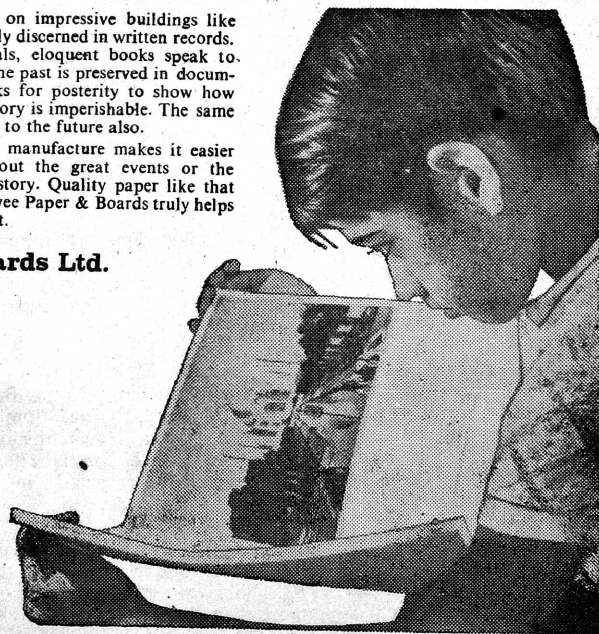
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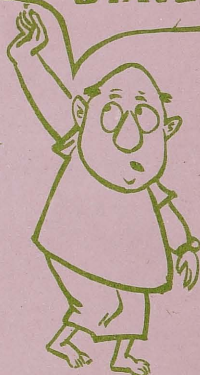
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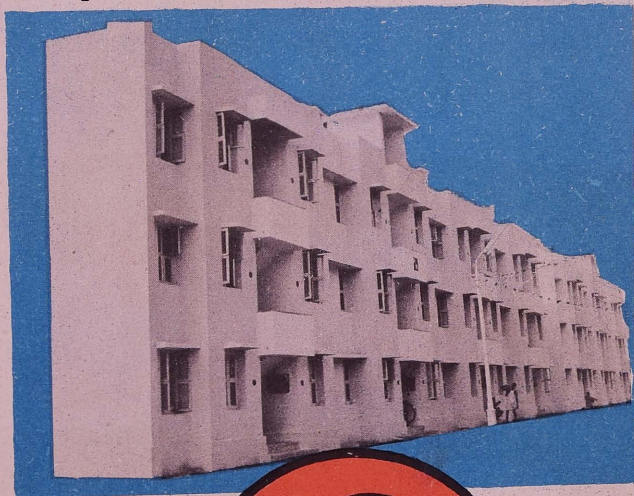
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