

Yojama

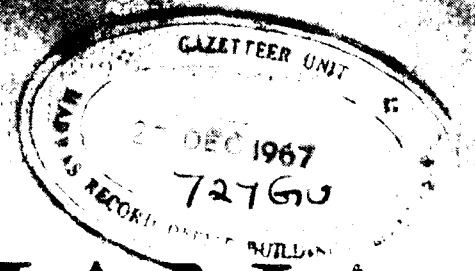
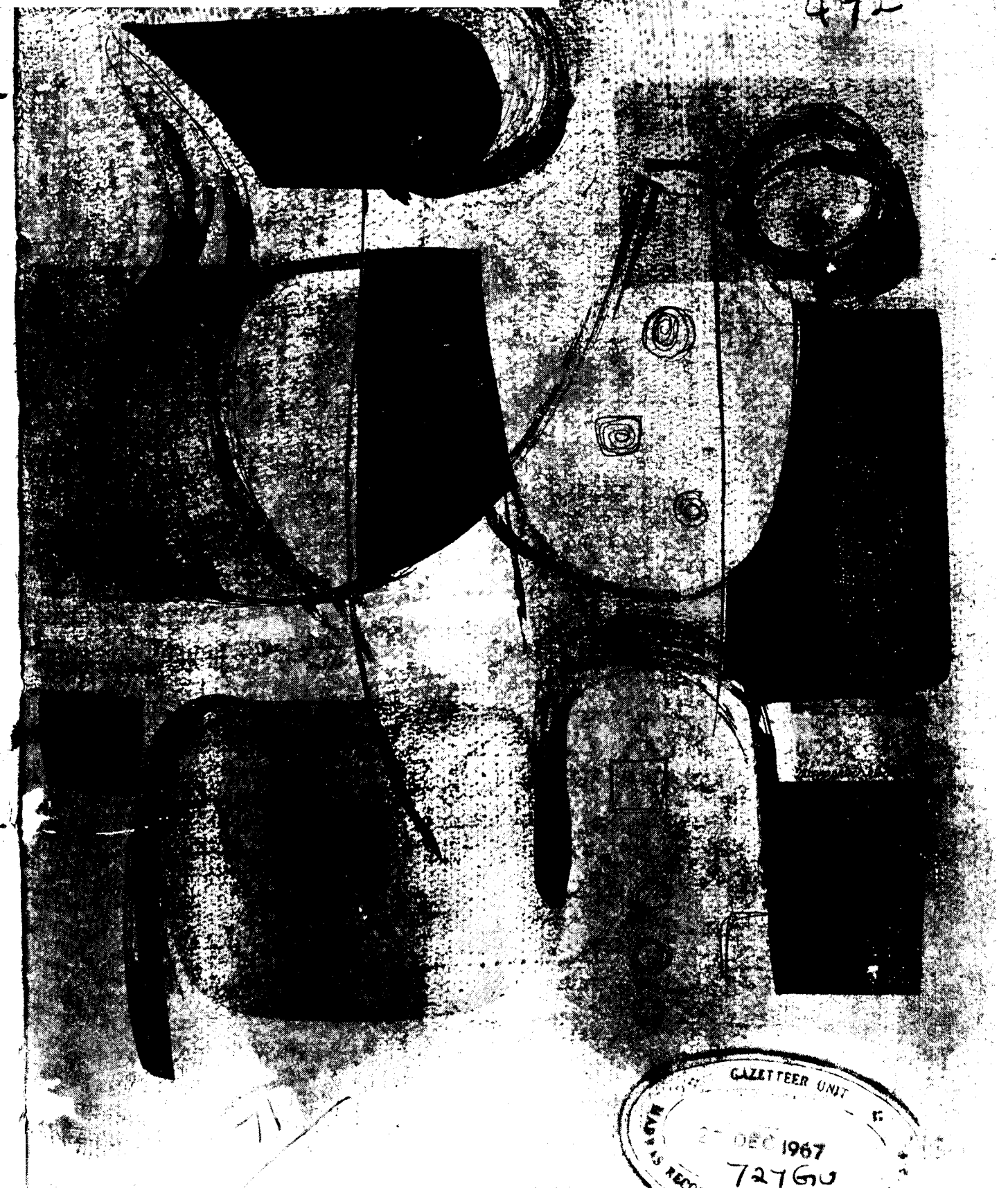
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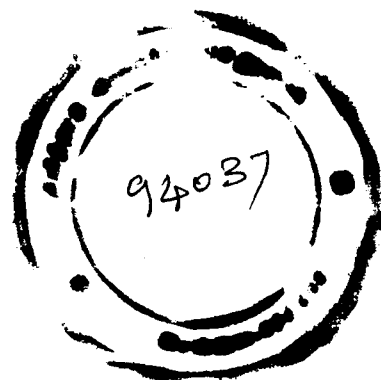
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ELEVENTH YEAR 23
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YOJANA



Better yield begins with better feed

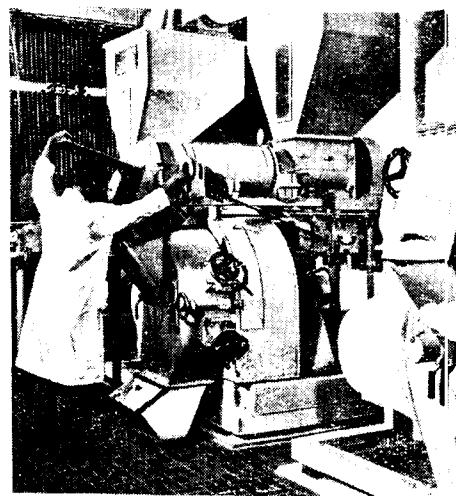
And Buhler makes better feed possible. Buhler feed milling plant scientifically processes mixed feed for cattle and poultry. Feed milling has several advantages:

- It makes a wide range of nutritive, balanced, mixed feed possible and results in a 50% increase in yield.
- Large scale feed milling reduces costs by utilising seasonal products, cheap materials and damaged grain.
- Prevents adulteration as feed is made in pellet form which is clean and simple to handle.
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Pellet Mill—part of the Buhler cattle feed plant.

