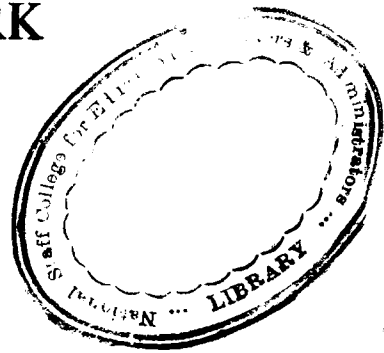


SIXTH FIVE YEAR PLAN

1978-83

FRAME WORK



GOVERNMENT OF PUNJAB
DEPARTMENT OF PLANNING

1978

Sub. National Systems Unit,
National Institute of Educational
Planning and Administration
17-B, Adilshahi Marg, New Delhi-110016
DOC. No.....
Date.....

P R E F A C E

The Government has set itself the task of developing Punjab into a model State within the next ten years, that is, by 1987-88. The Sixth Five Year Plan (1978-83) is the first stage in the State's march towards this goal. The development strategy and the detailed programmes of the Plan have been so conceived as to ensure realisation of this cherished objective.

To develop into a model State, Punjab will need to have adequate resources for its State Plan as well as a fair share in Centre's own development outlays. The State Government has been pressing Punjab's legitimate claims in both these respects at every available forum. The goal of a Model State has been set in the hope that Punjab will get its due share of national resources and also generous cooperation and support from the Centre. We also have full confidence that the people, on their part, will spare no effort and sacrifice to develop the State into a model for the country.

The 'Sixth Five Year Plan 1978-83 : Framework' is being published with a view to undertaking discussions with the Planning Commission and to invite comments and suggestions from legislators, academicians and the general public. All constructive criticism is welcome and will be taken into account in finalising the Plan.

It is my earnest hope that the people of Punjab, and all others interested in our goal of a Model State, will study the document carefully and offer their valuable advice and criticism.

Parkash Singh Badal
Chief Minister.

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PART III

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PART I

The Planning Organisation and Procedure

At the Centre, the Planning Organisation and procedure are now well set. Though there is always room for improvement, it is doubtful whether, in the prevailing socio-economic framework, planning could possibly be more comprehensive, detailed and binding. Refinements are certainly possible, but fundamental changes in concept, modus operandi, and orientation are ruled out.

THE PLANNING ORGANISATION IN THE STATE

1.2 At the State level, in most cases, planning is more a matter of form than of substance. Neither the political leadership nor the ruling bureaucracy has much faith or interest in this technique of development. The planning procedures are a variant of the usual budget making exercise. The programmatic content of the Plan has a considerable arbitrary element reflecting the interests, biases and fads of the ruling groups and individuals. The preferences of the Planning Commission and the Central Ministries for certain policies, priorities and programmes also have an impact on it.

1.3 The new State Government that took over in the post-emergency period is keen to put the planning organisation and procedure on a firmer, more scientific and democratic basis. The first step in this direction was taken in February, 1978, when a high level State Planning Board was set up with the Chief Minister as its Chairman. The other Members are: the Planning and Finance Minister (Deputy Chairman), the Chief Secretary and the Finance Secretary (ex-officio Members), and six high level specialists. The specialists are: (i) an expert in Industry and Management; (ii) an engineer who was previously the Chairman of the State Electricity Board; (iii) a former Agricultural Commissioner to the Government of India; (iv) a reputed agricultural economist; and (v) a Professor of Economics with a long practical experience of planning in the Indian Planning Commission and in foreign countries. It has not yet been possible to fill the sixth post meant for a special-

list in social services. The economist member is also the Secretary of the Board.

1.4 In the States, there has often been continued conflict between the Planning Department and the Planning Board about their respective jurisdictions and spheres of responsibility. Despite the financial assistance and the moral support extended by the Planning Commission towards creating an adequate planning machinery at the State level, few State Planning Boards have yet taken off the ground. The Punjab Government has sought to resolve this conflict and to integrate the entire Planning organisation by making the Planning and Finance Minister, the Deputy Chairman of the State Planning Board and the economist Member-Secretary of the Board, also the Secretary of the Planning Department. This arrangement has worked well. In the preparation of the Sixth Five Year Plan, the Planning Department and the Planning Board and their staff have functioned almost as one organisation under a unified leadership. As a result, the work has proceeded smoothly.

1.5 The State Government has also approved the internal reorganisation of the staff of the State Planning Board with a view to ensuring that the Planning Department and the Planning Board are provided with efficient technical and organisational assistance. The staff have been reorganised into 12 Divisions as under:—

1. Economic Division
2. Plan Co-ordination Division
3. Local Plans Division*
4. Employment and Manpower Division
5. Agriculture and Rural Development Division
6. Irrigation, Drainage and Flood Control Division
7. Energy Division
8. Industry and Minerals Division
9. Trade and Transport Division

*It deals with planning at the block, municipal and district levels.

10. Housing and Urban Development Division
11. Special (Backward) Areas Division
12. Social Services Division*

1.6 The Economic and Statistical Organisation, which is under the administrative charge of the Planning Department, is required to meet the data needs of all the Divisions. It has the responsibility of ensuring a regular and timely flow of the data required or requisitioned by the various Divisions. The Divisions, on their part, are required to maintain up to date information relating to their respective subjects for ready reference. The ex-ante evaluation of projects and programmes is undertaken by the concerned Subject Division.

1.7 The staff strength of a Division depends upon the nature of its responsibility. Typically, a Division is structured as under :—

1. Head of Division of the status of a Subject Specialist or Director
2. Deputy Director
3. Research Officer
4. Technical Assistant
5. Secretarial staff

1.8 Steps are now being taken to have the staff, particularly the Subject Specialists and the Directors, in position as early as possible. The State Government has taken measures to remove the procedural and other bottlenecks in the way of speedy recruitment.

1.9 The State is well on the way towards creating a unified and professionally competent planning organisation which could measure upto the growing complexity and sophistication of the planning process at the State level. Such an organisation will make it possible to take planning to the local level. The State Government is now giving thought to this dimension of the Planning process. It has been decided to undertake a comprehensive pilot study in block level planning, initially covering 5 blocks. This study is expected to provide

the required insight into the appropriate scope, organisation and procedure for block level planning. The State Government is keen to extend planning to all the blocks before the close of the current planning period.

1.10 At a later stage, the possibilities of instituting comprehensive planning at the municipal/ corporation level will also be examined. This way, it is hoped to make development in the urban areas conform to the overall development perspective of the State.

1.11 The public sector outlays at the State level have mostly a promotional role through improvements in the economic and social infrastructure, fiscal incentives, technical guidance and assured supply of equipments and material inputs, sometimes on concessional terms. The performance of the State economy depends, in the final analysis, on how vigorous is the response of the private sector—farmers, big and small industrialists, builders, artisans and other producers to the State's promotional measures. It is of utmost importance to evolve an effective organisation, techniques and procedures that would provide the maximum stimulus to the private producers and give their development activities a direction conforming to the State's development priorities. The Planning Organisation in the State is seized of this problem and will be taking effective measures to this end.

1.12 The above measures are an initial step to gear up the planning machinery. The need for an efficient planning organisation will become all the greater as the Punjab economy grows and diversifies. The State Planning organisation urgently needs :

- (1) additional staff to fill the gaps ;
- (2) supporting planning organisations at the block, municipal and district levels ;
- (3) a well equipped library ;
- (4) modern equipment for processing, maintenance and retrieval of data ;
- (5) in-service training of staff ;

*Its sphere of responsibility includes education, health, welfare of scheduled castes, backward classes, women, children, destitutes and other disadvantaged sections, and other social services.

- (6) funds to finance specialised studies on specific subjects, seminars and workshops and staff participation in conferences ; and
- (7) facilities for the staff to acquaint themselves with field conditions.

1.13 The Plan has made a substantial provision for strengthening the State planning organisation. It is hoped that this provision will be supplemented by generous assistance from the Planning Commission to build up the organisation to the required level of competence and efficiency.

