Tribute to

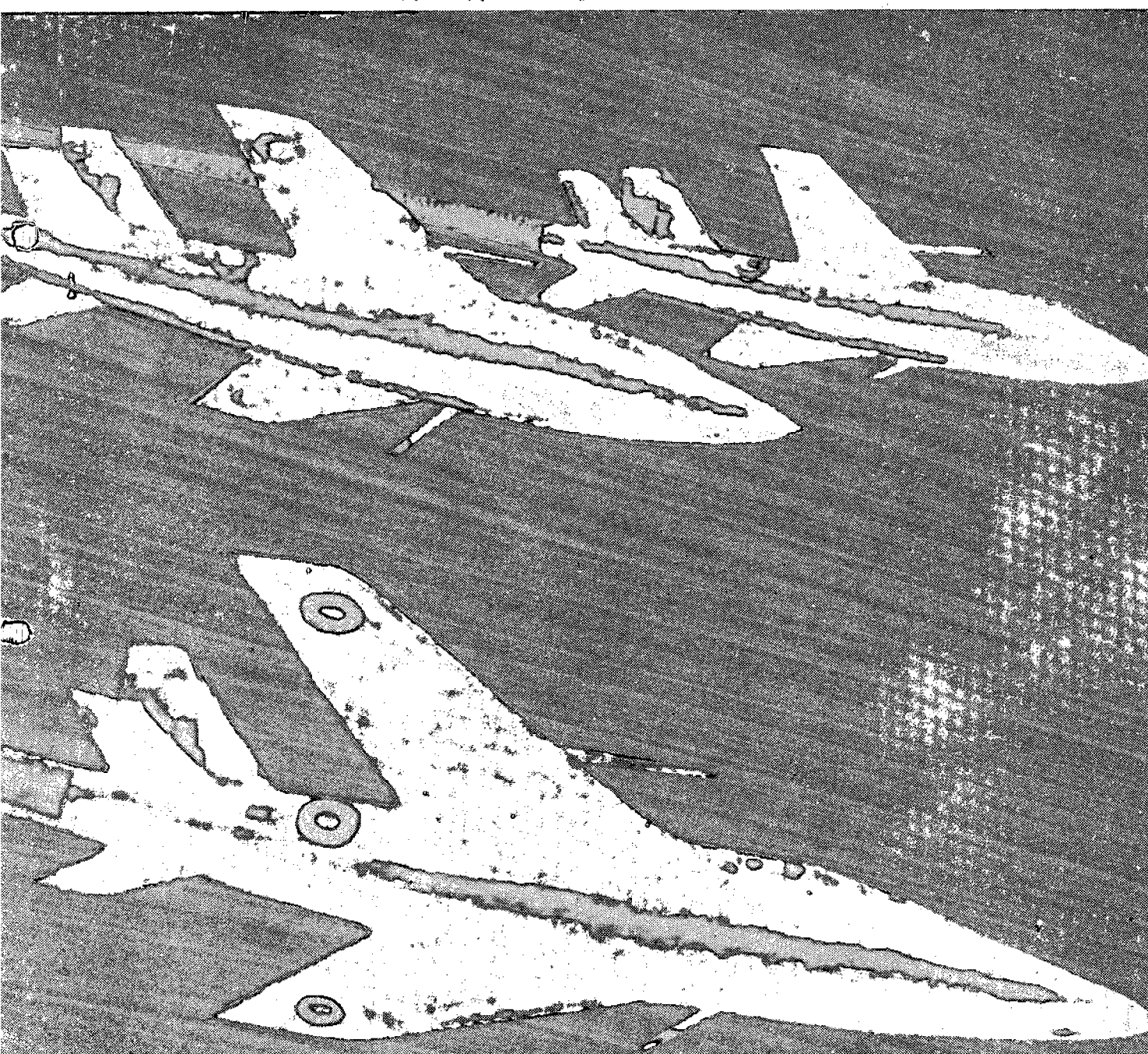
Le Corbusier

# YOJANA

25 PAISE

NINTH YEAR 19 September 26, 1965





## THE GNAT—MADE IN BANGALORE

## INDIA—PAKISTAN : Economies Compared

## ABOUT YOJANA

*Yojana* seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion of problems of social and economic development.

It is issued every other Sunday in two separate editions, English and Hindi.

The Advisory Board of the journal consists of the Minister of Information and Broadcasting, Minister of Community Development and Co-operation, Minister for Agriculture, Mr T. N. Singh, Mr Shriman Narayan, Mr Akshaykumar Jain, the Secretary, Ministry of Information and Broadcasting, and the Secretary, Planning Commission

Although published on behalf of the Planning Commission by the Ministry of Information and Broadcasting, *Yojana* is not restricted to expressing the official point of view.

*Subscription* : Annual Rs 5, single copy 25 paise. For subscribers abroad—annual 10s 6d or $1.50; single copy 6d or 7 cents.

The *editorial office* of *Yojana* is situated in Yojana Bhavan, Parliament Street, New Delhi-1. Tel. 33367 and 34380.

The *business office* is in the Publications Division, Old Secretariat, Delhi-6. All business inquiries are to be sent to the Business Manager at this address. Subscribers are requested to make remittance by postal order.

## IN THIS ISSUE



COVER, featuring Bangalore-built Gnat fighter aircraft, is by JIVAN ADALJA

YOJANA

Vol. IX No. 19 Fortnightly Journal Published on behalf of the Planning Commission Asvina 4, 1887

# TIME OF TRIAL

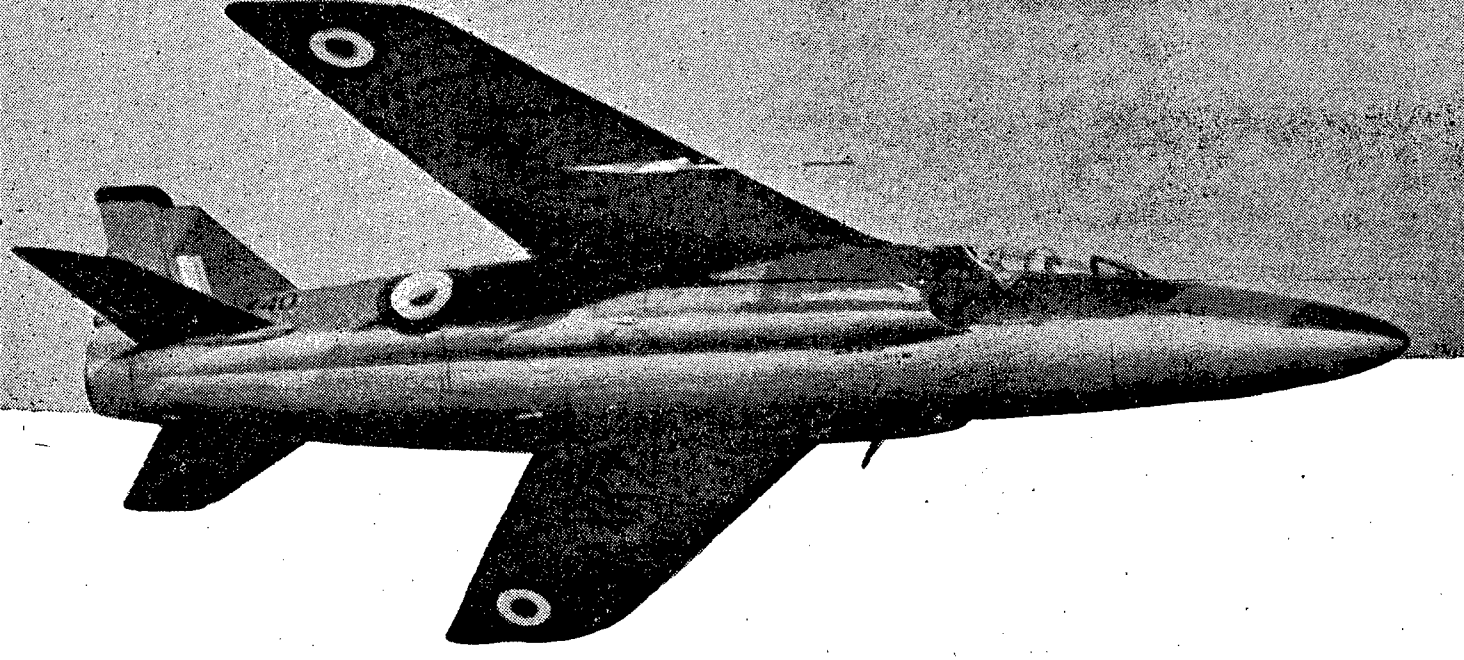
MAHATMA GANDHI, the apostle of non-violence, held that there was something greater than even non-violence, namely fearlessness. He would rather have violence than timid acquiescence in evil. The nation has been giving a magnificent demonstration of both fearlessness and readiness to stand up for the national ideals. As President Radhakrishnan observed in his broadcast, the ideals of our nation are the highest ideals that mankind has been able to evolve—freedom, democracy and human welfare. It is to defend freedom that we have taken up arms, and freedom is inseparable from the territorial integrity of our land. To cede any part of it to blustering bullies and cowardly schemers would be suicide.

Years ago, Jawaharlal Nehru declared before the joint session of the two Houses of the U.S. Congress: "We have to achieve freedom and defend it. We have to meet aggression and to resist it, and the force employed must be adequate to the purpose. But even when preparing to resist aggression, the ultimate objective of peace and reconciliation must never be lost sight of, and heart and mind must be attuned to this supreme aim and not swayed or clouded by hatred or fear."

We achieved freedom and we are defending it. We are meeting aggression, and doing it in a manner that has converted the scoffers to admiration. The force we are employing is adequate to the purpose —neither less nor more. We are careful in not widening the issues beyond what the situation demands. As we made clear the very day President Ayub announced that his country was at war with India, we are not at war with either the State of Pakistan or the people of Pakistan. Our aim is only to cure them of the insolence of power by depriving them of the armament that they have shown themselves incapable of controlling. Above the harsh din of batttle is heard the calm voice of our Prime Minister—a voice of brotherliness, a voice of reason, a voice of peace, and a voice, too, of unshakable determination and fortitude. It is a leadership schooled in the tradition of truth, courage and self-restraint; it is a leadership that upholds the Gandhian precept that above all is fearlessness. It is to this that our people are responding. It is this that reinforces and is sustained by the matchless morale of our own people —those actually doing the fighting and the civilians who are with the fighters. And little wonder that the menace of China too has failed to unnerve us.

The course of fighting depends on the quality of generalship, the valour and skill of the soldiers and airmen, the sufficiency of armament, the vision and leadership of the political chiefs, the will and hard work of the people, and what is no less important, the strength of the economy.

Owing to the far-sighted policies adopted under the Plans, we have a much stronger and more diversified economy today than when we achieved freedom. Instead of relying only on borrowed machinery and equipment we sought to build up our own basic industries. This we did not in pursuit of military strength but to build the basis of a modern economy which can provide work, wherewithal and welfare to the people. This policy now stands us in good stead. While, fortunately, we are not alone and have well-wishers in the world, we have ultimately to fight our own battles and do our own work. The courage of our jawans, the genius of our military commanders, the compelling strength and wisdom of our Parliament and political leadership and the morale of our people are for the whole world to see. It is now for each one of us to realise that wars are won not in a day but through long and patient toil. We have to put in that toil.



# OUR GNATS

## BLUNT PAKISTAN'S BORROWED SABRES

"VERY much superior", "highly sophisticated", "tremendously destructive", "there is no match to them": these were the uncomfortable thoughts that crossed the minds of ordinary Indians when Pakistan obtained F-86 Sabre jets and F-104 Starfighters from the United States under the military alliance. The Indian Air Force's battles with the Pakistan Air Force have shown that we need have no exaggerated opinion either about the Sabres and Starfighters or about Pakistan's air power.

And what's more, our own Gnat, built in our own country by our own technicians, has proved more than a match to the "superior", "sophisticated" and "tremendously destructive" Pakistani machines. Of course the I.A.F. officers have proved themselves to be the better airmen. When Squadron Leader Keeler and Flight Lieutenant Pathania, using our Bangalore HAL-manufactured Gnats, brought down the first two Sabres over the Akhnur-Chhamb sector in Jammu on September 3 and 4 the Gnats won their spurs in combat.

The Gnat is a single-seated lightweight fighter or fighter-bomber, originally made by the Folland Aircraft Company of the United Kingdom. The Hindustan Aircraft Limited at Bangalore (now part of Hindustan Aeronautics) has been manufacturing this plane since 1956 under licence. The turbojet engine which powers the Gnat is also being produced by HAL under licence from Bristol Siddeley Engines Ltd., U.K.

HAL has also been making, since 1959, a supersonic fighter, the slim, swept-wing aircraft HF-24 Mk I. This is also powered by two Bristol Siddeley Orpheus turbojet engines.

The Gnat, which means "a small two-winged fly", is called so because it is smaller and lighter than most modern jet aircraft. It weighs only 3,000-4,000 kilograms, about half the weight of the American F-86 Sabre (7,900 kg) and less than a third of the weight of F-104 Starfighter. In length and span also, it is smaller than F-86 and F-104. The Gnat is about 9 metres long and has a span of 6.75 metres while F-86 Sabre is more than 11 metres long and has a span of about 11 metres. F-104

SCIENCE NOTE

BY ROSSCOTE KRISHNA PILLAI

# GREAT FIGHTING POWER PACKED IN SMALL SIZE

has a length of more than 16.5 metres and a span of more than 6.5 metres. The Sabre jet and F-104 Starfighter are both powered by General Electric turbojet engines.

The maximum speed of a Gnat is about 0.98 Mach (1 Mach=760 m.p.h. or 1,200 km) or 1,150 km per hour and it can fly to a height of 15,000 metres. The speed of the Sabre jet is slightly less than that of a Gnat, that is about 1,100 km. The F-104 Starfighter can fly at a speed of 2.2 Mach or 2,330 km per hour and can go up to 27,400 metres. The MIG-21, the single-seater delta-wing fighter that we have bought from USSR, is equal to, if not better than, F-104 in many respects. Its length, span, speed, and fighting qualities match those of F-104.

The fighters are generally used for combat in air with the enemy planes. So they are small and sturdy and are propelled by the most powerful engines. They fly at great speed, climb rapidly, and can be easily manoeuvred. They attack and destroy enemy aircraft using specialised weapons like air-to-air missiles. They outfly and outmanoeuvre opposing fighters.

## Two Aspects of Air Warfare

Attack and defence in modern warfare greatly hinge on air power—the number of latest fighters and bombers on each side, their speed, range, manoeuvrability and armament. Air power gives the opportunity to aim at the heart of the enemy and to strike a paralysing blow.