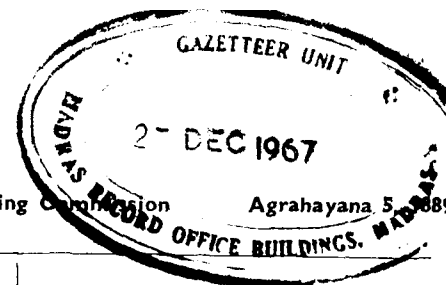
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Agrahayana 5



CORRECTIVE PLANNING

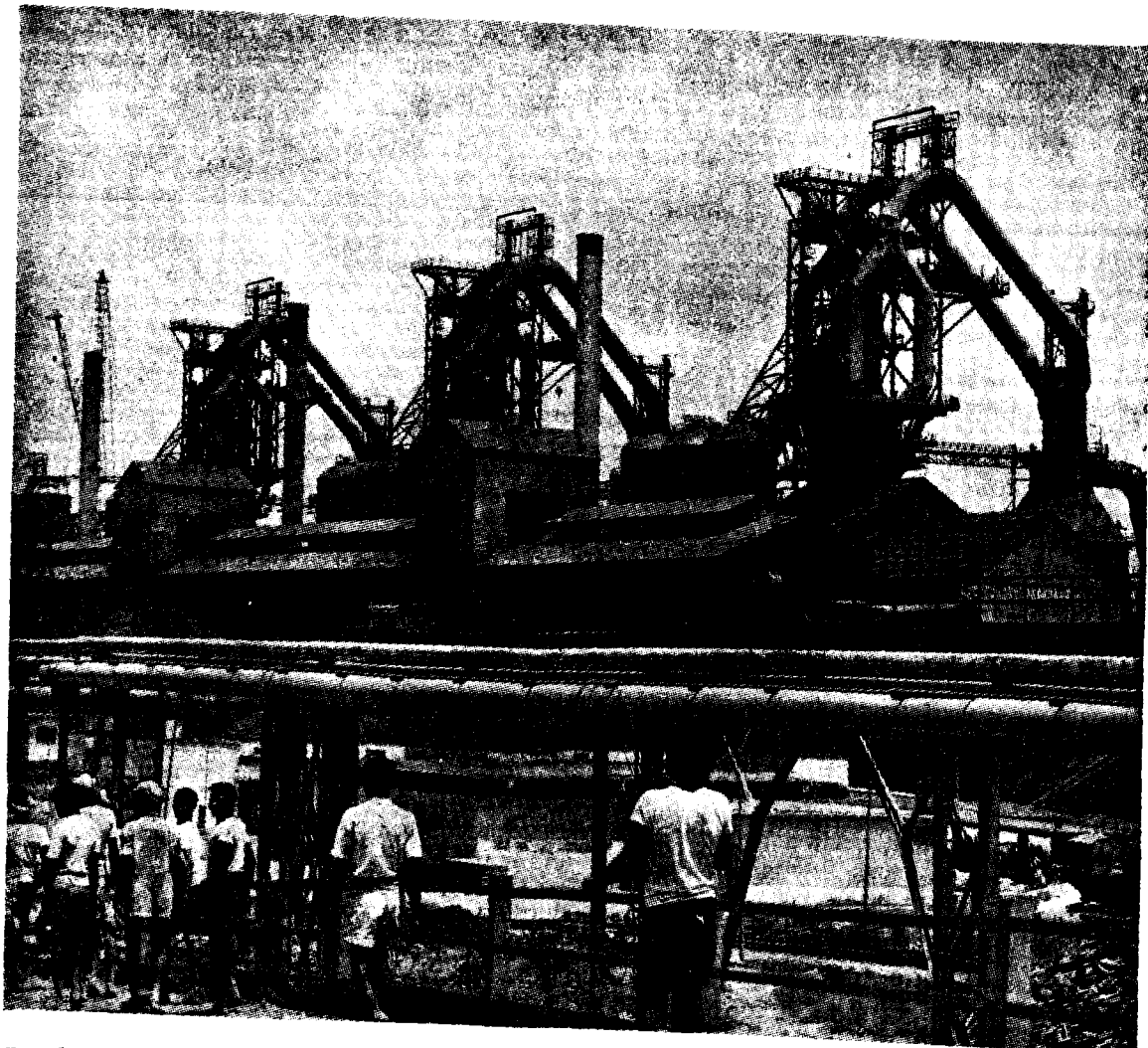
THOSE who have more than the usual passion for planning would view the operation of the Annual Plans in place of a Five Year Plan with a feeling of wrench. This is not surprising as our minds are attuned, thanks to that great doyen of Indian planning, Jawaharlal Nehru, to the idea of planning as a permanent feature in the economic development of the nation. To relapse to non-planning—even apparently—would give the impression that the concept of planned development is being devalued. This is not so. The decision to postpone the Fourth Plan was a heart-rending one, but also a realistic one. A look at the economic milieu which forced Annual Plans on us will bring out the reasons why.