THE PLANNING PROCEDURE

1.14 For formulating the State's Sixth Five Year Plan new traditions have been set with regard to the planning procedure. Firstly, the formulation of sectoral programmes has been undertaken, not in isolation, but in relation to an integrated overall growth model of the State economy. Secondly, the expenditure-based planning has been substituted by result-oriented planning. Finally, a beginning has been made with democratisation and professionalisation of the planning process.

1.15 The work on the Sixth Five Year Plan began with an exercise by the Planning Board aimed at evolving a broad ten-year development perspective for the State economy. This perspective took into account the fact that :

- (i) over the period 1965-66 to 1975-76, the Punjab economy had grown at 4.78 per cent per annum as against the national average of about 3.5 per cent ;
- (ii) the economy had reached a level of development which had created favourable conditions for rapid growth of industry and other non-agricultural activities ; and
- (iii) the realisation of the State Government's goal of developing Punjab into a Model State within the next ten years requires a higher rate of growth than observed in the past.

1.16 The Chief Minister, in his address to the National Development Council on 18th

March, 1978, had affirmed that the State Government was determined to realise at least 7 per cent annual rate of growth. The State Planning Board was of the view that, if the tremendous energy and drive of the people of this State were fully mobilised and if due support were forthcoming from the Centre, it should be possible to attain 7 per cent or even higher rate of growth. However, taking into account the constraints that were yet to be removed, they considered that the target of 7 per cent of growth represented a fair balance between Punjab's need and capacity for development.

1.17 The State Planning Board next worked out the sectoral profile of growth corresponding to the targetted 7 per cent rate of growth. In doing this, the Board took into account : (i) the pattern of growth of the Punjab economy during the ten-year period 1965-66 to 1975-76 ; (ii) the pressing need for diversification of the economy between agriculture and the non-agricultural activities as also within the agricultural sector itself, towards greater emphasis on oil seeds, animal husbandry and horticulture ; and (iii) the growth potential of different sectors based on the assessment, on the one hand, of the production possibilities and, on the other hand, the nature and extent of the anticipated market.

1.18 In terms of the gross value-added, the following rates of growth for different sectors were envisaged :

- (i) agriculture and the allied activities, 5 per cent ;
- (ii) mining and quarrying, 7 per cent ;
- (iii) manufacturing, 11 per cent ;
- (iv) construction , 15 per cent ;
- (v) electricity, gas and water supply, 13 per cent ;
- (vi) transport, storage and communications, 8 per cent ;
- (vii) trade, hotels and restaurants, 8 per cent ;
- (viii) banking and insurance , 10 per cent ;

- (ix) real estate and ownership of dwellings, 7 per cent ;
- (x) public administration, 8 per cent ; and
- (xi) other services, 8 per cent.

1.19 The growth model worked out by the Board was the frame of reference for the Administrative Departments in working out their proposals for incorporation in the State Plan. These proposals thus had a central theme, namely, accelerated and diversified growth as envisaged by the Planning Board. This was undoubtedly an important advance in planning techniques and procedures at the State level.

1.20 In the past, planning at the State level was mainly concerned with the spending of money. The exercise began with an estimate of the likely resources. The amount was then distributed among the Administrative Departments, at best, on the basis of informed judgement of the Planning/Finance Departments, and, at worst, by some rule of thumb. The Administrative Departments were then asked to formulate development schemes. The so-called 'Plan' was thus a disjointed collection of individual schemes rather than a properly co-ordinated programme of development. The physical results were something incidental to planning and not its principal concern. As a corollary to this approach little attention was paid to the production data, outside the agricultural and power sectors. In Punjab, even today, Government have little information about industrial production in physical terms. In working out the Sixth Five Year Plan, the State Government has sought to establish a logical sequence in Planning. The emphasis has been on expanding the capacity of the State economy to produce a growing supply of goods and services needed for consumption, capital formation and exports. Production is the goal while the outlays have been viewed as no more than the necessary means for this.

1.21 The sequence in planning that has now been emphasised is thus a reversal of the past practice. In this sequence the first step is to take a realistic view of the production and other goals to be achieved. The next step is to estimate the facilities, opportunities, and incentives required for the realisation of these goals. The view with

regard to the required outlays and their distribution is the last step in the exercise. If the likely resources turn out to be inadequate, the exercise is repeated all over again with lowered sights, till there is balance between the Plan goals and the estimated financial resources. Clearly the State has sought to substitute result-oriented planning for expenditure-based planning. Not that it has fully succeeded, but certainly a beginning has been made in the right direction.

1.22 Another innovation has been that the detailed programmes have been evolved through a painstaking process of discussions with the Administrative Departments aimed at achieving a general consensus about the programmatic content of the Plan, to begin with at the level of the Ministers, Secretaries and Heads of Departments. The procedure adopted is outlined below.

1.23 When the guidelines were received from the Planning Commission (20th June, 1978), the Planning Department forwarded these to the Administrative Departments together with the prescribed proforma and a copy of the relevant chapter in the national Draft Sixth Five Year Plan 1978-83, and requested them to formulate proposals for inclusion in the State Plan. In addition to the guidelines received from the Centre, the Departments were requested to take into account :

- (i) the overall model of growth worked out by the State Planning Board ;
- (ii) the need to limit the total outlays under the State Plan during the next four years (1979-83) to Rs. 1440 crores, which was about twice the amount actually spent (Rs. 716 crores) during the past four years (1974-78), thus ensuring that, taking into account the 1978-79 Plan outlay of Rs. 260 crores, the total outlay in the five-year period (1978-83) would not exceed Rs. 1700 crores (as against Rs. 1585 crores suggested by the Planning Commission in the guidelines) ; and
- (iii) their own assessment of the State's needs, development potential and priorities.

1.24 The proposals of the Administrative Departments for the next four years 1979-83 added up to Rs. 1793 crores. In order to bring this

down to the prescribed level, there were two rounds of discussion between the high level committees of the Planning Board and the Administrative Departments. The first Committee was presided over by the Planning and Finance Minister (Deputy Chairman of the Board) and the second by the Chief Minister (Chairman of the Board). The second Committee discussed the proposals schemewise. Thus, after a thorough bilateral examination of the proposals, the total amount was reduced to Rs. 1611 crores. Even this amount was substantially higher than the feasible level. Since the proposals had been discussed threadbare, it was not considered necessary to go over the whole ground once again. Nor was there any time for this exercise. It was, therefore, decided to apply a 12% cut to each Department's total provision. The Departments were, however, informed that they need not, indeed should not, apply a uniform cut. For example, the spill-over schemes had to be treated on a different footing than the new schemes. They were given the choice to make the necessary adjustments taking into account the *inter se* priority of their schemes, provided the overall ceiling for the Department was not pierced and the basic structure of the approved proposals was not altered. The outlay for the next four years was thus reduced to Rs. 1418 crores. Including the 1978-79 outlay of Rs. 260 crores, the total outlay on the State Plan was put at Rs. 1678 crores.

1.25 Efforts have also been made to involve the non-official experts. A large number of Working Groups and Sub-Groups have been set up on various subjects. Their reports have begun to be received. The final version of the Plan will take into account their recommendations. Demo-

cratic planning is thus beginning to be a reality. Furthermore, planning has begun to avail of the expert knowledge and ability wherever available.

PROGRAMME OF FURTHER WORK

1.26 The framework is only the first stage in the formulation of the Sixth Five Year Plan 1978-83. This framework will need to be adjusted, firstly, in the light of the discussions with the Planning Commission. The State Government will give due consideration to the views of the Planning Commission, but the responsibility for the final decision will be its own. Secondly, the recommendations of the Seventh Finance Commission and of the N.D.C. Committee on Centre-State Fiscal Relations, as also the Central Government's decision on these recommendations, will be taken into account. Thirdly, due weight will be given to the reports of the large number of Working Groups and Sub-Groups that have been set up. Fourthly, the comments of the legislators, the academicians, the press and the general public will be carefully appraised. Fifthly, the planning organisation and the administrative departments will themselves undertake pilot and other studies to fill the existing gaps in information. Finally, the progress of Plan implementation during 1978-79 will have its impact on the programmes for the next four years. There is thus a long way to go before the Plan is finalised. But throughout the process of Plan formulation, the new traditions of result-oriented planning, free and frank discussion and of giving due deference to expert and other public opinion on various development issues and programmes will be maintained and reinforced. Planning has, indeed, begun to bear a new look and acquire new dimensions in this State.