Air warfare has two aspects: strategic and tactical. *Strategic warfare* consists of aerial bombing upon the enemy's sources of strength or war potential, namely vital military installations and airfields and key industries. These might be far away from the theatres of ground warfare. *Tactical air warfare* is the direct support given by fighter aircraft, light bombers and transport planes to the troops fighting on land.

The problem of striking and destroying the enemy aircraft, which now fly at speeds two to three times that of sound and at such great heights, is so complicated that the modern warplane, especially the fighter, has become an almost completely automatic weapon-system with an array of electronic, navigational and computing gear. It can detect, identify, close with and often fire upon an enemy aircraft with very little help from the pilot. The electronic devices in the plane help the pilot to locate his enemy; with the electronic computers he finds the distance of his target and then fire at the correct moment.

## Phenomenal Progress of the Warplane

The development of the warplane from its infancy to the highly automated jets of the present day is breath-taking. Although the aeroplane was developed in 1905 it had only a nominal role to play in the First World War. The Germans were the first to use a fighter aircraft in World War I. It was designed by Anthony Fokker, a Dutchman. The structure was of canvas and wire, with an open cockpit. There was no armament on the planes but the flyers carried up pistols or rifles and exchanged shots in the air. In those days a speed of 150 kilometres was startling for an airplane.

It was during World War II that warplanes came to play a dominant role in deciding the course of a battle and the fate of combatants. Air power was a major weapon in every campaign of the Second War.

Jet aircraft and guided missiles appeared in 1944 and entirely transformed air warfare. The Korean War (1950-53) quickened the change to jet-propelled warplanes. The first large-scale air battles between jet fighters have been mainly between U.S. F-86 Sabre jets and the MIG-15s over Korea.

During the Second World War fighter planes attained a speed of about 640 km. p.h. By 1949 piloted aircraft had broken through the sonic barrier — that is they had flown at a speed greater than that of sound. The latest rocket-powered X-15 plane of U.S.A. has attained a speed four times that of sound.

Among the famous fighters of the war are Britain's Spitfires and Hurricanes, Germany's Messerschmidts and Junkers, France's Mysteres, America's Starfighters and Thunderchiefs and U.S.S.R.'s MIGs.

The need to fly at greater speeds and higher altitudes during war called for more sophisticated and lighter engines than the reciprocating internal combustion engine (similar to the one in a motor car) which was in use in aeroplanes from 1903 to 1939. Frank Whittle of Britain's Royal Air Force was the first to suggest the application of gas turbine for aircraft propulsion. But the British authorities were initially sceptical and before Whittle could see his novel idea actually being implemented in 1941, the first jet-propelled aeroplane, Heinkel 178, designed by Hans von Ohain, flew in Germany on August 27, 1939. The device which powered the plane came to be called a turbojet engine.

The method of operation of a turbojet engine is as follows: Air drawn in from the atmosphere is compressed to 3 to 12 times its original pressure. Fuel, which is generally 65 per cent gasoline and 35 per cent kerosene, is added to the air and burnt in combustion chambers. The mixture is heated to 650° to 950°C. The resulting hot air is passed through a turbine which in turn drives the compressor. The pressure of the air which is discharged by the turbine will be nearly twice the atmospheric. The excess pressure is used in a propelling nozzle to send out a steam of gas at high velocity which produces a thrust. It is the thrust which drives the airplane forward.

In some cases, the excess power in the turbine is used to drive a propeller through reduction gearing. Then the engine is called a turboprop. Turboprop is very much lighter than turbojet and is easier to construct in large sizes. At speeds below 800 km. and at high altitudes, turboprop is more efficient than

(*Continued on Page 23*)

# A FOURTH PLAN THAT WILL SAFEGUARD COUNTRY'S LONG-TERM INTERESTS

## Higher Farm and Factory Production : Outlay of Rs. 21500 Crore

*Resolution adopted by the National Development Council at its meeting of September 5 and 6*

THE National Development Council resolves that the overall size of the Fourth Five Year Plan should be of the order of Rs 19,000 crores investment plus current outlay of Rs 2,500 crores on the basis of the 1963-64 price level. It recognises that, in order to advance towards achieving the largest degree of self-reliance and to fulfil, by 1975-76, the objectives outlined in the Congress Party's declarations, the country has to undertake an investment of this magnitude in the Fourth Five Year Plan.

The Council realises that the large investment made in the last three Plans has not improved the standard of living of the mass of the people in the measure that was required or anticipated. This has been due in part to a more rapid increase in population and in part to an inadequate increase in agricultural and industrial production. Together with the additional burdens of defence expenditure imposed on the nation since the Emergency in 1962, these factors have caused internal prices and costs of living to rise to levels which are proving onerous to large sections of the community.

These problems have to be tackled resolutely in the Fourth and succeeding five year Plans. One of the urgent problems to be grappled with for this purpose is the effective control of population growth. The Plan allocations accordingly provide for the maximum possible effort for educating the country on the subject of family limitation and for organising an effective programme to achieve the objective of rapid reduction of birth rates.

The rise in prices has mainly been due to shortfalls in agricultural production, basically of food grains and also of cash crops like cotton, oilseeds, etc. The rise in prices of basic commodities had its inevitable reaction on the prices of all goods and on the general cost of living. To deal with this problem the Fourth Plan has to give the highest priority to agricultural production and avoid inflationary financing altogether in the scheme of mobilisation of resources.

The continued growth of industrial production at a satisfactory rate, at this stage of our development, depends very much on the availability of foreign exchange to import machinery and industrial raw materials and components. All possible efforts should be made to secure the maximum increase of our export earnings and to reduce our dependence on imports of items such as machinery, metals and fertilisers, by promoting their domestic production. The Council recognises, however, that with increase in industrial production as planned there would necessarily be an increase in imports of various kinds of materials, some of which are not available at all in the country and others not produced in large enough quantities.

The Council is of the view that taking into account the need for imports of substantial quantities of machinery and equipment to meet the requirements of Plan projects as well as the large obligations on account of repayment of foreign loans and interest charges during the Fourth Plan, the quantum of foreign assistance for the Fourth Plan will have to be substantially larger than in the Third Plan. The assistance that will be available will depend largely on the goodwill and ability of friendly foreign countries and our earnestness and determination to take all effective measures, within our competence, to implement the Plan.

The Council makes an appeal to workers in farms and factories to contribute their share for the success of the Plan in a disciplined way to put forth their best effort despite the difficult conditions in which they have to work. To those sections of the community which are better off, the Council makes an appeal to restrain expenditure and avoid conspicuous consumption and waste. They have to accept a much larger share of contribution to the national effort both in the interest of the community at large and their own self-interest.

The Council feels confident that, at this time when the country is engaged in meeting the challenge of serious external threats and has to undertake massive efforts for development, the nation will rise to the occasion and demonstrate its inherent strength and solidarity. The Council authorises the Chairman to re-orientate, alter and amend the Plan as necessary to meet the emergent situation and safeguard the country's security and long-term interests.

# WE SHALL FIGHT FOR FREEDOM AND DEVELOPMENT

## THE PLAN IS ESSENTIAL FOR DEFENCE, SAYS PRIME MINISTER

**The National Development Council, which met in New Delhi on September 5 and 6, decided that the Fourth Plan, with an outlay of Rs 21,500 crore, should concentrate on higher agricultural and industrial production, and avoid deficit financing altogether. In view of the present threat to the country's freedom and integrity, the Council authorised its Chairman, the Prime Minister, to make any changes in order to give it a defence orientation.**

*Addressing the Council, Mr Lal Bahadur Shastri said, while fighting to preserve freedom we cannot give up the important work of economic development, for development was essential even for defence. Mr Shastri observed:*

WHEN we met here last, it was felt that we should increase the size of the Plan from Rs 21,500 crore to Rs 22,500 crore. This increase of Rs 1,000 crore in the public sector would generally meet the needs of the country and also to a larger extent meet what our States want. This matter was carefully considered here and several exercises were carried out. Ultimately, the Resources Committee and the Planning Commission came to the conclusion that it was not possible to raise resources for the public sector beyond Rs 13,850 crore. In the circumstances, we had to decide what the size of our Plan should be. The Planning Commission had a number of meetings to consider this and at the last meeting of the Planning Commission, where I also happened to be present, it was decided that we should have a Plan of Rs 21,500 crore because it was essential that we keep within the limit of the resources available to us.

I think that keeping everything in view, this Council will also agree that we should have a Plan of this order and as far as possible we should not go below it. The size of the Plan is, no doubt, important but its content is even more important and in fact it is the content which would provide the result. There are various sectors in which we have to spend big amounts and they are essential. *But naturally the highest priority has to go to agriculture.* I think, agriculture, industries, irrigation, power, road transport, education and medical facilities are some of the important subjects which have to be given hgh priority. But, as I have always been emphasising, the need for increased agricultural production is paramount. Most of our economic development in fact depends upon agriculture and increased agricultural production. Again, in regard to prices and our foreign exhcange difficulties, we cannot achieve much without higher food production. We cannot for ever depend on imports from foreign countries.

It is stated in the Draft Memorandum that at the end of the Fourth Five Year Plan, we shall become self-sufficient in the matter of food. But just for precaution's sake, I would say that we should at the very least be in a position to drastically cut down our imports. We have therefore to provide the largest funds for agriculture. But the main question to consider is whether we can absorb the funds provided. The development of agriculture is a much more difficult process than the setting up of industries because it is a decentralised sector. You have to do it over a big and extensive area. And there is, if I might say so, not enough of co-ordination between the different wings of the Agriculture Department. It is, therefore, not an easy matter to absorb the funds provided for agriculture. We should see to it that agriculture will not suffer for lack of funds. If the allocations made are spent and are utilised and if more money is needed we should not hesitate to cut down something else and provide the necessary funds for further expenditure on agriculture. In fact, I had once suggested and would suggest even now that in the first year the highest priority in regard to funds should be given to agriculture. We have to give our fullest attention to agriculture in the first year.

I do not say that other things must be cut down. For example, in the first year we can try to concentrate on completing all the industrial projects we have in hand and which have not been completed by the end of the Third Five Year Plan. Then we can take up other projects which would yield quicker results. So in the first year of the Fourth Five Year Plan, we will have enough work to do in every sector. But what I had suggested, and would suggest today, is that we should be prepared to make any sacrifice in the first year of the Plan with a view to providing adequate funds for agriculture. This will need an integrated Plan. I am glad that the Planning Commission is trying to prepare an integrated Plan for agriculture. I understand that a note has been circulated to the Chief Ministers, incorporating the draft of an integrated Plan for agriculture. This draft may have to be further considered and your advice will be very valuable.

### Purposive Education & Power for Villages

I NEED not say much about education or medical facilities. I am glad that the Plan has not laid much stress on purely literary education. What is essential is that we should see to it that the boys who

are educated do get employment and do not remain unemployed. Merely having academic qualifications and then loitering about here and there leads to frustration. So whereas it is essential that the highest importance should be attached to technical education, we should not spend much on a large number of colleges or universities. I am all for primary education, for adult education and technical education. I do not say that literary education should not be further expanded but there has to be a reasonable limit and we have to view it in the context of all the other urgent needs we are faced with.

About irrigation, I need not say much because its importance is all very well known to us. I think our peasant who is still not so much technology-minded believes that if he gets water, he will produce much more, if not double the quantity. Therefore, irrigation, along with power, acquires great importance.

I would like to lay stress on rural electrification because it means that we can provide pumping sets in the rural area which would help peasants and provide them with irrigation facilities. Power for industry is important but we cannot ignore rural electrification. So these are some of the important sectors which should receive high importance and I know that the Planners are also thinking more or less on the same lines.

## Rs. 3,600 Crore More Must Be Raised

ABOUT the resources, it is going to be a very difficult and onerous task to find something of the order of Rs 3,600 crore. This has to be done through taxation mostly. Of course there may be some other sources too, but mostly it has to be through additional taxation. And as far as I can judge, the State Governments are prepared to fulfil their quota. I have not talked to all the Chief Ministers, but last time when we had met here, I had a meeting with some of the Chief Ministers and they told me they wanted a somewhat bigger Plan. I have no doubt that they are prepared to discharge their responsibility of finding the resources allocated to the States. I do not know what they will be able to do now or in the next budget. But I got the impression from some of the Chief Ministers that they might do something even now by imposing fresh taxes or raising the rates of electricity or irrigation. I would leave it to the State Governments to decide as they think best.

External resources have also to be found and we have suggested that it should be to the tune of about Rs 4,000 crore. Of course, it all depends on the goodwill of the countries which have been helping us and also the institutions like the World Bank. Naturally, they will expect that we should do something on our own. We should make our own contribution, and, as you know, our Finance Minister placed a supplementary budget recently before Parliament. It is an indication of the fact that we are prepared to bear greater burdens with a view to giving a new fillip to our Fourth Five Year Plan and also show to the world that if they will continue their help or increase their assistance, we, on our part, will also try to match it and do much more than what they will give, and thus produce conditions in the country which would be in the larger interests of the people.

This supplementary budget, as far as I can judge, does not touch the interests of the common man. I mean he has not been affected and mostly those who reap very high profits have been taxed the most. Heavy levies have been imposed on some of the items which are sold on a profit of about 400 per cent, 500 per cent, 800 per cent like copper, lead and zinc. There is, of course, an additional burden and it has to be borne by the country. As I have said, for both our internal resources and external resources, we have to do our utmost and see to it that there is no shortfall in our Fourth Five Year Plan. If we have decided upon the size of the Plan and if we agree that it should be of the order of Rs 21,500 crore, we have to make every effort possible to see that it is fully implemented and fully completed and that there is absolutely no shortfall. For that, you have to keep a constant watch on the resources position. If we can do better, if we can get more resources, we can add to the Plan, we can expand it. But we have also to keep in mind that in case the resources are not available, or they are available in lesser quantities, then we may have to curtail or cut down our Plan because we cannot go beyond our means. Otherwise, there will be inflation. *We have, as a policy, decided that we will not take any steps which would lead to inflationary tendencies. There will be no deficit financing.* The State Governments have to keep this in mind.

## Better Administration, More Economies

ONE of the most important things we have to do in regard to resources is the cutting down of our expenditure. The Central Government is also fairly guilty of the fact that it has not been able to cut down much of expenditure. We did try it and we have succeeded to some extent but we will have to economise our expenditure much more. We have added a number of departments and so perhaps have the States. I think it is time that we carefully consider the question of effecting economies in our expenditure both at the Centre and in the States.