The Third Plan had to pay the price of two wars forced on the country by China and Pakistan. The result showed itself in the very poor rate of growth during the Third Plan period. The drubbing our agriculture took in the last two years of unprecedented drought added to the unhappy situation. The cumulative effect of the Chinese aggression, the Indo-Pakistan conflict and the droughts unleashed forces of inflation. Prices rose sharply. Recession set in and industries began to languish. Wages rose in an unsuccessful attempt to catch up with increased cost of living. Deficit budgets inevitably followed. In these circumstances, when the economy was groggy, it would have been unrealistic to burden the country with yet another five year massive expenditure.

It is not to be supposed that the Annual Plan for 19

From Sanskrit, Steel, Mining and Farming Grows

A SILKEN BOND BETWEEN INDIA AND WEST GERMANY



Rourkela

The Multi-dimensional Story of Co-operation began with Max Muller. Modern Technology adds several Glorious Chapters.

INDO-GERMAN friendship, which is rooted in the past, is built upon the three pillars of cultural links, economic co-operation and political understanding. German interest in India is not a phenomenon of the 19th century only, nor is it a one-sided affair. Indeed it is an active and vital two-way exchange. German scholars and students in search of India's cultural heritage no longer dominate the scene. They are being out-numbered by Indian students and trainees learning in Germany the arts and crafts of the 20th

century. At present, about 1,400 Indians are studying in Germany and some 3,000 are being trained in industrial skills, making the Indian student population in Germany the third largest in any country of the world. At the same time, German interest in Indian art, dance and music is greatly on the rise and Indo-German societies have sprung up in all major German cities.

An entirely new phase of Indo-German relations began in 1958, when Germany joined the ranks of friendly countries giving developmental assistance to India. Though Germany is a relative new entrant in this field, in less than ten years, German capital assistance to India ranks second only to that of the US, and the scope of the aid programme has expanded tremendously. With credits amounting to over 400 crore DM (750 crore rupees) by August 1967, India received the major share of the financial assistance extended by Germany to the developing nations of the world. The bulk of German financial assistance is advanced on a 25-year basis, at 3% interest, with a grace period of seven years. More loans

have been given as non-project aid, i.e., as commodity credits for the import of raw materials, spares, and components. These "maintenance imports" bring almost immediate returns in the form of increased output and productivity and usually pay for themselves in a short time. A new feature, introduced in the 250 million DM (about 50 crore rupees) loan agreement of August 25, 1967, is the provision of substantial amounts of united commodity credits, which will enable India to finance imports of any items from any hard currency country of her choice.

The Rourkela steel and fertiliser plants, the alloy steel works at Bhadravati and the Neyveli mining, fertiliser and briquetting scheme are some of the more well-known projects financed with German assistance. There are others as well in the fields of coal and steel, railway and shipping, automotive and electrical industry.

Financial aid to India is supplemented by the technical assistance programme, which is extended free of charge. The biggest programme in this category is the Indian Institute of Technology in Madras.