Objectives and Strategy

The State's Sixth Five Year Plan (hereafter the Plan) has been so conceived as to lay the basis for the realisation of the State Government's goal of developing Punjab into a Model State during the next ten years. The objectives and the strategy of the Plan have been derived from this basic concept.

THE PLAN OBJECTIVES

2.2 The Sixth Plan is the first stage in the State's march towards a Model State. Its basic objective, therefore, is to put the economy firmly on the road to this destination. This would require that, during the Plan period, sufficient progress must be made towards the realisation of the targets which, in the view of the State Government, should form the substance of the goal of a Model State. The targets set for 1987-88 envisage that :

- (i) the State's total income will increase to twice the current level, raising average family income to over Rs. 15,000 per annum ;
- (ii) the economy will be diversified ;
- (iii) poverty will be done away with and all resident families will be provided with a level of consumption higher than the poverty line defined by the Planning Commission ;
- (iv) there will be full employment ;
- (v) economic, social and regional inequalities will be curbed through effective measures for the uplift of scheduled castes, backward classes and other downtrodden sections ;
- (vi) education will be universal for the 6-14 age group ;
- (vii) illiteracy will be eliminated for the 15-35 age group ;

(viii) there will be significant improvement in the quality of life, particularly in the rural areas, with regard to working conditions, housing, nutrition, education, health, sanitation, social welfare, civic amenities and environment ;

(ix) the State will be provided with an efficient and honest administration, sympathetic to the needs and aspirations of the people ; and

(x) there will be rational decentralisation of the administrative system and of the planning and implementation of development.

2.3 The Plan targets for 1982-83, the terminal year of the five year period, have been derived from the above targets for 1987-88. The Plan visualises the following :—

- (i) The State's income (GDP) at 1977-78 prices will rise from Rs. 2956 crores in 1977-78 (preliminary estimates) to about Rs. 4175 crores in 1982-83. During the same period, the population has been estimated to increase from 15.4 million to 16.9 million. The per capita GDP will thus rise, over the Plan period, from Rs. 1919 to Rs. 2470. This will imply an average family income of around Rs. 12,350 per annum in 1982-83.
- (ii) The share of agriculture and allied activities in the State's GDP will decline from 56.5 per cent in 1977-78 to 51 per cent in 1982-83, while that of manufacturing will rise from 11.1 per cent to 13.2 per cent, of construction from 3.6 per cent to 5.2 per cent, and of electricity and water supply from 1.7 per cent to 2.2 per cent. Other non-agricultural activities will also show some improvement in their percentage contribution to the State GDP. The economy will thus register a definite trend towards diversification.

(iii) There will be substantial reduction in the percentage of population below the poverty line. The Planning Commission, on the basis of minimum nutritional and other requirements, has estimated that, at 1976-77 prices, monthly per capita expenditure of Rs. 61.8 in the rural areas and of Rs. 71.3 in the urban areas will be necessary to ensure a minimum level of subsistence. Accordingly, the poverty line has been drawn at this level of expenditure. In the absence of reliable estimates of persons below the poverty line in Punjab, it is not possible, at this stage, to quantify the Plan objective in regard to reduction in the percentage of this section of the population.

(iv) Under-employment of unskilled manpower among the resident families will be altogether eliminated by the end of the Plan period. But the unemployment among the educated remains the most intractable problem. The Plan will, as a first step, seek to halt the continued deterioration of the employment situation in this segment of the labour force, particularly among the skilled and trained categories.

2.4 The targets for the progressive realisation of universal education for the age group 6-14 and for the elimination of illiteracy among the age group 15-35 are being worked out and will be included in the final version of the Plan. With further work, it may also be possible to quantify at least some of the Plan objectives in respect of the reduction in economic and regional inequalities and improvement in the quality of life. However, the Plan objectives with regard to administrative improvements and de-centralisation of planning and implementation will continue to be stated in qualitative terms as these are not amenable to quantification.

THE PLAN STRATEGY

2.5 The Plan has sought to evolve a development strategy befitting its basic

objectives. The main elements of this strategy are :

- (i) accelerated growth ;
- (ii) diversification of the economy ;
- (iii) fuller employment ;
- (iv) reduced rural-urban disparity in the matter of health, education and other social services ;
- (v) a new approach, based on integrated area sub-plans, for the development of the backward areas ;
- (vi) welfare of the weaker sections ; and
- (vii) emphasis on improvement in the quality of life.

ACCELERATED GROWTH

2.6 Over the period 1965-66 to 1975-76, the Punjab economy has grown at the rate of 4.78 per cent per annum. This rate, though substantially higher than the national average of around 3.5 per cent, is, nevertheless, inadequate both in relation to the growth potential of the State and the fulfilment of the Plan objectives. Increase in the average family income to higher than Rs. 15000 per annum, significant progress towards industrialisation and diversification of the economy, banishment of poverty from the State, reduction of unemployment and underemployment to acceptable proportions, significant improvement in the economic and social condition of the weaker sections, universalisation of school education and literacy, reduction in the rural-urban disparity with regard to living standards, social services and civic amenities, economic development of backward areas and all round improvement in the quality of life, all call for accelerated pace of development. An annual 7 per cent rate of growth has been considered the minimum necessary for progress towards the long-term goal of a Model State.

2.7 Certain favourable factors make this an attainable goal. The State has a plentiful supply of food and of important raw materials like cotton, sugar-cane and agricultural wastes for agro-based industries. There are flourishing rural

and urban markets for industrial products including consumer goods, household appliances, farm machinery and implements, transport equipment, farm inputs, industrial raw materials and various services. There are no power shortages and, with proper planning, this satisfactory situation can be consolidated. Development of rural and other roads, expansion of road transport and electrification of all the villages have created a highly integrated economy. The State has a long tradition of small industries. The easy and dispersed availability of electricity has made conditions even more favourable for further development of this sector. While the State is constrained with regard to metallurgical and chemical industries, there are bright prospects for the engineering and electronics industries. The fact that a number of large scale units have been established successfully, often against heavy odds, shows that Punjab is not lacking in entrepreneurship. True, Punjab is handicapped by the State's remoteness from the country's mineral and metallurgical bases and the ports. The proximity to an active border also has an adverse impact. But many of these handicaps can be overcome by public policy. The freight equalisation system by which iron and steel are available all over the country at a uniform rail-head price is a good example. There could also be other such measures to offset the disadvantages of remoteness and hazardous location. Improvement of relations with Pakistan and establishment of normal trading relations with that country could open up new vistas for Punjab's accelerated economic progress. For all these reasons, given the necessary efforts by the State and its people and due support from the Centre, the prospects for Punjab's accelerated development are, indeed, bright.

Diversification of the Economy

2.8 Punjab's economic development since the inception of the Green Revolution has been spear-headed by agriculture. Small industry has also made some contribution. But the State economy is now approaching the stage where sustained accelerated progress calls for a more diversified approach.

2.9 The net sown area has now exceeded 80 per cent of the State's total geographical area. This is an unduly high percentage both from

ecological considerations and the need to ensure adequate space for non-agricultural uses. A second crop is being raised over 50 per cent of the net sown area. The per hectare yields of the principal crops—wheat, rice and cotton—are among the highest in the country. The per hectare yield of wheat in Ludhiana District is, in fact, the highest in the world. Thus, in all three directions, the State is approaching a saturation point with regard to increase in crop production. In order to sustain and improve the past performance of agriculture, it will have to look for new possibilities. In particular, much greater emphasis will have to be laid on animal husbandry, dairying and horticulture. The Plan has made very substantial provision for this. However, the new fields for agricultural development do not obviate the need for an enhanced role for industry and other non-agricultural activities. There is little doubt that henceforth industry must increasingly take the lead in further development of the economy.