As I said if we do want that there should be no shortfall in our Plan, we have to pay special attention to the implementation of the Plan, of our projects, of our schemes. If those responsible for the execution of the Plan are remiss or if they do not perform their duty satisfactorily, then whatever the funds or whatever the allocations we have, it would not really work. The performance has to be very good, very efficient and very satisfactory.

I have already referred to implementation of our agricultural plans. I am especially referring to it because it has much to do with the work which is actually being done in the field, whether it is irrigation or power, supply of fertilisers, etc. or supply of seeds, credits, or other inputs. The point is that there should be better co-ordination and consistent improvement. We have to keep a watch on this. We see the results on paper and come to judgements on the basis of the reports we get. Co-ordination may have to be done in the Secretariat but it is much better that some of us sit down in the villages and work out the scheme

of co-ordination after actually finding out the difficulties of the people, of the cultivators, of the farmers. We go there only once or twice. Naturally, we are surrounded by the officers and we are not in a position to know the objective facts. It is, therefore, much better that the Plan is actually drawn up in the villages. It may be vetted and polished at the Secretariat level but it is perhaps essential that we go to the villages and find things out. For example, there are canals but people do not get water at the correct time. When they do not want it, they get it in surplus. Then there is a good deal of corruption in the Irrigation Department.

I have said recently and the Home Minister will give thought to the setting up of a high-power Commission in regard to the improvement in the administration, that is, what steps should be taken at the Secretariat level, at the Directorate level and at the district level, and what improvements should be made, and what delays come in the way of the quick implementation of these schemes.

The success of our Fourth Five Year Plan is an important matter. I would merely say that this Plan has a special purpose and it is essential that in the course of the next five years, we should be in a position to give the basic necessities of life to the people—food, clothing, shelter, education, medical facilities. If we cannot provide these things, well, the Plan has no special significance for me. I know that there are various other factors which lead to general economic development and those steps have to be taken, but these direct issues have to be tackled.

Another problem is that of prices. It is one of the things greatly troubling the people. It disturbs me. It should be possible for us, in the course of the Fourth Five Year Plan, to supply the basic necessities of life to the people at a reasonable price, which should be within the means of the wage earners and of the middle class families.

Our objective is socialism and we have to proceed in that direction. We have to fight monopolies and we must see that there is equitable distribution of wealth and national income. This is our objective and with a view to achieving this objective, we have to execute and implement this Plan.

## Readiness To Make Greater Sacrifices

EARLIER in the address the Prime Minister referred to the political situation and declared, "If Pakistan wants to compel us by use of force to discuss the main question of Kashmir, I say it is just out of question. We cannot accept it and we will not accept it come what may."

In a detailed reference to Kashmir, Mr Shastri said that the situation was the creation of Pakistan; the entire responsibility was that of Pakistan. Pakistan had indulged in aggression, an aggression of a deceitful nature. Pakistanis tried to enter Kashmir Valley and Jammu. Large numbers of them had come with arms and weapons but they were not in uniforms. However, they were all trained by the Pakistani Army authorities. All the planning was done by the armed forces of Pakistan. It was a disguised form of attack. But it had not taken much time for the world to know the culpability and designs of Pakistan.

Mr Shastri said that Pakistan had expected that on August 9 there would be disorder and disturbances in the Kashmir Valley, especially in Srinagar. This was a date on which Sheikh Abdullah had been arrested in 1954. Pakistanis felt that this was a good opportunity for them to enter the Valley, incite the people with arms and create some kind of disturbance there. Pakistanis came in large numbers. In the beginning, the infiltration created a difficult situation. But the Pakistani raiders had been tackled. The raiders, who in the beginning operated in inhabited areas, had moved to far-off areas and were hiding in the jungles.

Referring to the regular attack by the armed forces of Pakistan in the Chhamb area of Jammu, the Prime Minister said that responsibility for escalating the conflict was Pakistan's. India's strategy for the future would be considered in the light of this. He said: "We do not want that there should be a continuous conflict forced on us by Pakistan and, that they should cross into our territory and then sue for peace, in the hope that we agree to some kind of a cease-fire. This has become intolerable. We do not and cannot accept it. We have to bring this matter to an end." The Prime Minister declared: "The country will have to undergo sufferings and sacrifices and we should give our utmost to the preservation of our integrity and freedom. In this context you have also to think of the Plan. We cannot give up all our work and the most important work of economic development. It is essential even for fighting the war. We need food and weapons and many other things. Defence effort has to be stepped up. The Plan will have to be defence-oriented in the light of the new developments".

## No Extra Burdens on the Poor

MR ASOKA Mehta, Deputy Chairman of the Planning Commission, said that Pakistan's gross investment in its economy was 17 per cent of its national income. We had therefore to aim at a rate of investment at least as high. We could not afford to be overtaken by Pakistan in economic capabilities.

Such an effort would require tax receipts, as a proportion of national income, to rise from 13 per cent now to 18 per cent by the end of the Fourth Plan. Through normal growth this share would go up only to 15 per cent; therefore, there was need to make extra effort to get 3 per cent more of the rising national income as taxes.

The effort, Mr Mehta pointed out, would not adversely affect the levels of living of the people. The extra effort was to be met from the *additional* incomes that would be generated. A quarter of the additional income would go to investment, and the remaining three quarters would be available to improve our living standards. It was thus possible to improve living conditions and simultaneously strengthen our economy.

During the three Plans, Mr Mehta said, the Centre and States would together have raised Rs 4,142 crore in additional taxation. Of this amount, the contribution from increments in direct agricultural taxes

(*Continued on Page 26*)

OWING TO STRESS ON DEVELOPMENT

# OUR ECONOMY BETTER than Pakistan's not only in SIZE BUT IN QUALITY

*CONTRIBUTED*

THE recent conflict between Pakistan and India has generated a great deal of interest in the relative economic capabilities of the two countries. The reason is obvious. In the short run, the outcome of the war may be influenced by the state of military preparedness, though as experience of the last few weeks has shown, it is by no means decisive. The result of any longdrawn-out conflict depends largely on the relative economic strength of the warring countries.

From the purely military viewpoint, the size and range of industrial capability are of crucial importance. India's capacity to produce materials of direct military significance is unquestionably superior to that of Pakistan. This superiority derives partly from the fact that we are four times as large as Pakistan. But the difference in industrial strength is much bigger than could be explained by the relative size of the two countries. Thus industry absorbs about 10 per cent of our working population and contributes 20 per cent of our national income compared to 8 per cent and 10 per cent respectively in Pakistan. We have nearly 4 million people employed in modern factory type industry while Pakistan has hardly 0.6 million.

Our industrial base is not only bigger, but more versatile and more self-sufficient. Pakistan has made good progress in developing her industries, but her development has been mostly in the field of cotton and jute textiles and other light industry. Her production of chemicals and machinery is extremely small: she does not have any large plant for producing steel and other metals.

India on the other has made rapid strides in building up these industries as part of her programme for economic development. We produce 40 times as much sulphuric acid, 20 times as much fertilisers and 10-15 times as much of caustic soda and soda ash as Pakistan. We have capacity to produce 8.9 million ingots tons of steel; Pakistan has none. Our machine-building industry is capable of producing a wide variety of industrial machinery, machine tools, buses and trucks, locomotives and wagons, and electrical equipment. Pakistan's machine-building industry is very much smaller and produces only a few simple types of equipment Table I.

## Our Plans not for Building Military Machine

With a bigger and more diversified industrial base, our economy is less dependent on foreign aid and therefore less vulnerable. Compared to us Pakistan has to import a much larger proportion of her needs of metals, machinery and chemicals. Both countries do not export enough to meet all the import requirements, but the gap is bigger in Pakistan. In 1964, she imported goods and services valued at Rs 4750 million; her exports were hardly Rs 2,000 million. In other words, more than half of Pakistan's imports were financed by foreign aid. On the other hand, India met nearly 65 per cent of her import requirements by her own export earnings. Obviously, the same proportionate reduction in aid would create far more serious dislocations in Pakistan's economy than in ours.

Such industrial strength as we have is the result of our efforts during the last 15 years to promote economic development. These efforts were not intended to build a military machine, but to provide the essential basis for improving the living conditions of the people. This in fact continues to be our central problem, our major preoccupation. Thanks to the political stability and a leadership imbued with a sense of determination and purpose, we have been able to maintain a steady growth of production and employment in all sectors. Since 1951, our farm output has risen 60 per cent and production of modern industries has nearly trebled. Aggregate income has increased by nearly 75 per cent and per capita incomes by 25 per cent.

Pakistan's record on the other hand is not nearly as impressive. Between 1950 and 1960, her average rate of growth was about 2.5 per cent a year which is almost equal to the population growth. It is true that of late Pakistan has been showing a considerably high rate of growth, and her performance has received rather widespread publicity. Whether this performance will be sustained is to be seen if especially foreign aid is not available on the scale visualised in their plans.

The central problem of India as well as of Pakistan is poverty. In both countries, the vast majority of people are ill-fed, malnourished, poorly-clothed and housed; unemployment is widespread; disease and illiteracy are still far from being eradicated. India's progress since independence has been on the whole faster, and the average living stan-

dard in India is somewhat better than in the Pakistan. The average Indian is a little better fed; he is certainly better clothed, is more literate, and has a longer expectation of life. Even so, it is only too obvious that both have a long way to go before their people have anything like a tolerable life. (Table II)

By provoking military conflict to slake their lust for territory, the Pakistan leaders will only succeed in diverting the energies of both nations from this task.

## I. Industrial Production, India and Pakistan 1964-65

| Industries | Unit | India | Pakistan |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 1. Sugar | thou. tonnes | 2600 | 312 |
| 2. Cotton Yarn | ,, | 958 | 236 |
| 3. Cotton cloth (mill-made) | mill. metres | 4423* | 668* |
| 4. Paper including newsprint | thou. tonnes | 526.5 | 116 |
| 5. Cement | ,, | 9420* | 1474* |
| 6. Fertilisers (in terms of N) | ,, | 230 | 11 |
| 7. Sulphuric Acid | ,, | 681 | 16 |
| 8. Soda ash | ,, | 280 | 28 |
| 9. Caustic soda | ,, | 183 | 15 |
| 10. Coal | ,, | 63990 | 1500 |
| 11. Crude petroleum | ,, | 1653* | 469* |
| 12. Electricity installed | mill. Kw. | 9 | 1.4 |
| 13. Electricity generated | bill. Kwh | 25.9* | 2.9* |
| 14. Steel ingots | thou. tonnes | 4400 | negligible |

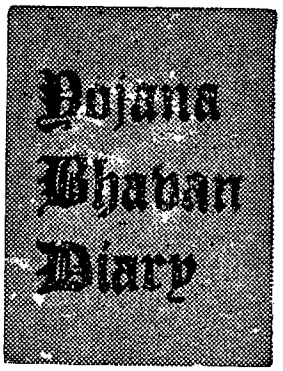
*relates to 1963-64

## II. Indicators of Standard of Living, India & Pakistan 1964-65

| Items | Unit | India | Pakistan |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| National income (at current prices) | Rs. billion | 172* | 38.4* |
| Population | million | 464* | 110* |
| Per capita income | Rupees | 371 | 349* |
| Literacy rate | per cent | 28 | 20 |
| Mortality rate | per '000 | 15.8 | 16.7 |
| Number per 100,000 population | | | |
| Doctors | | 17 | 14 |
| Hospital beds | | 48 | 30 |
| Nurses | | 8 | 3 |
| Calories intake per capita per day (in 1961-62) | | 2040 | 1970 |
| Per capita consumption of | | | |
| food grains | Kgs. | 172.8* | 149.5* |
| sugar | Kgs. of sugar equivalent | 21.9* | 19.3* |
| Cotton textiles (estimated from yarn) | Metres | 16.0* | 13.2* |
| Paper including newsprint | Kgs | 1.13 | 1.05 |

*relates to 1963-64

*Sources for Pakistan data: 1. Quarterly Economic Review—May 1965 (E.I.U.); 2. Third Five Year Plan—Summary; 3. Papers submitted to UNICEF Conference on Children and Youth (by Deputy Chief, Planning Division, Government of Pakistan)*




THE National Development Council met on September 5 and 6 under the chairmanship of the Prime Minister and finalised the pattern of the Fourth Plan.

Mr Asoka Mehta, Deputy Chairman of the Planning Commission, held a press conference on September 6 to explain the N.D.C. decisions.

The Chief Ministers of Rajasthan, the Punjab and Uttar Pradesh met the Deputy Chairman on September 6 to discuss resource mobilisation for the Fourth Plan.

Planning Secretaries of State Governments met on September 7, with Mr G.R. Kamat, Secretary to the Planning Commission, in the chair.

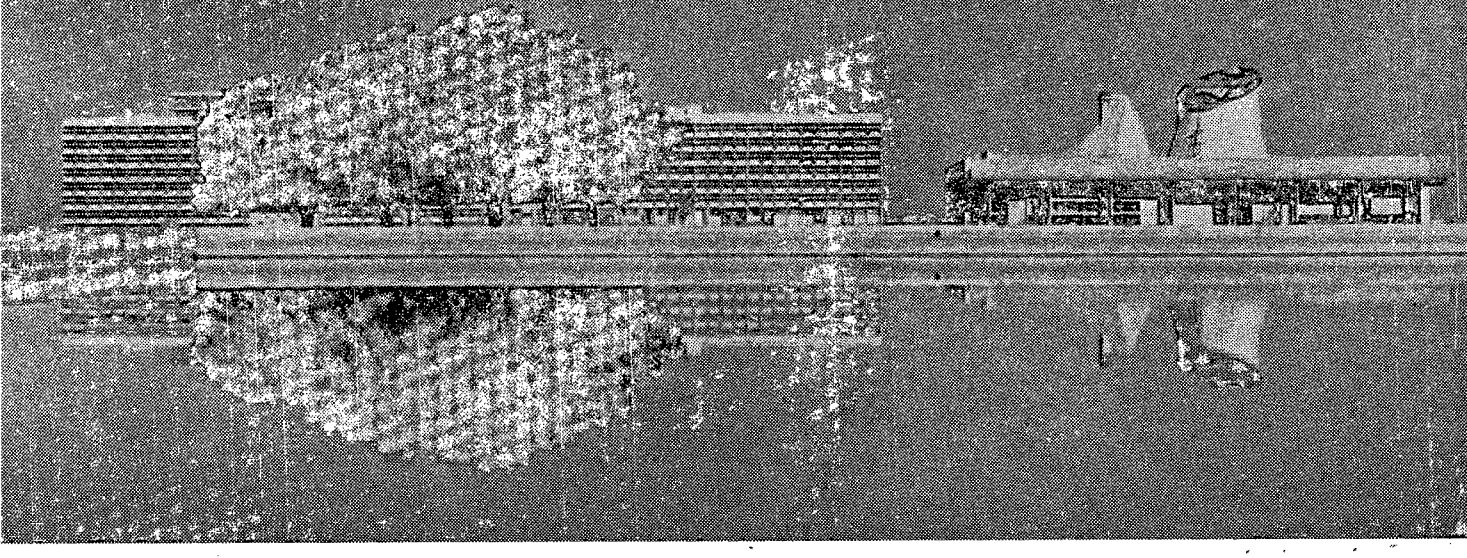
The Planning Commission met on September 14 to consider the annual Plan and on September 18 to lay guide-lines for the States to reorient the State Plans in the light of the country's defence needs.