Prototype Production Centre, Delhi

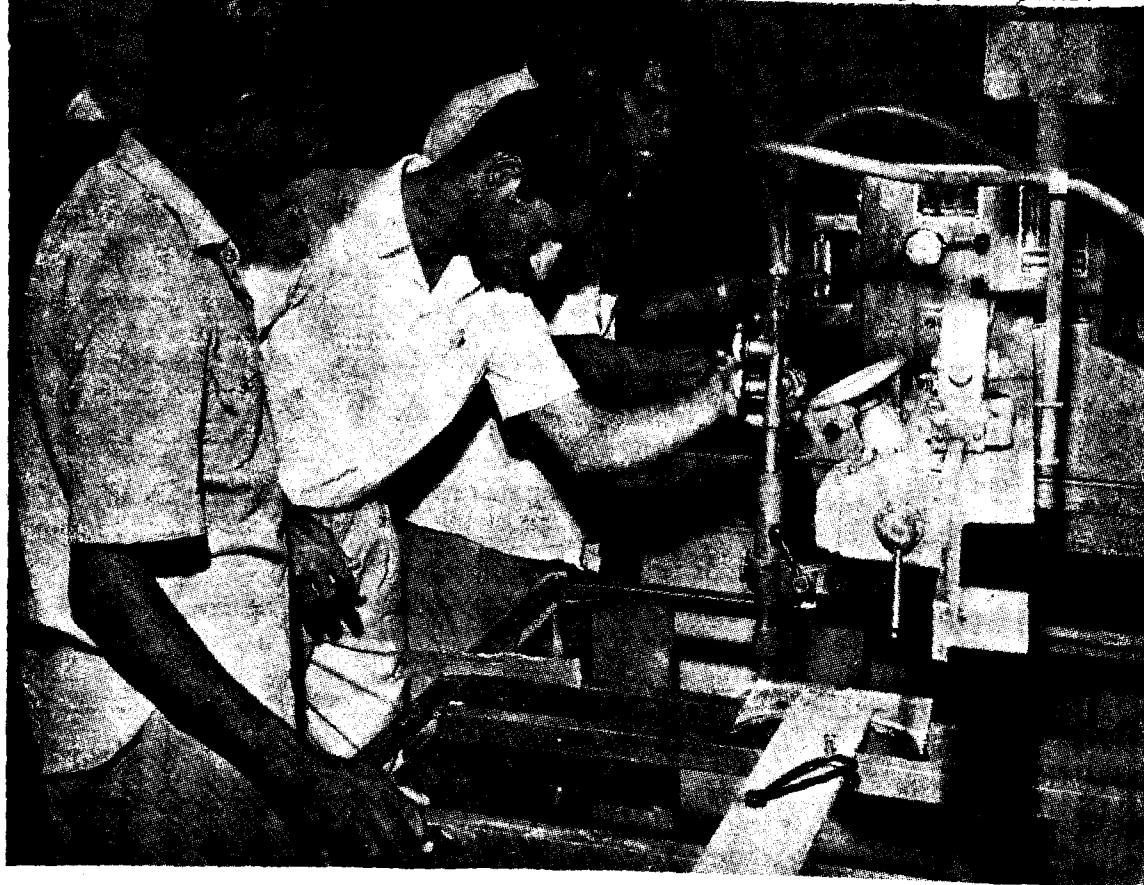


Run with a joint staff of Indian and German teachers and scientists, the institute is developing into one of the finest places of higher technical studies in the country. The Prototype, Production and Training Centre in Okhla near Delhi, the planned Central Staff Training and Research Institute at Calcutta, and the proposed school for Master Craftsmen at Bangalore are other centres for technical training which will eventually play an important role in promoting India's industrial development.

In the field of agriculture, the Package Programme at Mandi in Himachal Pradesh, is already bearing fruit. A few German agricultural experts working with Indian specialists, have succeeded in increasing agricultural output in the district by about 40% turning a food deficit into a surplus area in less than three years. The success of the project has encouraged India and Germany to extend it to the neighbouring Kangra, Sirmur and Kulu districts and to launch a similar programme in the Nilgiris.

ROURKELA CAPS IT ALL

WEST Germany's active participation in India's economic development began in 1958 with the signing of a loan agreement of Rupees 79 crore (at the then rate of exchange) to help finance the Rourkela Steel Works which were already under construction by a group of German firms. Although like any major industrial venture Rourkela had to go through a number of teething troubles and avoidable maladies in its earlier years, it has now grown into a wholesome industrial complex earning the highest profit among all the public sector steel plants



Young trainees at the Indian Institute of Technology, Madras

uses the nitrogen released in the production of oxygen for the LD-process of the steel works.

BHADRAVATI—FROM VISION TO MIGHTY REALITY

The Bhadravati Alloy Steel Plant in Mysore is another shining example of Indo-German collaboration. The factory, a major producer of alloy steels, has a romantic past. In 1923, the Maharajah of Mysore, on the advice of Sir Visvesvaraya, ordered the erection of a wood distillation by-product plant for the coking of wood from the Malnad forests near Bhadravati. Sir Visvesvaraya, aware of the unexploited iron ore deposits in Kemangundi, in the Bababudan Hills and of the possibility of using charcoal for iron-melting, got a small blast furnace included in the projects. This proved to be a farsighted decision. The initial output of this plant was a modest 60 tons a day, or 20,000 tons of pig iron a year. But even this small quantity was more than the need of the country at that time. A ready market for the surplus was found in the USA. The

capacity of the furnace was soon expanded to 80 tons a day and a foundry for the casting of pipes was added.

In 1936 the German firm of DEMAG was given the contract for the expansion and conversion of the 13-year old iron works into a modern steel works with an annual capacity of 30,000 tons. For this purpose two 25-ton open hearth furnaces, a rolling mill and a cement mill were added to the plant. Further expansion and diversification followed. In 1942 the company was the first in India to take up the production of ferro-silicon.

In 1960 the company's second major expansion programme began. The capacity of the works was to be increased by more than four times—to 130,000 tons per annum. While the work was under way, a new plan was proposed. The steel works was to be converted into an alloy steel plant utilising the entire new steel capacity for

the production of 70,000 tons of high grade and alloy steels a year.

Thus, it was felt, the country would have its first major producer of alloy steels, much before the completion of the planned special steel works of Durgapur. The Bhadravati plant would help the country achieve its target of independence from alloy steel imports by 1970.

In November 1963 a consultancy and licence agreement was concluded with the world renowned pioneers and makers of special steels, Messrs. Boehler & Company of Austria. The execution of the programme was again entrusted to DEMAG as general contractor.

Alloy steels are playing an increasingly important role in modern technology. From building to electronics, mechanical to nuclear engineering, automotive to aeronautical technology, special steels have become indispensable. It is estimated that a technically developed country needs high-grade steels in the amount of 6 to 10% of its consumption of ordinary steel. By 1970-71 India hopes to

achieve self-sufficiency in alloy steel. The annual production is then expected to reach half a million tons.

To meet the cost of expanding the steel plant's capacity from 30 to 130,000 tons the German Government enabled the Government of India to utilise a share of 13.8 million DM from a non project loan of 107 million DM. Later another 60 million DM credit was given by the German Government for converting it to an alloy steel plant. When early in 1965 additional plans for the expansion of the pig iron capacity of the works came up, the German Government sanctioned an additional credit of 13 million rupees for the purpose.