2.10 Within industry itself, it will no longer do to let development remain limited to small and tiny industry. The experience all over the world, particularly in Japan, shows that small industry flourishes best when there is a commensurate development of modern large scale industry. The latter's support in research and development, technical and management guidance, credits, supplies, marketing, standardisation, quality control and common facilities is indispensable for the success of cottage and small industry. Small units which are ancillary to large scale units have usually the best scope for dynamic progress. Punjab now has thriving rural and urban markets but the gainers, by and large, have been the large industries located in the other States. They have competed out the local small scale industries and arrested their growth. The Plan seeks to bring about a fundamental improvement in the situation. It lays emphasis on the co-ordinated development of large, small and tiny industry, spear-headed by modern large scale industry.

2.11 There is increasing awareness in the State of the needed reorientation in its development priorities. This is partly reflected in the March, 1978 Statement of Industrial Policy. The Plan programmes have been conceived in the light of this Statement.

Fuller Employment

2.12 The importance of fuller employment can be scarcely exaggerated. Unemployment and underemployment are a great social waste. They imply that the hand which could produce a person's substance, and more, is chained, even if invisibly. Joblessness is also very demoralising. The youngman who is denied the opportunity to earn an honest living is a victim of the society's helplessness, stupidity or callousness. Naturally he is very resentful of the world around. The old adage that an idle man's mind is the devil's workshop is particularly true of the present time.

2.13 Punjab, like the rest of the country, is too poor to ensure the unemployed and underemployed a minimum standard of living through a system of social assistance. The State has made provision for an allowance for the educated unemployed with effect from 1978-79. But it affords a very limited relief. The uneducated are completely outside the purview of this assistance. The amount (Rs. 40 per month for matriculates and Rs. 50 for graduates and post graduates) is insufficient to provide sheer subsistence for even one person (not to mention the rest of the family). This allowance seems to have been conceived as a sort of short-term relief pending effective measures to eradicate this scourge. The State has very inadequate resources to take care of even those sections of the population such as the widows and deserted women, the disabled, handicapped, old and infirm persons, the orphans and the abandoned children, and the destitutes and moral wrecks who must necessarily depend on public assistance (or private charity). The only practicable way to provide income to the able-bodied persons, and the only one consistent with human dignity, is to ensure expanding employment opportunities. This is, in fact, the key to the eradication of poverty. The unemployed and the underemployed form the bulk of the poverty stricken population. If they are provided with regular and secure employment, they would inevitably rise above the poverty line. It is for these considerations that full employment has been accepted as a long-term goal and an important concern of the Sixth Five Year Plan.

2.14 The employment problem in Punjab has certain specific features. As far as unskilled

manpower is concerned, particularly in the rural areas, chronic unemployment is rather insignificant. There is some seasonal unemployment during the slack season. But, in the busy season, acute shortage of labour attracts large number of workers from outside the State. The programmes of agricultural and rural development included in the Plan are expected to reduce the incidence of underemployment among unskilled labour still further. In this respect, the perspective gives little cause for concern.

2.15 The situation is, however, very different with regard to the educated unemployed. There is a heavy incidence of unemployment, particularly among the arts, commerce and science graduates and post-graduates, the matriculates and undergraduates, the trained teachers, the I.T.I. trained craftsmen and diploma holders, the agricultural graduates, and the para-medical personnel. The most important causal factor is, on the demand side, the retarded industrial growth of the State and, on the supply side, expanding educational facilities resulting in an ever swelling flow of the educated job seekers. It is the growing unemployment among these categories that demands immediate and effective measures.

2.16 Punjab cannot afford employment unrelated to productive activities. In the Plan, therefore, employment has been viewed primarily as a function of economic development. However, in most of the sectors, besides the general programmes of development and the consequential expansion of employment, special employment oriented programmes have been included. In addition, preference has been given to such labour intensive techniques and programmes as are consistent with the requirements of efficiency and speedy implementation. The special programmes mostly aim at expanding opportunities for self-employment through training, supply of machinery on hire-purchase basis, and financial assistance in the form of interest and investment subsidies and margin money to help raise loans from institutional sources.

2.17 All these measures, however, seek to tackle the problem from the side of demand. It is equally necessary to restrain the flow of fresh educated persons in excess of the needs of the

economy and society. It is not within the competence of the Punjab Government alone to put an effective curb on excessive supply. This calls for concerted national action. Pending this, the maximum employment generation that was possible with the State's limited resources has been provided for in the Plan programmes.

Reduced Rural-Urban Disparity

2.18 In a free enterprise economy, economic development is invariably associated with growing rural-urban inequality. In Punjab, despite the three decades of planning, the result has not been very different. There is a wide gap between the rural and the urban areas, *inter alia*, in the matter of health, education and other social services. The Plan seeks to halt and reverse this trend.

2.19 The entire rural Punjab will be covered by an ambitious Integrated Rural Development Programme (IRDP). Under this programme about 500 villages will be developed as focal points for rural development. Each such point will provide, at one place, essential services including banking and credit facilities, agro-service centre, retail outlets for essential commodities and agricultural inputs, marketing yard, diesel/petrol pump, post-office (eventually with telephone facilities), medical dispensary and veterinary hospital. Each focal point will service a cluster of 20-25 villages. None of these villages will be more than five miles from the focal point. At a later stage, it is proposed to provide additional facilities such as godowns and cold storages, research and training facilities, agro-based industries, stadia, cinemas, piped water-supply, community centre-cum-library, and the like. The IRDP will thus go a long way towards providing the rural areas with facilities and amenities that have been associated, in the past, with urban localities. In fact, the focal points will tend to grow into towns. Dispersed all over the State, they will tend to narrow the gap between the rural and the urban areas.

2.20 The main thrust of the Public Health sector of the Plan is towards creating a well-structured rural health service. By the end of the Plan period, there will be an adequately staffed and equipped dispensary for every 10,000

of the population (that is, 5 to 10 villages) and every development block will have a 25-bed rural hospital. The hospital will serve as the referral institution for the rural dispensary. The main thrust of the education Plan is towards expansion and improvement of school education, particularly rural schools. Rural water supply has been accorded high priority. The programme of providing first links to all the villages in the State is scheduled to be completed early in 1979-80. All these measures will tend to restrain and reduce the rural-urban disparity.

Integrated Area Sub-Plans

2.21 The State has three main problem areas: the Kandi (sub-montane) area, the bet (riverine) area and the border area. There are also other backward pockets. These areas have been left behind in development as they have special problems. In the past, efforts have been made to stimulate development in these areas by earmarking specified percentages of the total outlay under divisible schemes as under:—

Sub-montane areas	9 per cent.
Border areas	15 per cent.
Bet areas	4 per cent.
Other backward areas	12 per cent.

2.22 This piecemeal approach did not yield the desired results. If these areas are to catch up with the rest of the State, the only effective way seems to be to prepare special sub-Plans for them, providing for integrated programmes of development. It is proposed to work out such sub-Plans during the next few months and include these in the final version of the Plan.

Welfare of the Weaker Sections

2.23 In Punjab the Scheduled Castes form as much as 25 per cent of the total population. In one District (Jullundur) this percentage is close to 33. The welfare of these Castes is, therefore, a major preoccupation of the State Government. The Plan has provided for a large step-up in the amount allocated to the welfare programmes of these Castes. A substantial provision has also been made for the welfare of the Vimukhat Jaties (denotified tribes). There is a step-up in the amount allocated to programmes of financial

assistance to widows and destitutes and to dependent children. A new programme envisages institutional arrangements for providing needy women and children with opportunities for gainful employment. The nutrition programme, which seeks to remedy malnutrition among pre-school children and pregnant and lactating mothers, mostly from weaker sections, has been provided a much larger allocation compared to recent years. These special measures for the welfare of the weaker sections would supplement and reinforce the general programmes of economic development which will also benefit the weaker sections.