Mr Asoka Mehta addressed the Fulbright scholars from the U.S.A. on the five-year plan.

The Research Programmes Committee of the Planning Commission met on September 4 at Vigyan Bhavan. Prof. V.K. R.V. Rao, Member, presided and the Deputy Chairman and other Members of the Planning Commission attended. About 20 leading social scientists of the country, who are on the Committee, took part in the discussions.

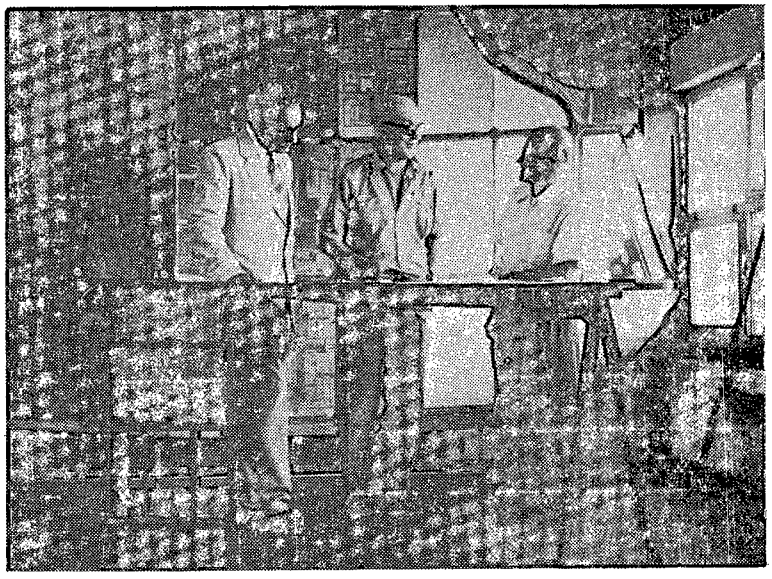
Mr D.P. Nayar has been appointed as Senior Specialist in the Education Division of Planning Commission.

Dr K.R. Nair, Director, Central Statistical Organisation, took part in the 35th session of the International Statistical Institute held in Belgrade from September 14 to 22.

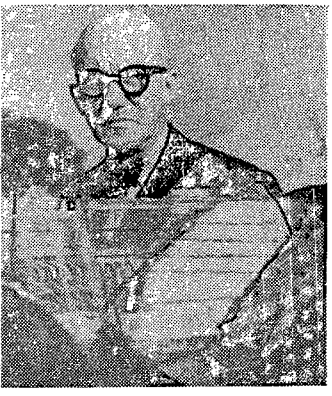


# Le Corbusier

The Secretariat and the Assembly Building at Chandigarh. Below: The great architect discusses Chandigarh Master Plan with Mr. P. L. Verma (left) and Mon. P. Jeanneret, two of his colleagues.



## *Maker of Chandigarh*



Le Corbusier with a model of Bhakra dam

*By*

JEET MALHOTRA

*Principal, College of Architecture Chandigarh*

With aching hands and bleeding feet
We dig and heap, lay stone on stone;
We bear the burden and the heat
of the long day, and wish 'twere done.
Not till the hours of light return
All we have built do we discern.

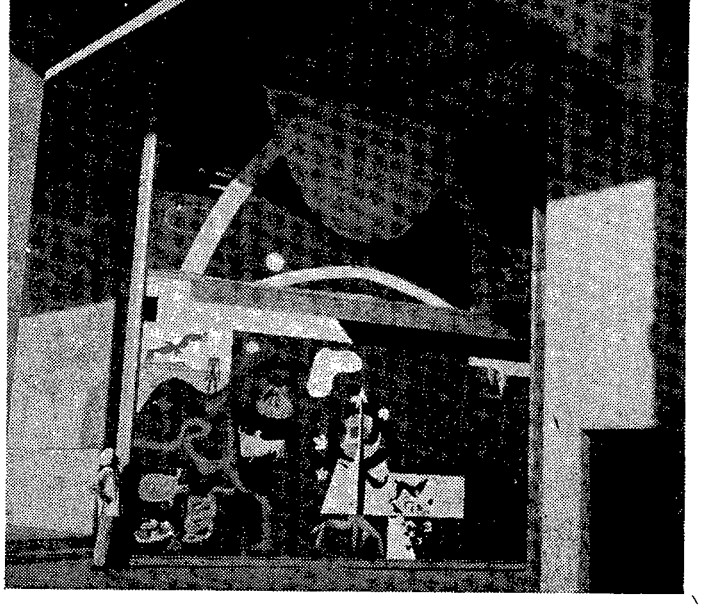
Now is the hour of light for le Corbusier when we wish *he* were here with us to discern what *he* has built. Indeed, he has left us gaping at the numerous enormous buildings which have come up as a projection of his versatile mind.

For me, he has been the most unforgettable character I have met. My first impression of him has never changed. I still remember my first handshake with him when we both were very tongue-tied for the simple reason that we did not have any language in common. Le Corbusier did not know a word of English and I was equally dumb in French. He struck me as a gigantic

figure clad in khaki from head to foot, equipped with numerous pockets which apparently carried all his working paraphernalia. When he saw me staring at his unique and very original type of dress, he smiled and said that all his pockets carried different things like pencils, eraser, sketch book, old coins and his passport.

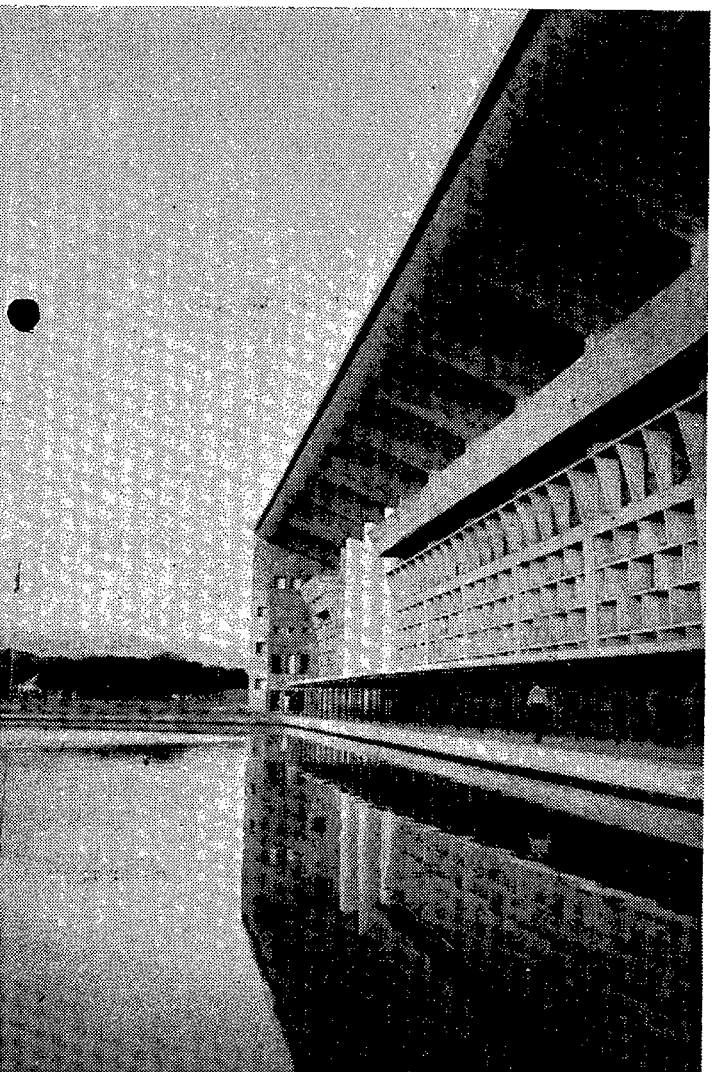
When I look back now I realise how my first glimpse of him was only an introduction to his mind—his clear, systematic, powerful and analytical mind. In all his later works he reflected that ingenuity, precision, resourcefulness and clarity which he showed in his uniform.

It has indeed been a rare good fortune for our country and especially Chandigarh to have had le Corbusier. He brought about a kind of resurrection of architecture and town-planning. He gave full vent to his ideas which were by far the most original, and the result was Chandigarh. In the Capitol complex where five major buildings were designed by him, three have been constructed: the Secretariat, the Assembly Chamber and the High Court, and the 'Museum of Knowledge' and the 'Open Hand' are yet to be built. The landscape features of the Capitol complex are also being materialised. In these works he shows himself not only as a supreme architect but also as a unique painter, sculptor and artist, all combined in one. One cannot really understand le Corbusier unless one appreciates the varied facets of his dynamic personality. The entrance door of the Assembly building reflects a master-painter's mind.



**A le Corbusier painting on the pivot door of the Assembly building**

**The High Court at Chandigarh, one of his first creations in India**



He was also a writer of no mean calibre. He wrote no fewer than 70 books on architecture, town-planning, sculpture, painting—advocating the theories he has professed and practised during his lifetime. A creator and inventor first and last, he brought out all the latent faculties in him. But all these lesser creative instincts contributed to one great obsession with him—architecture. And this explains the overpowering effect of his buildings.

Le Corbusier has left behind a rich crop of architecture and it has opened up new vistas of thinking and achievement for the young Indian architects. It is for them to avail themselves of the excellent start given by him. It will be important for us to see that his exacting standards are maintained in times to come.

Nehru was a friend and admirer of le Corbusier and often helped him in difficulties. Nehru respected his powerful ideas and said: "Chandigarh is powerful and it just hits you on the head and makes you think."

With a twinkle in his eye "Corbu" used to say that he preferred to be called "camel" and not a "crow" (Corbu means a crow). Full of the joy of life, he loved to swim, and unlike the other artists who prefer to keep aloof, he had a keen interest in human affairs and human psychology. For 60 long years he kept a diary in which he recorded all his impressions about people, nature and art.

In him we have lost not only a great architect but an incomparable artist of the twentieth century and his death is a blow to the world at large

# LE CORBUSIER and CONTEMPORARY ARCHITECTURE

*By*
BIJIT GHOSH
*Professor of Planning, School of Planning & Architecture, New Delhi*

Picture : French Embassy

Now and then a person carries a whole nation with him to share his feeling, to see his vision and to speak his language. Le Corbusier, as an architect and painter, made a mark in this respect on his age and century. He absorbed so completely the spirit of the age, perfected it and projected it to the future that he was able to give a new dimension and direction to architecture.

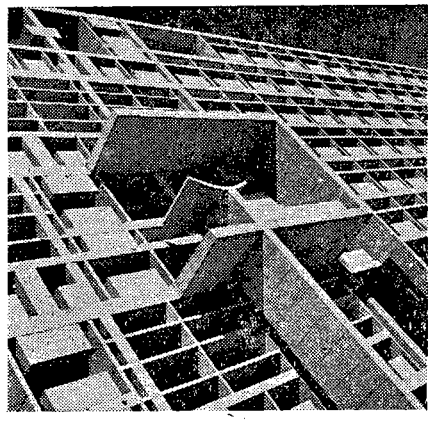
From medieval romanticism to contemporary functionalism, there has been a great surge forward. Architecture has been in transition. But never before had there been so radical a change in concept and practice of architecture as in the last five decades. A turning point was an exhibition in 1922 at the Salone d'Automne in Paris of the plan of "Ville Contemporaine" (the city contemporary) for three million people and the publication of a book *Vers une architecture*—(Towards an Architecture) by le Corbusier.

The city, although planned in minutest detail, was never built and the thoughts expressed in the book were never fully realised by him. But these made the people aware of what he said: "A great epoch has begun! There exists a new spirit." While many considered the architecture of le Corbusier outrageous—some even dubbed it new brutalism—a few could immediately realise that the vision of le Corbusier was to become the architecture of tomorrow. Le Corbusier who followed his conviction consistently was the prophet of this epoch. His death by drowning off the French Riviera on August 27 was a tragic irony of fate.

Le Corbusier's real name was Charles Edouard Jeanneret. He was born in a family of watch engravers on October 6, 1887 in La Chaux-de-Fonds, Switzerland. In the art school of the same place, he studied engraving first and then murals and sculpture. At 18, he was commissioned to design a villa for a member of the faculty in the art school which was in fact his first assignment. The fees he got enabled him to take a trip through Italy to Venice where he worked with Josef Hoffman. Later he went to Paris (1908) and to Berlin (1910) and worked respectively under Auguste Perret and Peter Behrens. Le Corbusier was then in the making to be a master architect and much of his thought on functionalism was actually inspired by Perret. But it was not until the exhibition of his plan and publication of the book mentioned earlier that he really became famous. In 1923 he assumed the name LE CORBUSIER after his French ancestor to distinguish between two of his multiple personalities —those of painter and architect.