NEYVELI—A SUCCOUR TO HOUSEWIVES

THE Neyveli Lignite Corporation is yet another living monument to international technical co-operation between India and West Germany. The vast German experience in the exploitation of lignite deposits has found effective application in lignite mining project of Neyveli.

The extensive lignite deposits of the South Arcot district of Mad

scope and importance. Today there are training facilities for 400 apprentices and trainees in every sphere of activity at the centre, ranging from carpentry to stores handling, from data processing to the designing of machine tools. Some 1,500 have already completed their training and are employed in industrial enterprises throughout the country. The centre runs three-year courses for apprentices in the metal-working trades, two and one-year courses for workers from small-scale industries and graduates from technical training institutes, as well as courses for advanced technical draughtsmen, engineering college graduates, and supervisory personnel from small-scale industries. There are also courses for trainees from neighbouring countries under the provisions of the Colombo Plan.

One of the centre's popular units is its "common facilities service" for the use of small industries. Whether it is in the fields of design, testing and inspection, the making of tools, dies and other production aids, or in the execution of jobs relating to final products, the centre is ready to help wherever they are facing difficulties due to lack of machines, processing equipment and know-how.

While the Government of India financed and furnished all local facilities at the centre, the German Government provided the entire technical equipment. When the centre started operating in 1961, Germans worked together with Indians to establish the many courses and programmes and get the project off to a good start. There were 23 Germans on the staff. Their strength was then gradually reduced. From October 1966 only 3 German engineers remain.

Future plans of the centre envisage an expansion of the design and prototype activities and a speed-up of the work of the transfer scheme. The training facilities would also be further expanded.

PARTNERS IN PLOUGHING

LIKE many friendly nations, West Germany considers India's agricultural improvement to be of vital importance to her prosperity,

in fact of equal importance, if not greater than industrial development. The help that she has rendered to India in this field has been in the form of the services of experts and of the supply of agricultural inputs and implements. She participated in the Intensive Agricultural District Programme which includes the setting up of a number of agricultural pilot projects in which a concentrated effort of agricultural improvement is undertaken.

The projects make available through village co-operatives all requisites of production, especially: high quality seeds, fertilisers, plant pesticides, veterinary services and agricultural implements and machinery, provide adequate productive credits to all farmers through co-operative banks, and ensure a market for agricultural products through the co-operatives. The projects also provide intensive education to farmers by specially trained staff and by means of demonstration experiments on model farms.

The most fruitful example of West German participation in the programme is the Indo-German agricultural project in Mandi district in Himachal Pradesh. An Agricultural Advisory Centre was set up in Sundernagar, a place of some 6,000 inhabitants. It was equipped with modern technical facilities like a soil-testing laboratory, a processing plant for fruit and vegetables, a refrigeration plant, and a training and repair shop for agricultural implements and machinery. The centre today covers a farming population of 54,000, representing about 90% of the total population of the district. The services are extended at the village and block level (a block comprises 100 villages) and also incorporate the training of future Indian village advisers.

Today 37,000 farmers, corresponding to about 60% of the total, are members of the newly founded co-operatives. New and improved methods and techniques have been readily accepted. Food production and agricultural incomes have risen appreciably. Last year's grain imports into the district, for instance, amounted to only 3,000

tons as against 16,000 tons in 1963-64. The project's success has prompted its extension to neighbouring districts and to other States. Thus centres have been opened now in Kangra, Sirmur and Kulu Districts and in the Nilgiris in the South. At Nilgiris, apart from the growing of potatoes, temperate-zone vegetables, and fruits, the German experts will also be able to give advice on the cultivation of tropical crops like paddy, tapioca and cocoa. A special feature will be the introduction of power-tillers in the potato cultivation of the district. The compact, German-built machine is a kind of miniature tractor and can be operated even on the small terraced fields found in the Nilgiris. The usefulness of the machines will be demonstrated on the State seed farms and they will then be made available to interested farmers on a hire-purchase basis.

PRIVATE COLLABORATION'S MANY LARGE INDUSTRIES

IN the last two or three decades, Indo-German joint ventures have contributed in a large way to the industrialisation of India. Heavy and medium industrial plant, machinery and equipment, including the steel industry, account for the overwhelming bulk of the joint ventures. Among other industries are motors, chemicals, electrical equipment and textiles. Apart from these are agricultural implements and machinery, wood-processing, and some consumer goods industries. An illustration of Indo-German co-operation in the heavy industry



Mid-day meals at a Balwadi

Below : Mothers watching a baby being bathed by a worker at a welfare centre in Orissa



responsibility by, the local community and its leaders working through Panchayats, co-operatives and voluntary associations.

The co-operation of these various institutions is also essential at the district level and the State level, and, indeed, at the national level.

Co-ordinated Activities

The projects under the new programme will be significantly different from the existing ones in the following four respects:

(1) Family is envisaged as the basic constituent unit of the community. Accordingly a composite approach will replace the earlier fragmentary activities organised separately for each group like women and children. The Family and Welfare Projects will provide direct services for parents, specially mothers and children, both jointly and separately, and enrich the broader programme of community development so as to draw all members of the family within its beneficent influence more effectively.

(2) The new projects will provide an institutional base at the main centre so that various activities relating to family and child welfare will converge on and radiate from it. While the full-time salaried staff borne directly on the project budget will constitute the nucleus, it is envisaged that other functionaries in the block, such as staff connected with primary health centres, maternity and infant centres, the applied nutrition programme, family planning, women teachers, and social education organisers, will all together constitute a much bigger team working in concert and mutually reinforcing each other.