Improvement in the Quality of Life

2.24 In this Plan direct measures for a significant improvement in the quality of life have received added emphasis. The most important programme is the water supply and sewerage project covering 9 major cities. In this project special provision has been made to enable the weaker sections to avail of the water supply and sewerage facilities. A greatly enlarged programme of town and regional planning has been envisaged. This will cover, *inter alia*, the detailed physical planning at the block level, the planning of hitherto neglected small towns, and the preparation of master plans for the towns mushrooming in a haphazard fashion along highways

and important roads. A big programme of constructing Government administrative and office buildings, and of Government residential buildings will help improve the working and living conditions of public servants. Greater attention has also been paid to housing for the industrial workers, environmental improvement of Harijan basties, construction of houses for scavengers, flayers and tanners, provision of community buildings and construction of houses for Harijans, and allotment of plots to urban Harijans. Mechanisation of arduous operations, more intensive use of electricity both in economic activities and domestic life, expansion of education, health and welfare facilities, improvement of passenger transport, and more effective flood control, are some of the other directions for improvement in the quality of life. A comprehensive programme for improvement of environment, however, remains a task for the future.

A Comprehensive Development Strategy

2.25 The above account of the various facets of the development strategy shows that the Plan envisages a many-sided effort towards developing Punjab into a Model State, within a relatively short period of ten years. It is an integrated strategy with proper coordination between the different lines of advance. It holds fair promise of success.

Financial Resources

The estimates of financial resources for the State Plan are necessarily tentative at this stage. The picture will be clear only when (i) the recommendations of the Seventh Finance Commission and the Central Government decision on these are known, and (ii) the Centre has taken a view about the formula for normal Central Assistance, the percentage of World Bank assistance to be passed on to the States as Special Central Assistance, the diversion of resource to the States by curtailing the Centrally Sponsored Programmes, and the basis of allocation of market borrowings between the Centre and the States and the States inter-se in the light of the recommendations of the NDC committee on Centre-State Fiscal Relations. The present exercise is based on plausible assumptions with regard to the above.

Total Resources

3.2 The financial resources for the State Plan (1978-83) have been estimated as Rs. 1641 crores. The details are given in Table 3.1.

Table 3.1 : Estimated Resources for the State Plan 1978-83.

(Rs. crores at 1977-78 prices)

1. Balance from current revenues at 1977-78 levels of taxation	..	365.70
2. Contribution of public enterprises at 1977-78 tariffs and fares	..	105.00
.1 State Electricity Board	..	99.00
.2 Road Transport Corporation	..	6.00
3. Additional resource mobilisation	..	175.00
4. Market borrowing on the existing (1978-79) basis	..	80.00
.1 State Government	..	33.50
.2 State enterprises	..	46.50
5. Small savings (net)	..	50.00
6. State Provident Fund (net)	..	33.80
7. Loans from financial institutions (gross)	..	84.60
.1 State Government		
(a) from LIC	..	5.50
(b) from RBI	..	10.50

.2 State enterprises		
(a) from LIC	..	34.30
(b) from REC	..	29.30
.3 Others (from LIC)	..	5.00
8. Miscellaneous capital receipts (net)	..	13.00
9. Contribution of local bodies	..	134.00
10. Additional resource accruals	..	600.00
.1 Normal Central Assistance under revised Gadgil formula or any other formula that may be devised		
.2 Special Central Assistance for IDA (World Bank) projects		
.3 Diversion of resources to the States as a result of the anticipated trimming of the Centrally Sponsored Programmes		
.4 Additional Devolution by the Seventh Finance Commission		
.5 Share in additional resource mobilisation by the Centre		
.6 Additional market borrowings		
Total	..	1641.10

Balance from Current Revenues

3.3 The balance from current revenues at 1977-78 rates of taxation has been estimated at Rs. 365.70 crores. Its break up is given in Table 3.2.

Table 3.2 : Estimate of the Balance from Current Revenues at 1977-78 rates of taxation

(Rs. crores at 1977-78 prices)

<i>I Revenue receipts</i>	..	2009.80
1. Share of Central taxes on the basis of the Sixth Finance Commission recommendations	..	287.00
2. State taxes at 1977-78 rates of taxation	..	1456.30
3. Non-tax revenue	..	208.60
4. Grants from the Centre	..	(57.90)
.1 Statutory grants	..	—
.2 Grants for Centrally Sponsored Programmes	..	17.40*
.3 Grants in lieu of tax on railway fares	..	4.00
.4 Others	..	36.50

II Revenue expenditure	..	1644.10
1. Non-development expenditure	..	(554.60)
.1 Debt service		
(a) Interest payments	..	233.90
(b) Appropriation for reduction and avoidance of debt	..	4.90*
.2 Other non-development expenditure	..	315.80
2. Non-Plan development expenditure	..	(1011.00)
.1 Excluding Fifth Plan maintenance expenditure	..	827.00
.2 Fifth Plan maintenance expenditure	..	184.00
3. Outlay on Centrally Sponsored Programmes	..	17.40*
4. Revision of dearness allowance and pay scales, etc. not included elsewhere	..	61.10
III. Balance from current revenue (I-II)	..	365.70

*Estimates for 1978-79 only.

3.4 The estimate of State taxes at 1977-78 rates given in Tables 3.2 does not take into account the loss of revenue involved in the policy of prohibition. This implies that either the loss will not arise or will be compensated for by the Centre.

Contribution of Local Bodies

3.5 The contribution of local bodies, including the Agricultural Marketing Board and the Market Committees, has been estimated at Rs. 134 crores. This is on the assumption that the resources available with them for development will be brought within the purview of the Plan and the modalities for this will be worked out. This will ensure efficient and coordinated use of these resources.

Additional Resource Mobilisation

3.6 Additional resource mobilisation includes, first and foremost, additional tax effort in the form of new taxes, higher tax rates and enlargement of the tax base. It also includes reduced subsidies, enhanced charges on goods and services supplied by public agencies, curbs on tax evasion and avoidance, better loan recoveries, and economies in non-functional and inessential non-Plan expenditure. The Planning Commission had suggested a target of Rs. 175 crores, including the 1978-79 measures. After careful consideration of the burden involved in this target, the State Government has decided to accept the onerous responsibility. The considerations that have weighed with them are mentioned below.

3.7 In an unequal society like ours, it is inevitable that the 'haves' take the maximum advantages of varied facilities and opportunities provided by the State for development. For this reason growth is invariably associated with growing economic, social and spatial inequalities. Taxation is the most important instrument at the disposal of Government to restrain and redress such imbalances.

3.8 The national liberation struggle evoked immense sacrifices because the leadership convinced the people that there was no other way to national salvation. Unfortunately, in recent years, a different attitude has come to prevail. All sections of the population make countless demands but are reluctant to foot the bill. This attitude is inimical to development and may even jeopardise national independence and self-respect. The people have every right to demand that the money raised from them must be spent economically and put to good purpose. But it would be a dangerous illusion to look upon Government as a sort of miracle maker who can produce all the good things of life out of thin air. It would be equally reprehensible if the different strata of the population come to demand the maximum of benefits for themselves but at the cost of others. The State Government holds that the burden of development must be borne primarily by the people of this country. Outside help, while necessary at this stage, could only play a marginal role. The state Government trusts that the people of this State will, as always, do their duty. On its own part, it will endeavour to ensure that the costs and burdens of development are spread equitably.

3.9 The proposed outlay of Rs. 1,678 crores on the State Plan is about 5 per cent of the likely total outlay of about Rs. 33,500 crores on all the State Plans taken together. The target of Rs. 175 crores of additional resource mobilisation works out to 4.4 per cent of the total target of Rs. 4,000 crores for all the States. Thus, the State will be undertaking additional resource mobilisation only in proportion to its share in the total outlay on State Plans.

3.10 The State undertook additional resource mobilisation of Rs. 6.80 crores during 1978-79. This should yield about Rs. 40 crores during the five years period. The balance of Rs. 135 crores will have to be done during the next four years. This is a difficult task, but not one beyond the State's capacity.