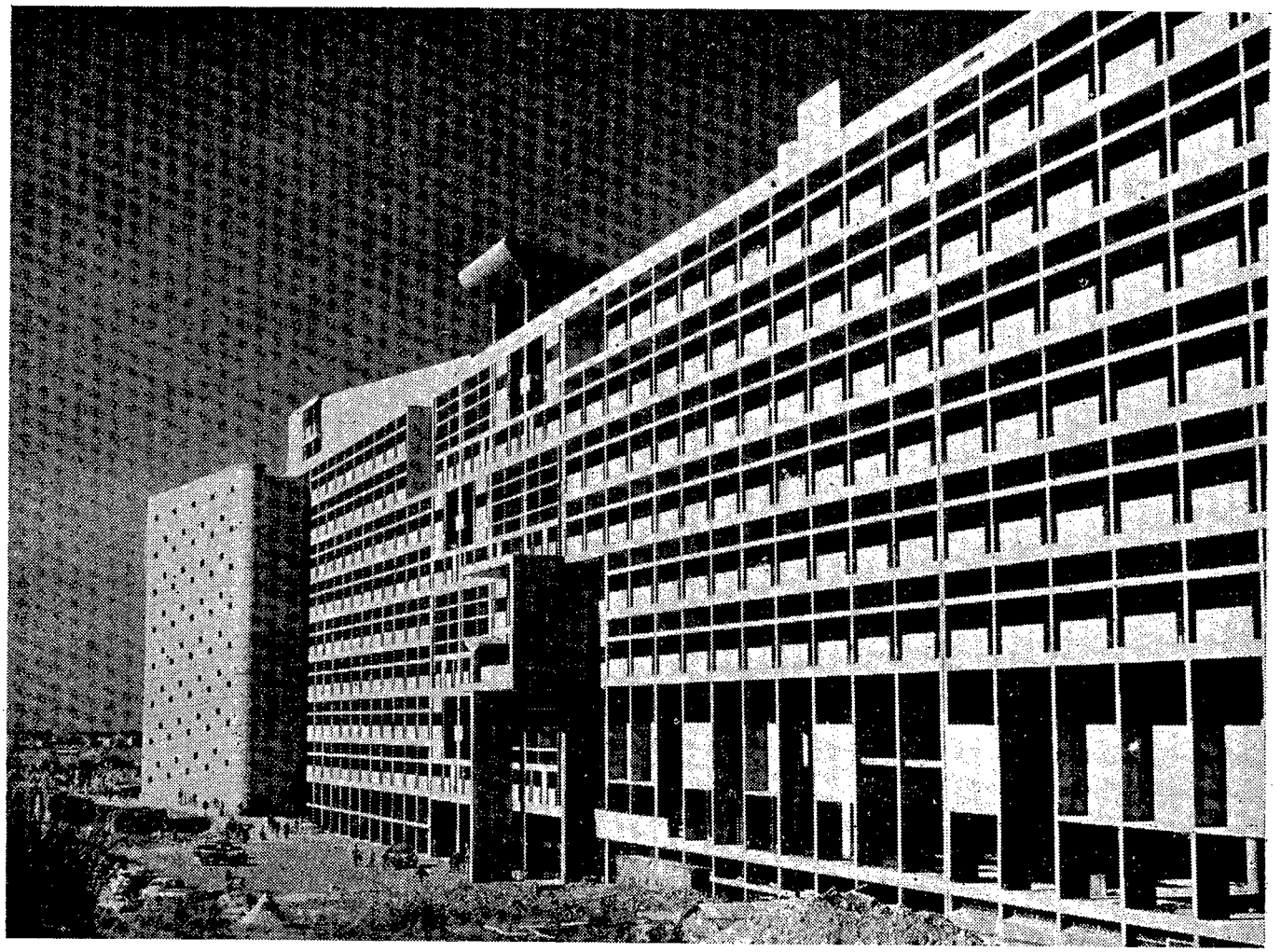
In 1926, he won first prize in an international design competition for the building of League of Nations in Geneva. He joined the C.I.A.M. (Congress for Modern Architecture) group in 1928. To le Corbusier, conceptual studies were as important as actual work. He perfected

*"I HAD VERY LITTLE MONEY. THIS GAVE GREAT SCOPE FOR INVENTION AND IMAGINATION."*



The Secretariat in Chandigarh—variety by the use of modulor.

Photographs :
Dhruva N. Chaudhuri



**The Secretariat in Chandigarh—a simple, bold and honest statement.**

the concepts "city contemporary" in his plan for Paris ("Plan Voisin") and the "City Radiant" (Ville Radieuse). In pursuit of functional architecture, he developed "Dom-ino" houses, "Citrohan" units and "Villas Superimposee".

He prepared many city plans, e.g., for Buenos Aires, Stockholm, Algiers, Nemours, Bogota and Moscow and his outstanding architectural designs were the Palace of Soviets in Moscow, the Swiss Home for Cite Universitaire in Paris, an office building for National Education and Public Health in Rio de Janeiro, L' Unite d' habitation in Marseilles, rebuilding of Saint-Die, the U.N. headquarters in Manhattan (in collaboration with Oscar Neimeyer and Wallace K. Harrison) and the chapel of Ron Champ.

In India, he was first commissioned in 1952 for the planning of Chandigarh. He designed all the buildings of the capitol complex—the Secretariat, the Assembly, Raj Bhavan and the High Court. He was also commissioned in 1954-56 to design Sarabhai House and Shodhan House in Ahmedabad. In the same place, the Millowners' Association Building and the Museum were designed by him in 1954.

Even though le Corbusier could not apply the principles of "City Contemporaine" to Chandigarh, the Secretariat building was a fulfilment of his aspiration for architecture. What he could not realise in the U.N. headquarters in Manhattan, Chandigarh's Secretariat gave him the opportunity to do. He was extremely happy about all the buildings he designed in Chandigarh and he said: "I had a free hand but very little money. This gave scope for ideas, invention and imagination."

## A Nonconformist

What makes le Corbusier a great architect of the century? The answer is his philosophy, his buildings, and his cities—in that order. In all these, one finds him to be a nonconformist.

Basically his mastery over architecture developed for two reasons. While most of us draw inspiration from tradition, from the cities in history, the vision of le Corbusier was only filled with buildings and cities of the future. Again, whatever might have been his approach to architecture, he could apply the same vision to town planning and very few had so successfully merged building into a city. He attempted in the Unite d'habitation in Marseilles to build a city in a building, to build a vertical city. To him it was clear that

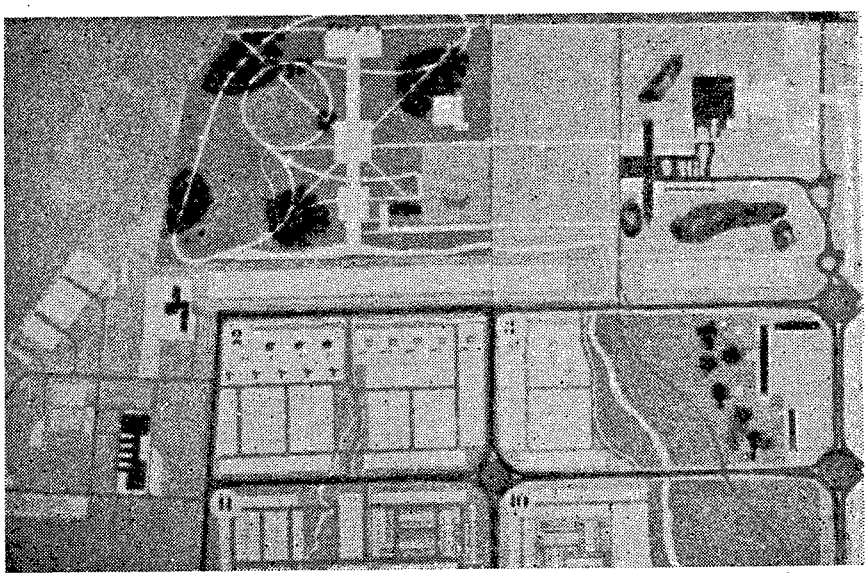
architecture in the twentieth century could no longer be isolated; the city as a whole was architecture.

## Machine Art

To fit into the machine age, le Corbusier developed architecture as machine art and he emphasised both machine and art.

In le Corbusier's first apprenticeship with Josef Hoffman in Venice was his first contact with *art nouveau*—the "modern art" movement that dominated all forms of creative expression for about 50 years starting from the poster art of Toulouse-Lautrec. Most of the architects following *art nouveau*, like Antonio Gaudi of Spain, Frank Lloyd Wright of America or Alvar Alto of Finland, believed that nature is honest and so the forms derived from nature must be honest. They surrendered to voluptuous plasticity of natural form and introduced richness in ornate design by extensive use of natural materials. But those who were inspired by machine art like Auguste Perret, le Corbusier and Walter Gropius regarded the machine as essentially efficient; to them therefore the forms derived from machine were efficient.

Le Corbusier startled many people by saying "a house is a machine for living in"; so convinced was he about architecture as being an outcome of machine art. To emphasise his point of view, he considered building to be essentially man-made and it was to be built by man-made materials like concrete and steel. He never allowed the plasticity of concrete to be in excess in exaggerated natural forms; he restrained it into a structural discipline. He used concrete in its crudest, most brutal form, *beton brut*! But he realised the strength of concrete for technical requirements, he responded to the need of utilitarian requirement of living and he offered the only rational solution to the most urgent problems of his time, the building of tall structures, lightly framed and infinitely flexible in plan. He conceived building raised on pilotis is like a tree, its trunk rooted into the ground and foliage spreading above. He conceived a city consisting of many of these towers, the ground being completely released for the freedom of space, for safe movement of pedestrians. This was the genesis of functionalism and architecture was interpreted for optimum use and utility. The meaning of architecture was supported by rationalisation.



**Capitol complex—Chandigarh**

Even with such emphasis on machine and its efficiency, architecture was essentially art to le Corbusier. He designed building as a pure geometrical form—as a simple, bold and honest statement. His buildings are essentially cubes or several cubes fitted within a cube, the superimposed units. The Secretariat in Chandigarh can be cited as an example. His cities essentially consist of a few such cubes lifted up from the ground and silhouetted against the sky. If contrast was necessary, he played again with pure geometrical forms, a cone or a cylinder, a pyramid or a prism.

That the machine art if not ingenious might be sickening for its monotony and regimentation made him contrive the modulor, a scale of measurement related to various proportions of the human body. The use of modulor provides a flexible choice of units and thus it introduces a great variety. This is particularly suitable for mass production of any building industry, for pre-casting and prefabrication. The use of the modulor has made the facade of the Secretariat in Chandigarh, nearly 420 metres in length, so dominating and powerful; to many it may be grotesque but it lingers in memory for long.

Space is in motion and, in every city, the general trend is to set the motion horizontally. Le Corbusier tried to set it vertically. He tried to lift every building up as if it was forced so by the pressure of a great hand (conceived as a sculpture in Chandigarh) releasing the ground space below. He also tried to hollow out buildings creating terrace gardens and to plan roof gardens in the sky. He spaced a few such vertical towers in his radiant city wide apart so that every family might have the essential joys of living—sun, space and verdure.

While *art nouveau* architects tried to merge city into nature, le Corbusier's city was essentially urban and he made a clear distinction between nature and man-made environment. He separated the buildings from ground, contrasted them by geometrical forms and planned the city in geometrical lines for optimum use and utility, and for maximum efficiency. This is quite evident in Chandigarh, particularly in the capitol complex. Whether it is Unite d'habitation in Marseilles or the Secretariat in Chandigarh, the planning of Algiers or Buenos Aires, all speak of his conviction, all point that he was basically an antinaturalist.

So le Corbusier thought, struggled and worked, and now, with his death, he leaves a band of his followers in India and elsewhere who have his convictions about functionalism and who will keep his spirit alive.

# USE LIME —SAVE CEMENT

J. K. VARSHNEYA

*Deputy Director (Metric Cell), National Buildings Organisation, and U.N. Regional Centre for ECAFE, New Delhi*

THE country is engaged in an unprecedented building activity. The tempo of housing construction accelerated during the Fourth Plan.

Cement is one of the important building materials. But the country is short of cement and the shortage is likely to continue for some time. It is therefore essential to conserve cement and use it as economically as possible.

One of the important ways of conserving cement is the use of lime in its place. Lime has been used as a cementing material from the earliest times. The Egyptians used lime mortar in the construction of the pyramids. The Taj Mahal at Agra, the Red Fort in Delhi and the famous temples of South India were all built using lime mortar.

With the coming of cement and the non-availability of standard quality of lime, the use of lime has receded in the last few decades.

LIME mortars have certain special characteristics : they are easier to work with; they have higher plasticity; they retain water more and they do not shrink much on drying. But they have a low compressive strength. Cement mortars, on the other hand, have a high compressive strength but a low workability. The use of lime in conjunction with cement enhances the advantages. A composite mortar containing both cement and lime combines the best qualities of both.

The present practice in building construction is to use cement for every purpose. Cement is used for foundation concrete, for brickwork, for plastering and so on. To a great extent the use of cement can be replaced by lime; or a composite mortar having cement and lime can be used.

Here are some specific suggestions:

*Use lime mortar for foundation concrete including bedding below flooring and terracing. But lime mortar should not be used in places where soil contains excessive soluble salts or the water table is within 2½ metres of the foundation level. The following mortars can be used for foundation concrete :

1 lime : 2 sand
1 lime : 1 *surkhi* : 1 sand
1 lime : 2 *surkhi*

*Do not adopt R.C.C. framed structures for three-storeyed buildings. Do the masonry work of such buildings with load bearing walls in lime mortar. For buildings with more than three storeys for which framed structures are adopted, 9″ walls (23 cm) may be done in lime mortar and only 4½″ partition walls (11½ cm) need be done in cement mortar.

*Do internal plaster in lime mortar and external plaster in cement-lime mortar 1 : 2 : 9 (1 cement : 2 lime : 9 sand).

*Do not use cement for compounds or front ornamental walls. Do the entire construction in lime mortar.

*Minimise the use of elaborate sun-breakers, complicated cement concrete *jalis*, box type and 'U' type *chajjas* to windows, which require large quantities of cement. Provide *chajjas* simply for weather protection.

*In mass concrete, use fly ash up to 20 per cent. Fly ash is an industrial waste material available from thermal power stations.

*Make efforts to provide flat arches in place of R.C.C. lintels.

LIME used in construction should conform to the specifications laid down by the Indian Standards Institution. The Lime Manufacturers Association of India, 10 Alipur Road, Delhi-6, can be of help in procuring lime of standard quality.

It has been found that by following the recommendations listed above, 8 to 10 per cent cement can be saved in the case of R.C.C. framed multi-storeyed buildings and 30 to 40 per cent cement can be saved in the case of traditional load-bearing buildings.

BASED on chemical composition there are two types of lime.

(i) *Fat Lime* : Pure limestone with little impurities yields fat lime.

(ii) *Hydraulic Lime* : Some limestones contain clay as impurities. Lime obtained from such lime-stones has the property of setting and hardening under water. Such lime is known as hydraulic lime.

The Indian Standards Institution has classified limes as follows :

*Class A* : Eminently hydraulic lime which is used for structural purposes.

*Class B* : Semi-hydraulic lime which is used for masonry work.

*Class C* : Fat lime used mostly for finishing coat in plastering, white-washing and with suitable admixture, such as *surkhi*, to produce artificial hydraulic mortars.

The appropriate class of lime should be used for different items of construction.

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*Question* : Madras is reputed to have the cleanest administration in India. What is your impression ?