(3) In entrusting the organisational responsibility to a composite, jointly representative functional committee of the Panchayat Samiti and the State Social Welfare Board, the project will benefit from the support of the Panchayati Raj institutions on the one hand and the State Social Welfare Board on the other.

(4) With the closer and continuous involvement of the local

A Reorientation of Schemes for Children's and Women's Welfare



- (i) Provision of integrated social services to children in the villages, specially to pre-school children;
- (ii) Provision of basic training to women and to young girls in homecraft, health education, nutrition and child care of the essential health and maternity service for women;
- (iii) Assisting women in the villages, through Mahila Mandals and specially established centres as well as existing agencies, in obtaining supplementary work and income and thus augmenting family welfare and, more generally, for promoting economic activities; and
- (iv) Promoting cultural, educational and recreational activities for women and children.

At the block and village levels, the Family and Child Welfare Programme calls for:

- (i) Co-operation of Panchayati Raj institutions and agencies engaged in providing development services, including schools and primary health centres;
- (ii) Participation of voluntary workers, both from within and outside the block; and
- (iii) Active involvement on the part of, and assumption of

THE Family and Child Welfare Programme is primarily based upon the work already done in the previous three Plans for the welfare of rural women and children. At present there are the Welfare Extension Projects co-ordinated with Community Development blocks, centres of the Welfare Extension Projects run by Mahila Mandals and voluntary organisations, a few Integrated Child Welfare Projects and the usual activities for women and children in the C.D. blocks.

The main features of the programme are :

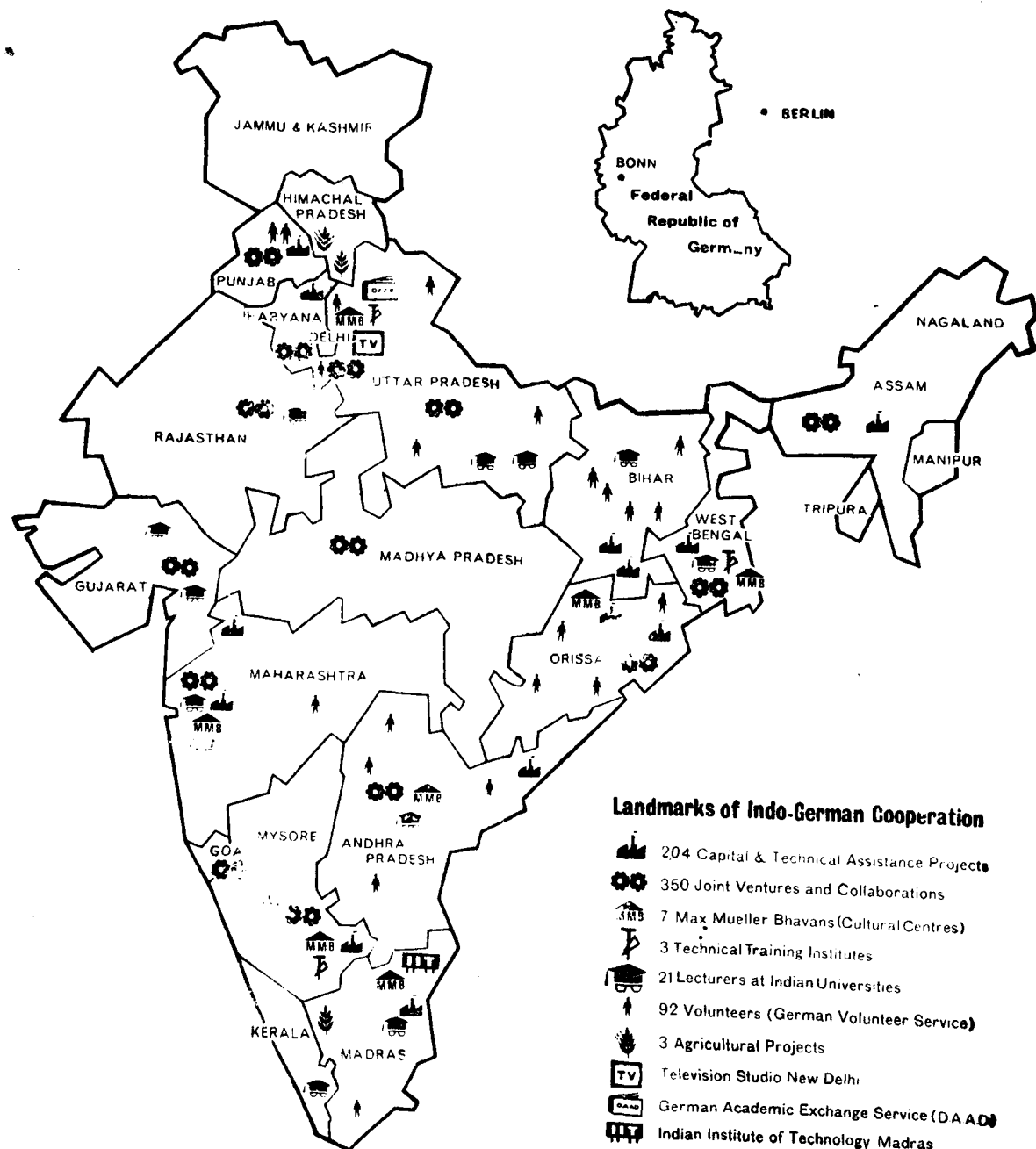
CHILD CARE BEGINS AT HOME

A NEW PROGRAMME LAUNCHED

An integrated programme of family and child welfare was launched on November 14 by the Central Social

people in the organisational machinery and with need-based programme organised in co-operation with each other, it is expected that the project will take roots in the local soil,