Additional Resource Accruals

3.11 This includes likely additional receipts from a variety of sources. Firstly, it includes the *entire* normal assistance from the Centre that may be available under the updated /revised Gadgil formula or any other formula that may emerge from the deliberations of the NDC Committee on Centre-State Fiscal Relations. Secondly, it includes 70 percent of the amount of IDA (World Bank) loan assistance for State projects which will be made available to the State as Special Central Assistance. If the Centre accepts the State's plea that the *whole* of this amount should be made available to them, the receipts on this account will be correspondingly larger. Thirdly, at the meetings of the NDC and its Committee, as also at other forums, the States have unanimously demanded that Centrally Sponsored Programmes must be drastically trimmed, if not altogether abandoned and the resources thus released must be transferred to the States. This will yield additional resources to Punjab. Fourthly, the Seventh Finance Commission, like its predecessors is expected to recommend additional Devolution of resources to the States. In the past, Punjab has always been penalised for being in the front rank of States. The State Government trusts that the Seventh Finance Commission will give it a fair deal and the State will get substantial additional Devolution. Fifthly, the Plan has set a target of Rs. 9,000 crores as additional resource mobilisation by the Centre. The bulk of it will be additional tax effort. A part of the tax receipts will accrue to the States under the Finance Commission formula. Finally, Punjab has always been

treated unfairly in respect of the market borrowings. It is hoped that in the Sixth Plan period it will get its due. The Plan has estimated total market borrowings at Rs. 15,986 crores. Punjab, and most other states, have been demanding that at least 50 percent of the total market borrowings should be allocated to the States. If this reasonable demand is accepted, the State's share will be Rs. 7,993 crores. In Table 3.1 Punjab's market borrowings during the current Plan period on the existing basis have been put at only Rs. 80 crores. This is barely one per cent of the State's likely total. If, as is the case with the target for additional resource mobilisation, Punjab's share in market borrowings is fixed proportionately to its share in total outlay on State Plans, its receipts on this account should be 4 to 5 times the amount estimated on the existing basis. The estimate of Rs. 600 crores, as the total additional resource accruals on all these counts, is, if any things, conservative.

Summary Position

3.12 The resources estimates are summarised below.

	(Rs. Crores)
1. Resources at 1977-78 levels of taxation, rates, tariffs, etc. (including market borrowings and share of Central taxes on the existing basis) . . .	866
2. Additional resource mobilisation . . .	175
3. Additional resource accruals . . .	600
Total . . .	1,641

Outlays

The total Plan outlay for the 5-year period (1978—83) has been set at Rs. 1,678 crores. This exceeds the estimated resources (Rs. 1,641 crores) by Rs. 37 crores. In the final version of the Plan, this imbalance will be removed. The task will be easy if the persistent efforts made by the State to present its case to the Seventh Finance Commission and the National Development Council (and its Committee on Centre-State Fiscal Relations) bear fruit and the State gets its due. It will be easier still if the State's own tax and non-tax revenues show greater buoyancy than has been assumed, while the non-Plan expenditure

is restrained more rigorously. On the other hand, if our reasonable anticipations in these respects are belied, the outlays will have to be scaled down still further, and hard choices will have to be faced.

4.2 The inter-sectoral distribution of the total outlays, as explained in Chapter I, is the outcome of the scheme-wise appraisal of the proposals of the Administrative Departments in relation to the accepted goal of a Model State and the associated pattern of growth. Every effort has been made to avoid arbitrary allocative decisions. The distribution among principal sectors is given in Table 4.1.

Table 4.1 : Distribution of Plan Outlays 1978—83

Sector	(Rs. crores at 1977-78 prices)			
	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
0	1	2	3	4
1. Agriculture and allied ..	84.34	36.63	183.48	220.11
2. Cooperation ..	8.79	4.50	23.07	27.57
3. Irrigation, drainage and flood control ..	68.50	36.57	265.59	302.16
4. Power ..	303.54	91.30	475.93	567.23
5. Industry and minerals ..	37.56	12.95	50.82	63.77
6. Roads and bridges ..	39.63	20.00	66.00	86.00
7. Road transport ..	21.43	4.95	35.99	40.94
8. General education ..	30.56	15.42	44.00	59.42
9. Technical education ..	0.74	0.35	3.52	3.87
10. Public health and sanitation ..	11.29	7.02	51.45	58.47
11. Rural water supply ..	17.14	4.50	35.20	39.70
12. Housing ..	29.23	8.00	49.62	57.62
13. Urban development ..	39.76	10.20	73.58	83.78
14. Welfare of Scheduled Castes and backward classes ..	12.85	2.55	21.15	23.70
15. Social welfare ..	2.12	0.71	4.25	4.96
16. Government administrative and office buildings ..	3.31	1.25	19.47	20.72
17. Others ..	8.41	3.10	15.38	18.48
Total ..	719.20	260.00	1418.50	1678.50

4.3 Detailed allocations by Sub-Heads of Development are given in the Annexure to this Chapter. The current year (1978-79) is common to both the Fifth and the Sixth Five Year Plans. It was the terminal year of the Fifth Plan but, as a result of the Centre's decision to limit this Plan to four year*, it has now become the first year of the Sixth Plan. The Plan for this year has already been approved and is under implementation. The planning for the Sixth Plan is, therefore, actually for the next four years (1979-83). If this period is compared to the past four years (1974-78), the step up in Plan outlay in money terms approaches 100 per cent. Of course, the increase has not been uniform because of the envisaged shifts in inter-sectoral priorities and some other factors.

4.4 The question may be raised whether the total and sectoral financial provision in the Plan is commensurate with the projected over all and sectoral rates of growth and the long-term objective of a Model State. This will depend upon a number of factors. It may be emphasised that the State Plan outlays have mostly a promotional role through improvements in the infrastructure and fiscal incentives. Accordingly, except for infrastructural development in the public sector, there is no direct or well-defined relationship between the State

Plan outlays and the performance of the economy. Much will depend upon how far :

- 1) the Central Government can be persuaded to allocate a fair share of its direct outlays to Punjab;
- 2) the institutional finance, particularly the resources of the Central financial institutions and the commercial banks, can be mobilised for investment in this State ;
- 3) the private sector, big and small, can be aroused to take advantage of the facilities, opportunities and the incentives provided by the State Government, and to generate and mobilise its own resources ; and
- 4) the State Plan programmes are implemented efficiently and economically.

4.5 If fair progress is made in all the above directions, the financial provision made in the Plan should have a reasonable chance of yielding the projected physical results. Healthy and vigorous response from the other partners in the State's development and efficient implementation of the State Plan are the two essential conditions for the fulfilment of the physical targets.

*This decision has not been applied consistently. For example, the cutoff point where a large part of the revenue expenditure on Plan account becomes committed expenditure on non-Plan account is the beginning of 1979-80 and not 1978-79. In effect, this decision has limited the Sixth Plan to a four year period.

ANNEXURE TO CHAPTER 4

Sixth Five Year Plan (1978-83) : Outlays by Development Heads

(Rs in lakhs)