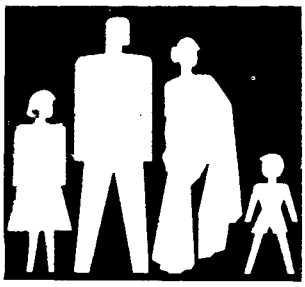
E.M.S. : Cleanest? I don't know. "Cleverest" is the right word in this context, I think.

—*The Illustrated Weekly*

# The Loop Means Family Welfare

# Village Women Do Understand

**Report by R.K.P.**
**Photographs: T.S. Nagarajan**



**Women queue up for the mobile van at Bhagwan Nagar, a Delhi village.**

IN Tughlaqabad near Delhi, a doctor has made a conquest. She has won the hearts of the simple womenfolk of that village. Under her patient persuasion and leadership the village women have overcome their traditional doubts and taken to family planning. Dr P. Kashyap is the Municipal Corporation's Superintendent for Rural South Delhi and one of the evangelists of the I.U.C.D. (intra-uterine contraceptive device).

One day, soon after she had begun telling the women of Tughlaqabad of the advantages of the I.U.C.D. and even persuaded some women to have the loop, she was challenged by a group of elderly and somewhat agitated women who closed in on her. She asked them what they wanted, and why they seemed to be angry.

One of the elders, a woman with a leaderly look, blurted: "Why do you come here to lead our young women to the path of ruin?" There was righteous anger in her voice. That was the signal for missiles of questions from all sides: "Aren't you ashamed to carry all your city vices to our simple village?"; "Is it what a doctor is expected to do?"; "Don't you know that this *dhaga* (loop) will make our young women immoral?"

**Dr A.S. Nalwa says, "Fine! you have come to have the loop?"**

**The message of I.U.C.D. passes by word of mouth among village women**

"I controlled my emotions. I tried my best to keep cool", Mrs Kashyap said to me, narrating the experience.

"I knew that the village woman is backward, ignorant. But she is upright, straightforward and warm-hearted. Go to her with the right approach and she responds so eagerly and well.

"So I lovingly told them: mothers, sisters, please don't think for a moment


**Dr Kashyap at the Tughlaqabad clinic, affectionately asks Mrs Krishna, her first I.U.C.D. case at the village, "No complaints, I suppose?"**

that I have anything to gain by this loop. If you don't want me here, I shall go away. But remember, like you, I am a woman. I am a mother of three daughters. I have my own sisters like you. I know how precious chastity is to a woman. So, please, for heaven's sake, try to understand me. I will be the last person to be associated with this loop programme if it has even the remotest idea to spread immorality. If it is so, I will be with you to fight against it."

The pall of anger began to lift. But there was an air of questioning silence.

"I put it across to them in a way that would appeal to their hearts straight," Dr Kashyap told me. "I asked them: don't you want your children to eat delicious food, wear good clothes, look chubby, be well-educated, get good jobs? Don't you want to remove your poverty and have all good things in life?"

"Yes, yes." There were a hundred voices in chorus.

"Then you should not have so many children. If you have two or three, then you can devote all your time to them and bring them up nicely and well. Now many of you give birth to ten or twelve children. Most of them die. Is it not being cruel to those poor innocent lives?"

"But the children are God's gifts!" an old woman said in all her naivete.

"Then why does not the same God give you money for your comforts which the rich people enjoy ?

"There was no answer. And then I went on: So this *dhaga* is not a cover for immorality. It enables you to have children when you want and naturally, when you have the choice, you won't go in for more children. But there is no compulsion that every woman should have it. Only those who really desire may. And those who want to have it removed, can get it removed. I am here only to help you.

"There was relief. The women jostled round me and the older women hugged me uttering words of affection. Thereafter I have not had to look back."

Against the backdrop of the famous fort built by the mediaeval Sultan, the Corporation's clinic at Tughlaqabad, which Dr Kashyap attends three days in a week, was a picture of cleanliness and calm. The little four-roomed building, with large open space around, is equipped not only for I.U.C.D. insertions but for curative and preventive medical treatment for all the ordinary illnesses. It has a lady doctor, two lady health visitors (LHV) and a *dai*.

"Meet our *dai*, Mrs Ram Piari", Dr. Kashyap said. "She is really the driving force of the I.U.C.D. movement in this village. She meets the village women at their homes and tells them, in her inimitable way, about the loop. And to her we owe the presence of the village women you see here".

Not only Ram Piari, but, thanks to her, there are other propagandists for the loop in the village. Most of the women who have adopted the I.U.C.D. have been persuading others. We saw Krishna, 25, the first woman to take to the loop at Tughlaqabad. She is a mother of two boys and two girls and Dr Kashyap told us that Krishna's example and words had been followed by many other housewives of the village.

"She was my first I.U.C.D. case here and I am proud of her," the doctor said, and Mrs Krishna gave us a "*namaste*", with the natural dignity of our village women.

"It is an infinite pleasure to deal with these village women, you know", said the doctor. "The urban or semi-urban women go on talking in wheels. They are not generally frank. But the village woman has no time to waste. She has to get the insertion done, go back to her house, make *chapatis*, then go to work in the fields and on her way back collect cowdung for fuel. The village housewife's day knows no leisure. And, although they are undernourished, most of them have no vaginal complaints unlike many city-bred women."

"Have they no complaints about the loop?" I asked.

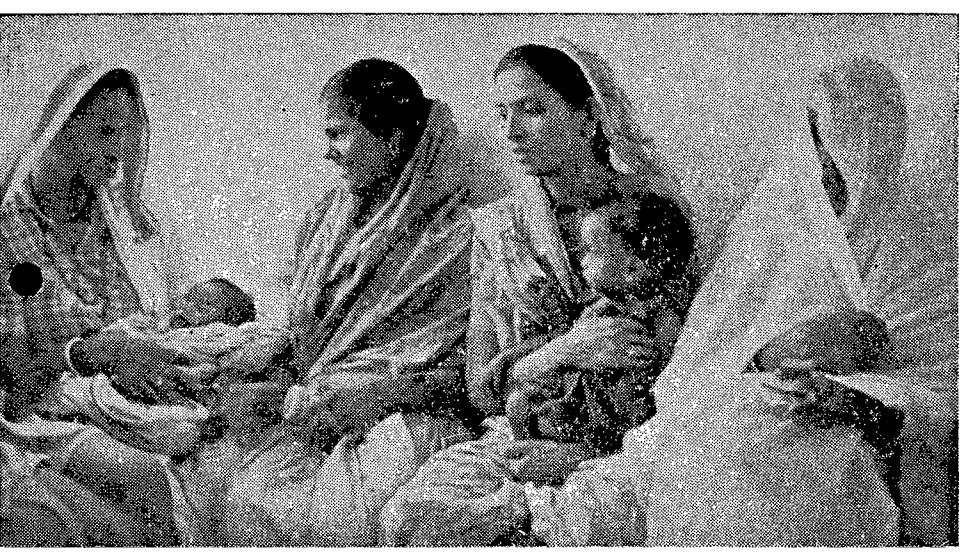
"Now, see, here is Shanti, a mother of five children, who has the loop," the doctor said, pointing at a young woman who had just then come into the room. She asked her a few questions, of course in an undertone, mindful of a man's presence. Then the doctor turned to me and said, "Look, Shanti is a working woman.

She says that she has bleeding because of the loop. It causes a lot of difficulty while working in the fields. But, you will be surprised to know, when I have offered to remove the loop she gives a very polite 'no'.

"Now here is another case. She is again a labourer. She has had temperature after the I.U.C.D. insertion. I wanted to pull out her loop. Then she told me not to. I found on examination that the temperature was due to external infection and she was treated. Now she is all right and the loop remains," said the doctor.

On the day when we were there at the clinic for two hours, six women came for the loop. Five were fitted with it and one was sent back because of some physiological complaint. There was Pushpa, 25, married three years ago. She had only one child but wanted the loop for reasons of spacing. There was Batto, the village elder's wife with nine children, bedecked with heavy gold ornaments, and a milk-seller's wife, with

**A mother with children waits for her turn.**



11 children, who had listened to the *dai*'s advice. There was Vedvati, 28, who has had seven children of whom four died and who had come there twelve days after her latest delivery. And there was (another) Ram Piari, 33, with three children and a desire for no more. Ten women came on that day for their follow-up checking after I.U.C.D. insertions. In one case, the loop was removed because the husband was against it and wanted more children.

"They should never feel unhappy, you know", said Dr Kashyap.

**Pushpa, 25, tells an older mother she is going for the loop for spacing, while next to her sits Vedvati, 28, who has had 7 children (four dead) and has come 12 days after delivery for the loop.**

"After all the fundamental philosophy of family planning is human happiness. We must not try to *sell* the idea of the contraceptives. Then the people, specially villagers, become suspicious. The emphasis should be on welfare. The village clinic should be the nerve-centre of social change like the school and the panchayat. Education, I mean psychological preparation, is important. The clinic should have well-organised community programmes. Then there comes about a complete revolutionary change. I.U.C.D.'s path to success is then easy and clear."

The Tughlaqabad clinic serves a population of more than 20,000 in seven villages. Some of the semi-urban backward areas near Delhi, which have no clinic, are served by the Family Planning Institute's mobile van. The van, which is a gift to Indian women from Swedish women, goes to the Okhla Tank area on Tuesdays and Bhagwan Nagar—Khilokri villages on Fridays. We accompanied Dr (Mrs) A.S. Nalwa in the mobile van to the compound of a big Gurudwara in the Bhagwan Nagar village. By nine o'clock in the morning, when we were there, a small crowd of sixty people had gathered. Among them were men, young and old women and children.

"Why have these men and children come?" I asked.

"Well, ours is an integrated service. It is not merely the I.U.C.D. If family planning is to suceed among villagers, we should cater for their medical needs also and thus bring them round to listen to us. There has to be social involvement. From the clinical approach to the community approach is our method. And so, you see, our mobile clinic is equipped for that."

The streamlined mobile clinic, with two compartments, has all the facilities and accessories necessary for conducting even a surgical operation. It is fitted with a motor to make it air-conditioned, and has a cubicle for I.U.C.D. insertions. In the van were Miss H.Bindra, a Lady Health Visitor, and Miss J. Bhatia, the public health nurse, who were helping the doctor in handling I.U.-C.D. cases.

On the day we went, the doctor said she did four I.U.C.D. insertions and pulled out the loop in one case.

"She had it in without asking her husband and he was very angry when told about it," said Dr Nalwa.

(*Continued on Cover iii*)

# Books

# *Villages, Towns, & Cities in Asia*

*Urban-Rural Differences in Southern Asia: Some Aspects and Methods of Analysis. UNESCO Research Centre on Social and Economic Development in Southern Asia. United India Press, New Dehli.* 147 *pages.*

Julia Abrahamson

THIS is the third study on urbanisation sponsored by the UNESCO Research Centre on Social and Economic Development in Southern Asia. Two previous volumes dealt with *Social Implications of Industrialisation and Urbanisation: Five Studies in Asia* and *Urbanisation in Asia and the Far East.* The present volume examines further some of the problems discussed in the second study, with special consideration of the role of small towns. It is the product of the thinking of representatives from several countries in Southern Asia who met in a regional seminar in New Delhi in December 1962. The thirty-six participants were drawn from various disciplines of the social sciences.

The Seminar "had a three-fold purpose...": (1) "to review criteria and categories of urban-rural differentiation and relevant sources of information as well as...studies of urbanisation trends and patterns in the countries of Southern Asia" and, hopefully, to establish the extent to which such categories and studies were comparable; (2) to analyse some of the major assumptions in the classification of settlements, consider their validity, and list the evidence needed to verify them, and (3) "to consider...policies for urban dispersal and for the promotion of planned regional settlements, with special reference to the place of small towns" in such planning.

Papers were presented dealing with the statistical and geographical background, with the pattern of rural-urban migration and indices of rural-urban differences, and with foci of social change.

The discussions based on these papers considered such questions as: Can census definitions and categories of urban places in the different countries be compared? How clear are the distinctions between the known characteristics of urban and rural areas as well as between towns of different size groups in any one country? Do urban settlements in the countries of Southern Asia portray types of social structure which are clearly distinct from those found in rural settlements? Is migration to large cities predominantly rural or urban in origin? Are variations in the social structure of towns associated with their population size or with other characteristics? Is urbanisation spreading downward from the big cities and/or upward from the small ones? Under what circumstances is urban and industrial decentralisation economically feasible and socially desirable?

The participants in the seminar could not have expected to arrive at definite answers, and they did not. In a thoughtful introductory chapter. Mrs Ruth Glass, Director of Research, Centre for Urban Studies, University of London, who was in charge of the scientific direction of the seminar, assesses the problems considered, the findings, and the value of the seminar. She stresses the following points :

Knowledge of the processes and implications of urbanisation in developing countries is limited by several factors. The approach and analysis are largely conditioned by Western thought and experience, which follow lines of demarcation between rural and urban matters and between the various disciplines of the social sciences. The research and literature to date have been largely focussed on large cities, on the one hand, and on villages, on the other, with little research attention given to small towns in Asia. The official definitions of "urban" and "rural" and criteria of "urbanism" vary from country to country and sometimes even within the same country. Urban-rural differences are becoming more and more inconsistent; some areas categorised as rural have an urban occupational structure since their residents are commuters to cities, while some agricultural or fishing centres may be more urban in outlook because they cater for tourists.

"In a sense the negative conclusions reached by the Seminar were the most positive ones" because they high-lighted the scarcity of reliable information, pointed out the hazards of interpreting data on the basis of arbitrary definitions of "urban" and "rural" and emphasised the need for caution in making generalisations about urban-rural differences. Generalisations based on the assumption of the similarity of small towns were rejected. In several countries of Asia, towns are distinguished from one another not only by size but by age—whether they are old or newly developed as the result of major industrial projects—by function, and by capacity for socio-economic change. Inter-urban differences are at least as great as those between so-called urban and rural settlements. This has come about because of internal migration. Since the major movement of population in most countries in Southern Asia is directly from villages to large cities, the contacts between the two are often greater than those between towns and villages. "Apart from literacy—a significant exception—none of the existing demographic, social and cultural indices show a consistent sharp contrast between urban and rural areas nor a pattern of differences matching that of the hierarchy of urban settlements, ranked in terms of population size."

The Seminar's concern with rural-urban differences has relevance to planning and the practical considerations involved in the development

of small towns as "counter magnets" to prevent the continuous growth of large cities.

The volume would have been strengthened by the inclusion of more of the background papers, particularly those by W.F. Wertheim, I.P. Desai, R.K. Mukerjee, and Dr Karol J. Krothi, dealing respectively with urban characteristics, small towns, rural-urban differences in social characteristics, and "Urbanisation—Through Large or Small Towns?" One wonders why these were omitted; why only the papers relating to definition of urban population and population statistics and movement were selected; also whether a more simply worded text and a lesser number of tables might have made the publication more interesting and useful to a wider audience.