A Survey of Friendship



India and Germany—Partners in Progress



SPREADING THE TEMPER

B.S. PADMANABHAN

“THE dominating feature of the contemporary world is the immense cultivation of science on a large scale and its application to meet a country's requirements. It is this which, for the first time in man's history, has given to the common man in countries advanced in science a standard of living and social and cultural amenities which were once confined to a very small privileged minority of the population. Science has developed at an ever-increasing pace since the beginning of the century, so that the gap between the advanced and the backward countries has widened more and more. It is only by adopting the most vigorous measures and by putting forward our utmost effort into the development of science that we can bridge the gap. It is an inherent obligation of a great country like India with its tradition of scholarship, and original thinking and its great cultural heritage to participate fully in the march of science which is probably mankind's greatest enterprise today.”

These words were uttered not by any individual now but by the Government of India in 1958. Having said this, and something more, in the preamble to its Science Policy Resolution the Government had pledged itself “to foster, promote and sustain, by all appropriate means, the cultivation of science and scientific research in all its aspects—pure, applied and educational; to ensure an adequate supply, within the country, of research scientists of the highest quality and to recognise their work as an important component of the strength of the nation; to encourage and initiate with all possible speed,

programmes for the training of scientific and technical personnel on a scale adequate to fulfil the country's needs in science and education, agriculture and industry and defence; to ensure that the creative talent of men and women is encouraged and finds full scope in scientific activity; to encourage individual initiative for the acquisition and dissemination of knowledge in an atmosphere of economic freedom; and in general to secure for the

activity has developed has not given satisfaction. There is widespread feeling that science policy had not worked effectively, in the sense that what it sought to accomplish has not been accomplished. The national laboratories and the university research departments failed to make the impact expected of them. The reason is not far to seek. In getting for scientists good conditions of service and in associating them with formulation of policies much remains to be done.

This aspect was brought home by a number of participants at the Round Table of Scientists convened by the Prime Minister recently. Mrs Gandhi told the Round Table: “Under the inspiration of Jawaharlal Nehru, the Government had adopted the Science Policy Resolution in 1958 and there we have stopped.”

SOME PROBLEMS

people of the country all the benefits that can accrue from the acquisition and application of scientific knowledge. The resolution also expressed Government's decision to pursue and accomplish these aims by offering good conditions of service to scientists and according them an honoured position and by associating scientists with the formulation of policies.

LITTLE IMPACT

Has this pledge been fulfilled? A sincere beginning was made to foster cultivation of science on a large scale and the chain of national laboratories is evidence of this. But the direction in which scientific

There are many factors responsible for this. More than one participant at the Round

1961-62 to Rs. 268 lakh in 1966-67. In the

has set up a survey team to draw up a long-term road transport plan. In the past

STAY FIRST WITH MASSEY-FERGUSON



efficiency speaks through ITI intercommunication system

sive development of small industries in the rural areas.

A PUNJABI ENTRE

This large factory for Associated Bearing Company Limited, manufacturers of SKF bearings, was constructed in a record time of 18 months—in precast reinforced concrete. Large column free working space was achieved by using high strength controlled concrete. The roof consists of reinforced foam concrete slabs to lighten dead loads and improve thermal insulation.

A special feature was the design and fabrication by ECC of cranes and gantries particularly suited for the project.

Executing this and many such jobs well within the schedule time has earned ECC a reputation for speed and excellence in the field of civil engineering contracting—a reputation spelt out in the design and construction of the Modular Laboratory at Trombay, the Weaving Shed for Madurai Mills at Ambasamudram, Indian Overseas Bank building at Madras and so on.

For Associated Bearing Company Limited, ECC also constructed overhead water reservoir, sewage treatment plant, cooling tower, concrete roads, and other structures.

ENGINEERING CONSTRUCTION CORPORATION LIMITED

a wholly owned subsidiary of Larsen & Toubro Limited

A factory that has got to thrive on precision

Associated Bearing Company's factory building at Chinchwad: area—1,60,000 sq. ft. Canteen—26,000 sq. ft.

YOJANA

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Vol XI

No. 24

December 10, 1967
Agrahayana 19, 1889

This Fortnight

On Yojana's invitation leading Members of Parliament, distinguished economists and economic journalists have offered their comments on the decision to defer the Fourth Plan to 1969. Six of them appear on Pages 2 to 5.

Extracts from the Press comments on the postponement on pages 6-7.

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COVER designed by Jivan Adalja	

Yojana seeks to carry the message of the Plan, but it is not restricted to expressing the official point of view.