Sub-Head of Development	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5
I. Agriculture and Allied Sectors	(8,433.72)	(3663.04)	(18348.06)	(22011.10)
Agriculture	4,673.08	1956.86	9130.57	11087.43
Minor Irrigation	1428.23	534.00	2560.80	3094.80
Soil Conservation	603.89	375.00	1,936.00	2311.00
Food	30.71	—	19.36	19.36
Animal Husbandry	493.34	312.06	1393.52	1705.58
Dairying and Milk Supply	211.08	107.12	832.37	939.49
Fisheries	59.73	33.00	273.68	306.68
Forests	476.74	155.00	1364.00	1519.00
Community Development and Panchayats	456.92	190.00	837.76	1027.76
II. Co-operation	879.13	450.00	2307.03	2757.03
III. Irrigation & Power				
Irrigation	4956.57	2707.00	22599.28	25306.28
Anti-water Logging, Drainage and Flood Control	1893.80	950.00	3960.00	4910.00
Power	30354.09	9130.00	47593.04	56723.04
IV. Industry and Minerals	(3756.12)	(1295.32)	(5081.57)	(6376.89)
Large & Medium Industries*	2935.15	844.00	3808.96	4652.96
Small Scale Industries	803.10	446.32	1263.61	1709.93
Mines and Minerals	17.87	5.00	9.00	14.00
V. Transport and Communications				
Civil Aviation	49.97	8.00	85.05	93.05
Roads and Bridges	3963.15	2000.00	6600.00	8600.00
Road Transport	2143.27	495.00	3599.20	4094.20
Tourism	170.65	50.00	235.84	285.84
VI. Social and Community Services				
General Education	3056.43	1541.98	4400.00	5941.98
Technical Education	74.33	35.30	352.00	387.30
Public Health and Sanitation	1129.08	702.30	5144.35	5846.65
Rural Water Supply	1713.63	450.00	3520.00	3970.00
Housing	2922.50	800.00	4962.32	5762.32
Urban Development	3975.53	1020.00	7357.60	8377.60
Information and Publicity	101.11	45.00	220.00	265.00
Labour and Labour Welfare	161.70	69.00	351.11	420.11
Welfare of Scheduled Castes and Backward Classes	1284.60	255.00	2114.53	2369.53
Social Welfare	211.84	71.00	424.78	495.78
Nutrition	28.72	20.00	184.80	204.80
VII. Economic Services				
Statistics	36.40	20.00	87.53	107.53
Planning Machinery	—	—	88.00	88.00
VIII. General Services				
Stationery and Printing	31.63	20.12	60.77	80.89
Film Corporation	76.50	—	30.80	30.80
Punjab State Civil Supplies Corporation	184.00	10.00	137.28	147.28
Public Works**	330.73	125.00	1946.56	2071.56
Administrative Training Institute	1.00	5.00	58.96	63.96
Employment Promotion Programmes***	—	61.94	—	61.94
Total	71,920.20	26,000.00	1,41,850.46	1,67,850.46

*These figures do not correctly indicate the allocation to Large and Medium Industries because a portion of the financing shall in fact be for Small Scale Industries.

**Include Divisional Offices, Tehsil Buildings, Courts, Patwar Khanas, Circuit Houses and Rest Houses.

***Employment promotion programmes have been included in the respective sectors except for an amount of Rs. 61.94 lakhs out of the outlay under the Annual Plan 1978-79 which remains unallocated.

PART II

Agriculture and Rural Development (I)

Agriculture and allied activities will remain, in the foreseeable future, the most important sector of the economy but, as is invariably the trend with higher levels of development, its share in total output will gradually diminish in favour of industry and other non-agricultural activities. The same is the trend in the Sixth Plan period. The income (GDP) generated in agriculture and allied activities will continue to increase in absolute amount but its share in the total State income (GDP) will decline from 56.5 per cent in 1977-78 to 51 per cent in 1982-83.

5.2 The main thrust in agriculture is towards intensification, diversification, integrated rural

development and post-harvest technology. The Plan includes a comprehensive package of programmes to implement this strategy of agriculture and rural development. The programmes relating to crop production are outlined below. Those relating to allied agricultural activities have been described in Chapter 6.

Crop Production

5.3 The notable progress of agriculture in Punjab has been centred hitherto on increases in crop production. The growth in the output of principal crops during the Fifth Plan period and the projected targets in the Sixth Plan are given in Table 5.1.

Table 5.1 : Output of Principal Crops

Crop	Unit	1973-74	1977-78 (estimate)	1982-83 (target)	Increase	
					1977-78 over 1973-74	1982-83 over 1977-78
1	2	3	4	5	6	7
1. wheat	.. 000 tonnes	5181	6600	7300	1419	700
2. rice	.. " "	1140	2494	3000	1354	506
3. maize	.. " "	764	681	680	(-)83	(-) 1
4. bajra	.. " "	144	119	100	(-)25	(-)19
5. barley	.. " "	94	68	60	(-)26	(-)8
6. other cereals	.. " "	4	4	4	—	—
7. total cereals	.. " "	7327	9966	11144	2639	1178
8. gram	.. " "	315	317	320	2	3
9. other pulses	.. " "	37	17	36	(-)20	19
10. total pulses	.. " "	352	334	356	(-)18	22
11. total food grains	.. " "	7679	10300	11500	2621	1200
12. ground nuts	.. " "	150	154	175	4	21
13. other oil seeds	.. " "	145	71	175	(-)74	104
14. total oil seeds	.. " "	295	225	350	(-)70	125
15. cotton	.. 000 bales*	1157	1224	1500	67	276
16. sugar cane	.. 000 tonnes**	582	652	750	70	98
17. potato	.. 000 tonnes	317	650	1000	333	350

5.4 The most notable development during the Fifth Plan has been the 120 per cent increase in the output of rice. Punjab has become a major rice producer. Since local consumption is very limited, Punjab has become the largest contributor to the Central pool. There was also a large increase in wheat production (27 per cent). Coarse grains, however, showed a 14 per cent decline in output. The end result was a 36 per cent increase

in cereal production. The pulses suffered a 5 per cent decline in output, mostly under pulses other than gram. The overall increase in foodgrain production was 34 per cent. Oil seeds production fell by 24 per cent. The small increase in the output of groundnut was more than offset by the decline under other oilseeds. Cotton output rose by 6 per cent and of sugarcane by 12 per cent. The output of potato rose by 105 per cent.

*of 170 Kg. each.

**in terms of gur.

5.5 The Sixth Plan contemplates some adjustments in the pattern of development of crop production. The declining trend in the output of oil seeds and pulses is to be reversed. The Plan contemplates 56 per cent increase in the output of oil seeds and 7 per cent in that of pulses. The increase in rice and wheat production is expected to decelerate, but at 20 per cent and 11 per cent, respectively, will still be very substantial. The output of coarse grains is expected to decline still further. The overall increase in cereal production will be 12 per cent. The output of cotton is expected to rise by 23 per cent as against barely 6 per cent in the Fifth Plan. A 15 per cent increase in the output of sugar cane is expected. The increase in potato production is projected at 54 per cent, second only to that of oil seeds.

Net Sown Area

5.6 The net sown area is now about 82 per cent of the State's geographical area, 4.1 million hectares out of a little over 5 million hectares.

This is the highest percentage among all the States. The national average is around 42 per cent. The culturable wastes and fallows are less than 0.2 million hectares. There is thus little scope for increase in the net sown area. Rather, in the future, as non-agricultural uses and tree crops and groves absorb more land, the percentage of net sown area may well decline. In the Sixth Plan, no significant change is anticipated either way. The entire projected increase in the gross cropped area is to come from intensive multiple cropping.

Gross Cropped Area

5.7 The gross cropped area is estimated to have increased from 6037 thousand hectares in 1973-74 to about 6250 thousand hectares in 1977-78. It is projected to increase to 6800 thousand hectares in 1982-83. The anticipated increase under the Sixth Plan is 8.8 per cent as against the estimated increase of 3.5 per cent during the Fifth Plan. The increase by principal crops is given in Table 5.2.

Table 5.2 : Gross cropped area by Principal Crops

(000 hectares)

Crop	1973-74	1977-78 (estimate)	1982-83 (target)	Increase	
				1977-78 over 1973-74	1982-83 over 1977-78
0	1	2	3	4	5
1. wheat	2338	2600	2675	262	75
2. rice	499	857	1000	358	143
3. maize	567	446	460	(-)121	14
4. bajra	147	105	100	(-)42	(-)5
5. barley	110	49	50	(-)61	1
6. other cereals	7	7	7	—	—
7. total cereals	3668	4064	4292	396	228
8. gram	352	348	350	(-)4	2
9. other pulses	79	43	58	(-)36	15
10. total pulses	431	391	408	(-)40	17
11. total food grains	4099	4455	4700	356	245
12. ground nut	155	156	175	1	19
13. other oil seeds	202	134	200	(-)68	66
14. total oil seeds	357	290	375	(-)67	85
15. cotton	523	606	650	83	44
16. sugar cane	110	116	125	6	9
17. potato	23	30	40	7	10
18. total principal crops	5112	5497	5890	385	393
19. total other crops	925	753	910	(-)172	157
20. gross cropped area	6037	6250	6800	213	550

5.8 The changes in the area under different crops more or less are parallel to those in output. During the Fifth Plan period, there were large increases in the area under rice, wheat and cotton, and modest increases under sugar cane and potato. On the other hand, coarse cereals, pulses and oil seeds showed large declines in acreage. During the Sixth Plan, further large increases in area are projected for rice, wheat and cotton. Among coarse cereals, the area under bajra will show further decline but that under maize will go up. Both under oil seeds and pulses, the declining trend will give way to substantial increases in area. Sugar cane and potato will show modest increases in area.