The volume however, presents valuable information based on scholarly research; it points up controversial questions; it probes assumptions which call for examination. The book is worth a place in the libraries of social scientists, planners, and others concerned with urbanisation for the illuminating introduction and conclusions by Ruth Glass alone. An added bonus is the bibliography on aspects of urbanisation in Southern Asia, prepared by Dr Ashish Bose.

Mrs Julia Abrahamson is Programme Director of the Baroda Community Development Service sponsored by the American Friends Service Committee.

# QUOTATION BOX

I wonder whether we always require China and Pakistan to unite us and nothing inside our own country inspires us to it.

*—Acharya Vinoba Bhave*

The only abnormal feature of the otherwise normal life at Amritsar is that instead of taking shelter, as they should during Pakistan raids, people rush to rooftops. They like seeing the marvellous marksmanship of the men operating Amritsar's anti-aircraft guns.

*—Mr Inder Malhotra in "The Statesman"*

Pakistan has found it the final insult that India is not obsessed by Pakistan as Pakistan is obsessed with India.... The Pakistanis have assumed an attitude of defiant equality towards India and in the military field make claim to superiority. This nonsense has got to be knocked out of the Pakistanis heads and, unfortunately, it has had to be done by force.

*—A correspondent of "The Statesman"*

One experiences there (in Punjab) an overpowering sense of normalcy. At a point near the border, our tanks lumbered forward to meet the enemy but through the pall of dust raised by them one could see farmers fussily preparing their fields for the impending wheat sowing.

*—Mr Krishan Bhatia in "The Hindustan Times"*

The Pakistanis have spent eighteen years trying to get a settlement in Kashmir of the kind satisfactory to themselves. At the start they very foolishly tried a tribal invasion.... and (were) beaten back... They tried a flirtation with China... They tried to use the popular appeal of Sheikh Abdullah for their own purposes, which are not his, and saw him rearrested. Last month they tried force. And again they will probably fail.

*—From article "Pakistan Can't Win" in "The Economist", London*

While travelling in an Army jeep towards the Haji Pir Pass, in the area of J & K till recently in Pakistani occupation, an Indian Army observer saw a large number of people peering inquisitively at him.

He stopped to enquire the reason. A 70-year old villager with a grey beard told him, 'We have not seen any vehicles for 17 years in this area. Most of the children are seeing a motor vehicle for the first time in their life.'

*—From a Press note*

I was dealing with sophisticated and extremely well-briefed men, but men who would suddenly, as if it were the most natural thing in the world, come out with such phrases as: "In the places where the thought of President Mao is correctly applied, the rice harvest has greatly increased".

*—Mr K.S. Karol on Maoism in "New Statesman", London*

I do not know if one can judge oneself.

*—Mr G. L. Nanda*

In a guided democracy as in a "basic" or "people's" democracy, "spontaneity" requires a high degree of organisation.

*—R.S. in "The Hindustan Times"*

If some cranky fellow should organise a competition to assess who has got the largest number of personal friends, I will come out with the first prize.

*—Mr S.K. Patil*

# OUR GNATS

*From Page 3*

turbo-jet. And propellers give greater control and slower take-off and landing speeds. So they are used in heavier aircraft. At higher speeds the pure jet is the best.

The most important advantage of the jet engine is that it is extraordinarily light compared to an internal combustion engine and its propulsive efficiency is three times more at great speeds. Jets consume more fuel than the piston engine.

In the modern fighter planes driven by turbo-jet engines the wings are thin and of short span, generally well swept back. The pilot's cockpit and armaments are well forward in the nose and the jet engine is at the back. The cockpit is air-conditioned and pressurised and the pilot wears protective pressurised clothing. Automatic ejection-type seats are installed to provide emergency means of escape from fighters. When this equipment is operated, the seat and the pilot are blown out of the plane after which a parachute opens automatically.

All available space in the fuselage (main body) of the fighter is used to store fuel, ammunition, guns, radio, radar, computers, navigation devices, cameras, power plant and other equipment. The air-to-air missiles are fitted on each wing tip. Provision is also made under the fuselage or wings for mounting of bombs or rockets.

From the days of pistol duels, aircraft armament has travelled far to air-to-air missiles. At the beginning of the Second War the fighters carried six or eight machine guns in the wings, and bombers had revolving guns. As the war progressed, intensive defence research made it possible for the fighters to carry 20 mm. cannon which could fire 100 rounds per gun, and later rockets. The guided missiles now fitted to many of the fighters fly at 3000 km. per hour and give approximately 70 per cent direct hits on targets at a maximum distance of 3.35 kilometres.

# Rs 815-Crore Fourth Plan for Madras

*Every village to be electrified*
*Every village to have protected water supply*
*Every Harijan family to get a house-site*
*Free and universal primary education*

EVERY village in the Madras State will have been electrified by the end of the Fourth Plan. The State has made a provision of Rs 30 crore for the programme of rural electrification. The programme will help both agriculture and rural industries.

The Fourth Plan of Madras envisages a total outlay of Rs 815 crore, which is bigger than the outlay of the State on all the three earlier Plans put together. A Plan of such a big magnitude is deemed necessary considering the high density of population in the State, which is 669 per square mile as against 373 for all-India.

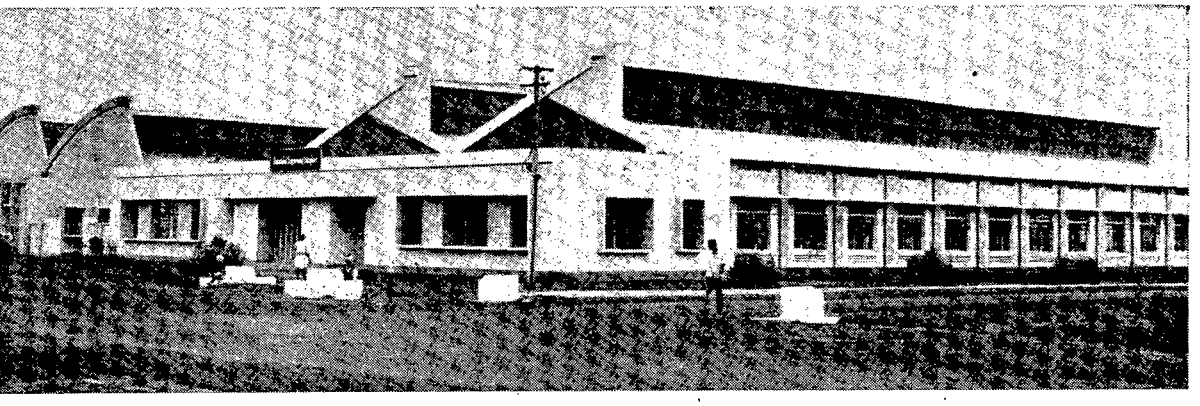
The Plan keeps in view the targets and objectives of the national Plan and seeks to bring about their fulfilment. The first priority, as in the national Plan, is assigned to increasing agricultural production.

The total expenditure on the Third Plan is expected to reach Rs 340 crore. The Third Plan has achieved the targets that the State had set itself in the fields of power, minor irrigation, general and technical education, small-scale industries and roads. The State took up, in the last two years of the Third Plan, a crash programme for pushing through schemes calculated to yield quick returns in the short run. The programmes of minor irrigation and rural electrification were intensified.

By the end of this year, most of the villages with a population of 2,000 and above would have been electrified and 2.35 lakh wells would have powered pumping sets.

Intensive cultivation programmes have also been introduced, as a result of which the consumption of nitrogenous fertilisers is estimated to have risen to 4 lakh tonnes in the current year from 1.15 lakh tonnes in 1961-62. High yielding strains of crops have been adopted on a wide scale.

During the Third Plan, agricultural production in the State increased to 65 lakh tonnes (compared to 53 lakh tonnes in 1961-62—an in-



**Left : The industrial estate at Ambattur. Below: Third power house of the Kundah hydro-electric project built with Canadian aid (see YOJANA July 19, 1964.)**

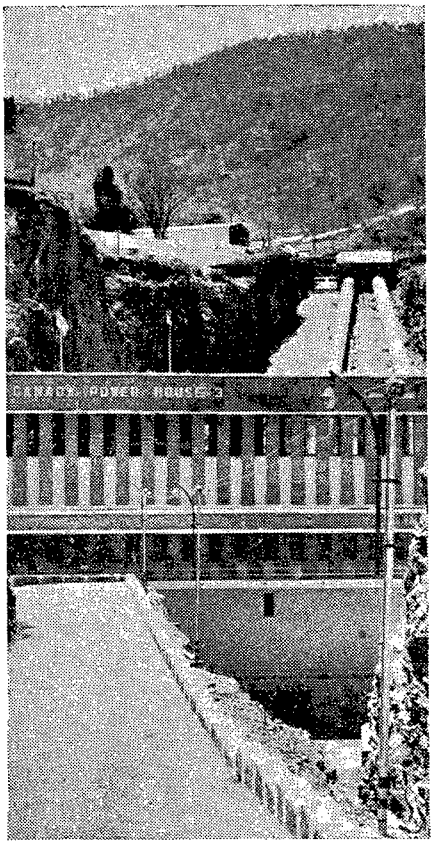
crease of 22 per cent during the five years). The Fourth Plan aims at achieving a production of 82 lakh tonnes of food grains, a further increase of 26 per cent.

To achieve this target of food production, the Plan emphasises adoption of modern methods of cultivation, application of improved seeds and fertilisers, minor irrigation and rural electrification. An additional 2.5 lakh wells will be provided with power to work pumping sets. To encourage the use of fertilisers in rain-fed lands, the State proposes to introduce a scheme of subsidy. Also, more fishing craft will be mechanised and deep-sea fishing developed.

Apart from minor irrigation, a few more schemes of medium irrigation will also be taken up for exploiting the marginal surpluses. The old irrigation systems will be improved. The irrigation channels in the Tanjavur district will be modernised and the Periyar channels improved. The problem of drainage in the Kaveri delta will be put on a systematic basis. A large area in the delta gets water-logged on account of heavy run-off from north-east monsoon rains. Upland drains entering the delta have therefore to be diverted without affecting the irrigated crops. A scheme costing Rs 5 crore has been included in the Plan for this purpose.

The programme of industrial development follows the policy of encouraging the private sector with provision of necessary economic overheads. However, during the Fourth Plan the State will take a direct part in the development of industries and concentrate on establishing medium-sized basic industries producing raw materials and intermediaries for big private industries. It will set up factories to produce consumer goods such as yarn, sugar and cement, with a view to influencing the prices of these commodities. Co-operatives will be encouraged to take up the production of consumer goods. As for major industries, the oil refinery and the Salem steel plant are the main projects proposed.

A programme of developing power generation is necessary to meet the needs of both agriculture and industries. By the end of the Third Plan, the installed capacity in the State would be 1,140 MW besides 400 MW to be commissioned at Neyveli. The Annamalai hydro-electric scheme, the Basin Bridge power station and the Kodayar hydro-electric scheme will be completed during the Fourth Plan. Eight new schemes with a total installed capacity of 1,575 MW and costing Rs 138 crore are proposed to be undertaken. An outlay of Rs 217 crore has been proposed in the State's Fourth Plan for power programmes. Besides, the Neyveli thermal power station will have to be expanded and the proposed atomic power station at Kalpakkam near Madras established in the Central sector to meet the growing power requirements in the State.



Social services will receive greater attention. Free and compulsory primary education will be introduced throughout the State by the end of the Fourth Plan. Textbooks and uniforms are proposed to be supplied free to poor children in primary schools. Backward classes will be given more facilities. Rs 80 crore will be spent on the expansion of education at different levels.

The programmes of developing communications, water supply, and medical and public health facilities aim at bridging the gap between rural and urban areas in regard to the essential amenities of life. Every village will have a protected water supply or a pipe line. Lands are being requisitioned in order to allot them to Harijans and one lakh house sites have thus already been distributed during the past three Plans. This programme will be accelerated to provide a house site for every Harijan family in the rural areas. Besides, all poor people will be given house sites by the end of the Plan period. A sum of Rs 15 crore has been earmarked for this programme.

# FOURTH PLAN TASKS

*From Page 7*

and in irrigation rates was only Rs 95 crore, a mere 2.6 per cent! Balanced development required more investments in agriculture and more savings from agriculture, because agriculture constituted a very large proportion of our economy and income.

During the next five years, over administration, defence and development, the Governments would be spending nearly Rs 20,000 crore. Even a 2 per cent economy, rigidly carried out, all along the line, would yield Rs 400 crore for the Plan. Such purposeful economies had to precede and accompany all efforts at mobilising resources, existing as well as additional.

Mr Mehta said in conclusion: "The claims of defence obviously have the overriding priority. But in a large measure they do not conflict with, but in fact reinforce, the needs and design of development. As we repulse the onslaughts of aggression on our land we shall be achieving greater solidarity among our people, a sharpened sense of sacrifice, greater efficiency in effort and discriminating understanding about priority needs. These insights and understanding will help our development efforts equally."

Several Chief Ministers of States made brief observations after the Prime Minister had spoken. Mr Mohanlal Sukhadia of Rajasthan said that the Plan should be given defence-orientation and each State should take suitable steps in common with other States. Mr S. Nijalingappa of Mysore said higher agritural production would best be achieved by extending agriculture. Mr. K. Brahmananda Reddy of Andhra Pradesh stressed the need for economies in administration and for a regional approach to economic problems. Mr K.B. Sahay of Bihar said that if effective action were taken against floods, agricultural output could go up substantially in Bihar. The farmers had become keenly fertiliser-minded and there was considerable scope for rural employment in suitably located industries. Mr P.C. Sen of West Bengal suggested higher inter-State sales tax, higher excise duties for sugar, tobacco and mill-made cloth and passenger tax for those travelling on the Railways, in order to increase resources. Mr. Balwantrai Mehta of Gujarat thought that the size of certain sectors like irrigation and industries might have to be increased, with the Central Government helping the financing of some major projects. Mr V.P. Naik of Maharashtra referred to procedural delays in taking decisions and thought there could be greater delegation of decision-making power.

## JOWAR RECORD

In 1964-65, the production of jowar was 9.81 million tonnes, the highest so far and 7.4 per cent more than that in the previous year. According to the all-India final estimates by the Directorate of Economics and Statistics, 18 million hectares of land were under jowar crop in the year, an increase of 0.3 per cent over the previous year.