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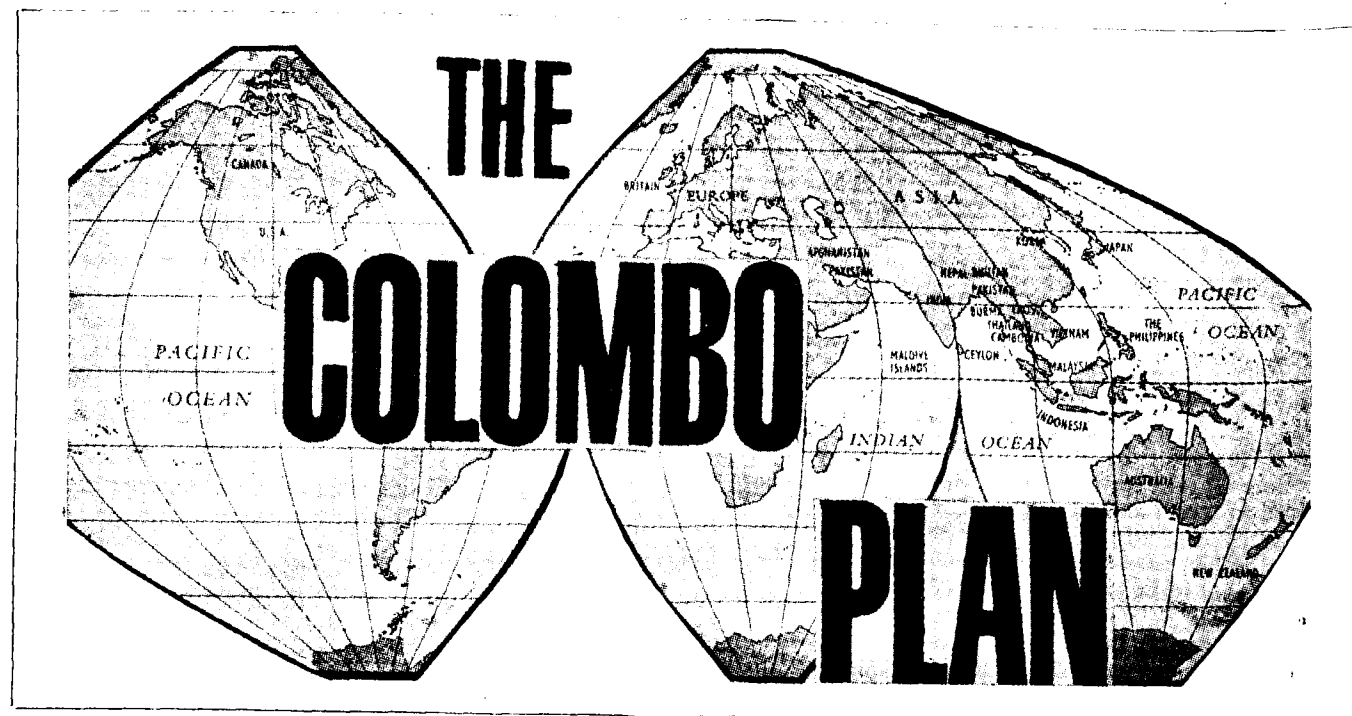
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A Yojana Symposium On PLAN POSTPONEMENT

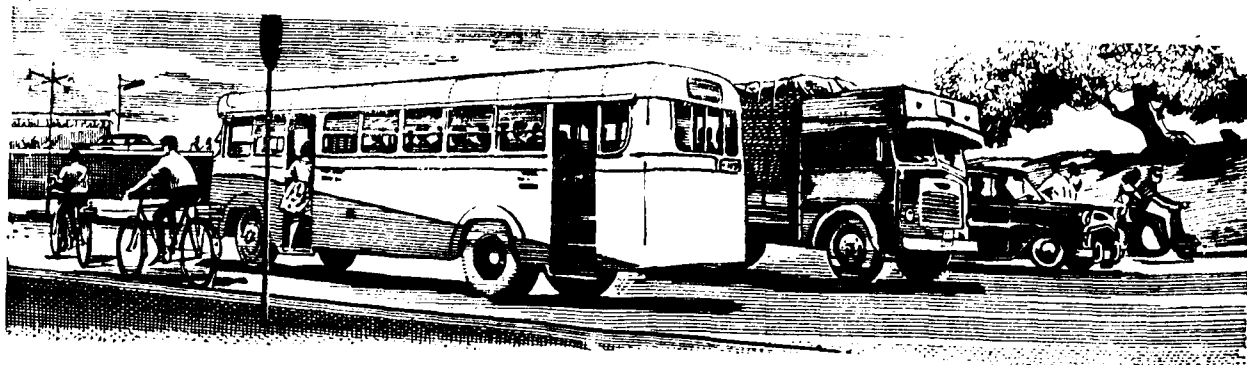
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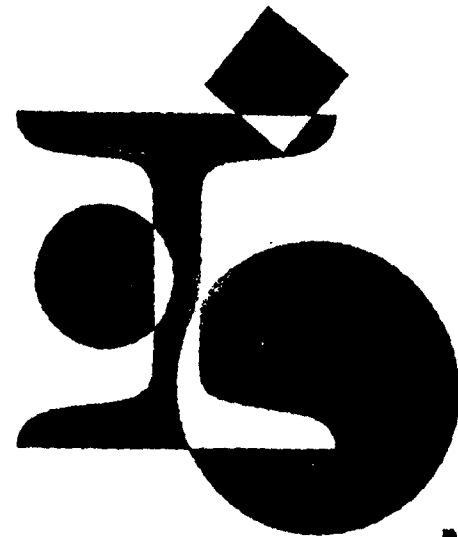
INEVITABLE



made to liberalise the terms and conditions of the aid and help in dealing with the problems

VILLIERS ENGINES FOR KNAPSACK SPRAYERS





**HEC-equipped
to cast and
forge items**