# SALUTE TO SCHWEITZER

## THE SAGE OF LAMBARENE TAUGHT AND PRACTISED 'REVERENCE FOR LIFE'

Ram K. Vepa

ALBERT Schweitzer is no more, and in his passing the world has lost one of the wisest voices of the century. He has been a symbol of sacrifice and dedication, providing inspiration and guidance to millions all over the world.

The life of Albert Schweitzer is almost out of a story book. When, fifty-two years ago, Schweitzer decided to undertake medical work in the heart of the French Congo (now styled the Republic of Gabon) he was no romantic, fascinated by the gloomy mysticism of the Dark Continent. Although only 38, he had already built up a considerable reputation as a philosopher and musician. His biography of the great German musician, Johann Sebastian Bach, had won acclaim. It seemed as if a fruitful career lay before him as a distinguished European savant; but when the inner call came to him, Schweitzer embarked on a new career to serve the people of the African continent.

Renunciation is the keynote of his whole life; but his renunciation was not negation of life but a way of seeking fulfilment. At Lambarene in Gabon, remote from Western civilisation, he established a hospital "to minister unto the maimed and the sick". As he buried himself in the rain forests of the Congo basin, he really went into the heart of civilisation.

At Lambarene, Albert Schweitzer gathered around himself a small but devoted band of doctors, men and women, who, animated by similar ideals and loyalty led a simple, almost Spartan, existence. The hospital itself, although a 400-bed institution, is no gleaming antiseptic affair. Its tin roofs and ramshackle wooden buildings merge easily with the shabby environment. In fact Schweitzer had intended his 'jungle clinic' to be easily accessible to the poor and illiterate, who, he argued, would feel out of place in an ultra-modern hospital with chromium plating and white overalls.

For decades after 1913, the outside world heard little of the white Doctor who was rendering service to fellow man, deep in Africa, and it was not till the Nobel Peace Prize was awarded to him in 1952 that the world began to take serious notice of him. It is doubtful whether Gandhiji himself had known much of the kindred soul. His autobiography *Out of My Life and Times* outlined his attitude to life and its problems, while an even earlier work *On the Edge of the Primeval Forest* described his position, both literally and metaphorically. In his work *The Kingdom of God*, Schweitzer sought to provide a personal interpretation of the teachings of Jesus Christ. "Christianity", he wrote, 'has constructed an elaborate dogma but it has not really comprehended that the mission of Jesus was to enable everyman to discover the Kingdom of God in himself." His monumental work, however, was *The Philosophy of Civilisation*, conceived in four volumes, of which only two have been published.

Although Albert Schweitzer is respected by millions and even venerated by some as a near saint, he is not without his share of detractors. There are some who see in his life mere escapism; others regard him as sentimental, patronising and even colonial. They point out that the actual impact of his work in Africa is no more than that of other missionaries. An educated African is said to have remarked that he would rather die unattended than be treated at the hospital at Lambarene. Perhaps the most significant criticism of Schweitzer is that he lived in an age before the Frist World War, "hardly knowing or caring that a century and a continent have passed him by"; in many ways, it is said, Schweitzer is an anachronism in a continent where the wind of change has been blowing hard, liberating millions of people not merely from colonial domination but also from voodoo and witchcraft.

It is true that the world of mid-sixties is a vastly different place from that of 1913, when Albert Schweitzer first set out for Africa. Yet, in all this tumult and upheaval, the spirit and purpose of man has changed but little, and before Albert Schweitzer is dismissed as a relic, one may pause to examine the symbolism of his life and achievements. Why, it will be asked by later generations, did he have to leave everything and bury himself for more than five decades in an utterly alien environment? The answer is best given in his own words: "I decided I would make my life my argument. I would advocate the things I believed, in terms of the life I lived and what I did". One recalls the life of Gandhiji who, impelled by a like motive, remoulded himself and his country. "I did not want my ideas to become ends in themselves", Schweitzer wrote, "the ideas took hold of me and changed my life. Resistance to those ideas would have been impossible." How very similar are the "ideas" of Albert Schweitzer to the "inner voice" of which Gandhiji had often spoken!

What then are these "ideas" which had influenced Schweitzer? "No single phase of my own philosophy", Schweitzer said, "is more representative of my thinking than Reverence for Life. Ethics is nothing else than reverence for life. In reverence for life, religious feeling lies before us in its most elemental and most profound form". In choosing for his service the people most outwardly alien to him, Schweitzer was affirming, in practice, his innate belief in the sacredness of all life. It is in this ability to make a sustained sacrifice for a principle, even as Socrates, Christ or Gandhi did, that

## *AS THE PLAN MOVES*

# LUBRICATING OIL PLANT TO BE BUILT

A lubricating oil base stock refinery will soon be set up in Bombay under an agreement signed on September 15 between the Union Government and Esso. The agreement was being negotiated for the past six years.

The plant will have an annual capacity of 1.45 lakh tonnes of lubricating oil, of which 55 per cent will be high-grade automobile base oil and the remaining 45 per cent medium-grade industrial type base oil.

The plant will be built in two years at a cost of Rs 7.2 crore.

A new company will be formed in which the Union Government and Esso will be equal partners.

Lubricating oil is the costliest of petroleum products. We import Rs 4 crore worth every year.

# SUGARCANE OUTPUT UP

The production of sugarcane is estimated to have increased by 16.4 per cent in 1964-65, the production being 122.13 million tonnes compared to 104.92 million tonnes in 1963-64.

# PACT WITH YUGOSLAVIA

India and Yugoslavia have entered into an agreement for co-operation in the development of atomic energy for peaceful purposes.

# VILLAGE VOLUNTEER FORCE

The Ministry of Community Development and Co-operation has urged the State Governments to mobilise the Village Volunteer Force fully to meet the present emergency.

The new tasks for the V.V.F. will be to guard the village from infiltrators and foreign paratroopers, and watch and protect means of communications and industrial installations. It will also supplement the regular police and other forces deployed in the area.

# SNIPPETS

The Banana and Fruit Development Corporation has prepared a breakfast food for jawans. The food is based on banana powder and contains 16 per cent protein and adequate minerals and vitamins.....The output of iron ore during the first six months of the current year was over 10 million tonnes, 10 per cent higher than that in the first half of the previous year... Uttar Pradesh has so far re-forested 45,640 acres of degraded forest lands for raising the supply of timber for industries and wood for fuel...The Hindustan Shipyard, Visakhapatnam, will produce six ships every year...In 1964, there were 8,161 newspapers published in 44 different languages in India...Protection to the safety match industry will be withdrawn.

Printed at the Caxton Press Private Ltd., New Delhi, and Published by the Director, The Publications Division, Delhi-6.
Chief Editor: H.Y. Sharada Prasad

# Courage

THE whole land is thrilling to reports of simple courage on the part of jawans, generals and civilians. The jawan Ayub Khan who hails from Rajasthan (our answer to the Pakistan President of the same name) and who smashed a tank in pitched tank battle, Havaldar Abdul Hamid who, lone-handed, destroyed three Pattons before being cut down by a fourth, gunner Raju, a city's saviour and darling, whose deadly aim will go into military history, the unnamed pilot who gave his life to break up the Sargodha radar system, the Punjab villager who pinned down an armed Pakistani paratrooper with a thick piece of wood, the station master of a small village who prepared 400 meals every day for jawans—these are the stuff of which India is made.

Three years ago Mr Nehru said that if the Chinese attack had come like a thunderbolt, the response of the people of India also come like a thunderbolt.

Between then and now there is an even greater sternness of will. The kind of confidence that has been seen in the two weeks after Pakistan pushed its forces into Chhamb is of the kind that can stand not only successes but setbacks. With this kind of civilian morale, we can wage a long struggle and make the world appreciate the rightness of our policies and the strength of our people.

A typical example of our people's courage was given to us by a teacher in Delhi University. One day he discovered that the large number of labourers, men and women, who were working on a building in the University had all disappeared. When he didn't see them for a second day he asked the contractor. He was told that after the aerial bombings around Jodhpur, the panchayats of the villages had written to all their people to come back home. And the building workers had all gone back to where danger is.

IGNORAMAN

Wants to Know

*We have smashed*
*Pakistan's*
*Pattons*
*How shall we deal*
*with the*
*Pattons*
*in our offices?*

# Fewer

ON April 21 this year there were 9,257 family welfare planning centres in the country. On may 21 the number stood at 13,901.

The August issue of *Family Planning News*, which gives these figures, says that this marked increase is "because of supplementary information" received from the various States.

The journal gives a useful account of the Central Family Board's recent meeting and a seminar of family planning officers. The proceedings were not without light moments. When the job specifications for various kinds of family planning workers were being discussed, one member moved that the proposed sentence "The family planning health assistant must pay frequent visits to the auxiliary nurse midwife" be revised by dropping the word "frequent". Everyone agreed.

*Yojana*, as an ardent advocate of the movement, will not be mistaken if it pleaded for fewer pictures of seminarists in such journals. The August issue has fourteen pictures. All of them are of discussion groups and of dignitaries, and none is of family planning camps or of the ordinary men and women who have to become converts to the faith.

# VILLAGE WOMEN ADOPT THE LOOP WAY

(*Continued from Page 21*)

"So we had to take it out. It is actually a hard task to get over the ignorance of people. Another woman in whom we inserted the loop had bleeding. She went to an untrained *dai*. The *dai* terrified her saying that it was *bijli ka tar* (electric wire) that we had put in and then pulled it out herself. It created complications."

"Do you give other contraceptives also?"

"Yes. We have our Voluntary Depot Holders to whom we supply all kinds of contraceptives except the loop. They propagate them among the villagers and supply them with the contraceptives".

In Bhagwan Nagar village itself we went to Siddharth Basti, a colony of Harijans. The Voluntary Depot Holder there was Tara Chand, a tailor. He told us that besides him, other social workers also occasionally visited the Basti and preached family planning. Among them was a Buddhist monk. When the Harijans faced him with the question "Are not children gifts of God?" the monk countered, "The sun is also a gift of God, but don't you hold an umbrella when you don't want the sun?"

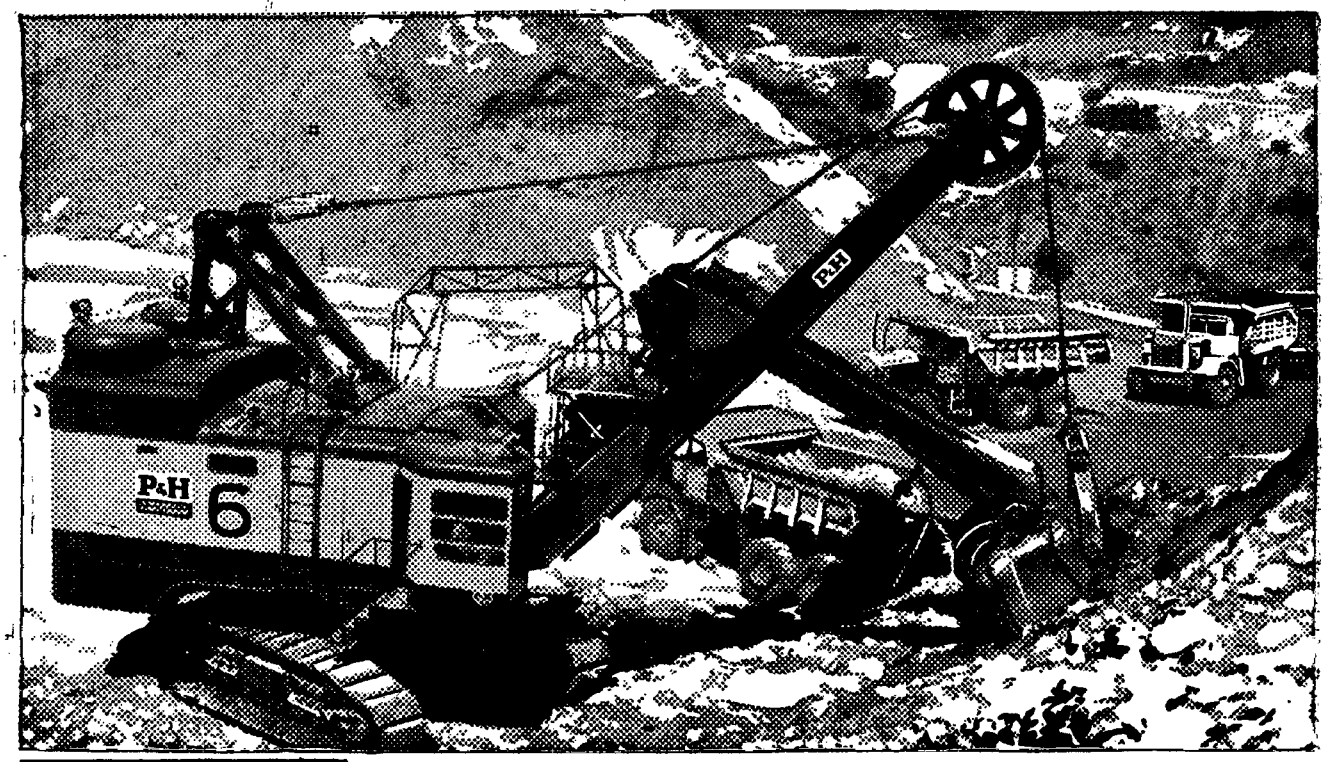
Thus the message of family planning spreads to the villages with the help of enthusiastic doctors, persevering *dais* and itinerant social workers.

# Collector's Item

A road sign near
a Mysore school :

BEWARE OF SCHOOLS

Reg. No. D—876

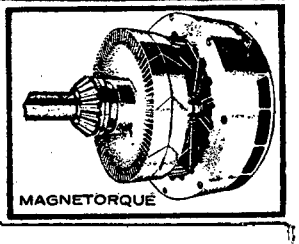



# P&H ELECTRIC SHOVELS—THE NO. 1 CHOICE OF THE MINING INDUSTRY

**More P&H electric shovels are sold the world over than any other make of electrics! P&H has earned such wide-spread acceptance in the mining industry because of lower per-ton loading cost. With patented MAGNETORQUE hoist drive and electric controls, a higher rate of production is achieved, while realizing economy of power consumption.**

## THIS IS THE VITAL DIFFERENCE WITH MAGNETORQUE

Magnetorque is more than just a superior clutch. It's a complete departure from conventional designs...employs magnetic force to control hoist motion. The result? Magnetorque-equipped P&H Shovels give seven loads in the time other machines produce six.




- P&H Equipment is built in the U.S.A., West Germany, Japan, Canada, Australia and Mexico
- P&H machines are also manufactured in India by TELCO at Jamshedpur
- P&H Equipment in India is backed by Voltas' unrivalled service and spare parts organisation.

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