5.9 The 8.8 per cent increase in the gross cropped area during the Sixth Plan will be achieved, in the face of a more or less stable net sown area,

by improvement in cropping intensity (that is, in the ratio of gross cropped area to the net sown area, in percentage terms) from around 150 in 1977-78 to about 165 in 1982-83. This improvement is expected to result from spread of irrigation, a more intensive use of fertilizers, evolution of short maturity crops and suitable rotations, and mechanisation of peak season operations to economise the limited time between two crops.

Yield per Hectare

5.10 The increase in the gross cropped area will account for about 8-9 percent of the increase in crop production. The improvement in the cropping pattern may also make some contribution to this increase. The balance of the projected increase in output will be realised through improvement in per hectare yields. The envisaged improvement is indicated in Table 5.3.

Table 5.3 : Yield per Hectare by Principal Crops

Crop	Unit	1973-74	1977-78 (estimate)	1982-83 (target)	Increase	
					1977-78 over 1973-74	1982-83 over 1977-78
1	2	3	4	5	6	7
1. wheat	.. Kg.	2216	2538	2729	322	191
2. rice	.. "	2285	2910	3000	625	90
3. maize	.. "	1347	1527	1478	180	(-)49
4. bajra	.. "	980	1133	1000	153	(-)133
5. barley	.. "	854	1388	1200	534	(-)188
6. other cereals	.. "	571	571	571	—	—
7. gram	.. "	895	911	914	16	3
8. other pulses	.. "	468	395	552	(-)73	157
9. ground nut	.. "	968	987	1000	19	13
10. other oil seeds	.. "	718	530	875	(-)188	345
11. cotton	.. "	376	343	392	(-)33	49
12. sugar cane*	.. Kg	5290	5621	6000	331	379
13. potato	.. Kg	13783	21667	25000	7884	3333

*In terms of gur

5.11 When yields are taken on one year basis (as against, say, a three year average), the results are bound to be somewhat erratic, depending upon the annual changes in weather conditions. Nevertheless, Table 5.4 brings out that the Sixth Plan anticipates, in most cases, deceleration of the trend towards yield improvement. Rice, wheat, barley and potato showed large increases in yield during the Fifth Plan. During the Sixth Plan these increases are much smaller. The yields of various coarse grains showed considerable improvement in the Fifth Plan, but in the Sixth Plan, these are projected to show an absolute *decline*. The increase in gram and ground nut yields is expected to be much smaller than in the Fifth Plan. It is only in the case of 'other pulses', 'other oilseeds' and cotton that a decline in yields in the Fifth Plan period gives place to a rise in the Sixth Plan. These are, in fact, the crops which have been given high priority in the Sixth Plan. Sugar cane shows a steady increase in yield both in the Fifth and the Sixth Plans. When the weight of different crops in total production is taken into account, it will be a fair conclusion, that the improvement in yields, while still important in some cases, will decelerate during the Sixth Plan. This points to an approaching saturation level in this crucial dimension of agricultural development.

Development Programmes

5.12 The three lines of advance laid down in the Sixth Plan, thus, are; (i) improvement in the cropping pattern, (ii) increase in cropping intensity, and (iii) higher yields. With a view to moving forward along these lines, a comprehensive package of development programmes has been worked out. Its main contents are outlined below.

Reclamation of Land

5.13 At the beginning of the Fifth Plan, about 698,000 hectares were affected with alkalinity/salinity; 463,000 hectares marginally or moderately and 235,000 hectares seriously. Most of the area in the first category is under cultivation but, on account of the affected patches, gives low yield. The reclamation of these lands was undertaken in the Fifth Plan but the progress was very slow. Only about 20,030 hectares were reclaimed. The programme was given a boost in 1978-79 and the target for the year was set at 80,000 hectares. The programme has been given high priority in the Sixth Plan. It is proposed to reclaim 614,000

hectares including the entire marginally/moderately affected area and about three-fourths of the badly affected area.

5.14 There are three main programmes. Under scheme A(P) 5.1, the Government leases in the affected area owned by village panchayats for setting up demonstration plots for reclamation work. Three reclamation centres have been set up at Gurdaspur (280 hectares), Kapurthala (120 hectares) and Sangrur (40 hectares). After reclamation these areas will be used for seed production. Under scheme A(P) 5.3, gypsum, the main ingredient for reclamation of soils, is supplied to the farmers at a highly subsidized rate. The rate of subsidy is 75 per cent for the small farmers and 50 per cent for others. The procurement and supply of gypsum is handled by the Land Development and Reclamation Corporation. It has set a chain of depots in the districts for the purpose. The Corporation has also set up a machinery unit which provides bull dozers at reasonable rates for levelling and shaping of land. Under scheme A(P) 5.4, a Land Reclamation Cell would be set up to provide technical assistance for the implementation of the programme. It is proposed to spend Rs. 15.20 crores on land reclamation during the next four years (1979-83) as against only 0.94 crores during 1974-78.

Soil Conservation

5.15 The next major programme of soil improvement are the schemes for soil and water conservation. For this purpose, Punjab has been divided into five regions.

Table 5.4: Soil and Water Conservation Regions by Area
(000 hectares)

1. Sub-montane region	..	460
2. Border areas	..	712
3. Bet areas	..	600
4. Central plains	..	1944
5. South-west canal command areas	..	1322
Total	..	5038

5.16 The sub-montane region is covered by two schemes: (i) soil and water conservation on watershed basis, and (ii) soil and water conservation works under Kandi watershed and area development project with IDA(World Bank) assistance.

Of the total area of 460,000 hectares, the 257,000 hectares comprising (a) the area under cultivation (196,000), (b) the culturable wastes (53,000 hectares) and (c) the area under orchards (8000 hectares) are relevant to the conservation programme. But the whole of this area does not require land levelling

and water management because (i) it is either already under irrigation or has no scope for it, or (ii) has too shallow a top soil. About 40 per cent of the area that does require conservation measures will be covered in the Sixth Plan as shown in table 5.5.

Table 5.5 : Soil and Water Conservation Programmes in the Sub-Montane Region under the Sixth Plan 1978-83

(000 hectares)

Slope (%)	Total area	Area requiring land levelling/treatment	Area covered upto March, 78	Area proposed to be covered		
				Water shed project	World Bank project	Total
1	2	3	4	5	6	7
Upto 0.5	40	*	*	*	*	*
0.5-2	187	85	7	23	9	32
Over 2	30	25	4	12	2	14
Total	257	110	11	35	11	46

*This area will be treated by the farmers with their own efforts as it involves only minor work.

5.17 The soil and water conservation will also cover other areas in this region as indicated in Table 5.6.

Table 5.6 : Other Programmes of Soil and Water Conservation in the Sub-Montane Region under the Sixth Plan 1978-83

(000 hectares)

Programme	Total area	Area requiring conservation	Area covered upto March, 78	Area proposed to be covered		
				Water shed project	World Bank project	Total
1	2	3	4	5	6	7
1. Conservation in area under Chos	26	15	—	—	1	1
2. Gully reclamation	15	15	1	—	2	2
3. Water management work	90	90	15	12	6	18
Total	131	120	16	12	9	21

5.18 In the border area region, the area requiring land levelling has been estimated at 50 thousand hectares. Of this, about 4 thousand hectares have been covered up to March, 1978. Another 7.7 thousand hectares are proposed to

be covered during the Sixth Plan. In addition, of the estimated 50 thousand hectares that require water management, 5 thousand have been covered upto 1977-78 and 3.7 thousand will be covered during the Sixth Plan.

5.19 In the bet area land levelling is constrained by special problems such as danger of floods, and shallow and sandy soil. In the Sixth Plan, it is proposed to take up 2200 hectares for land levelling and 3000 hectares for water management works. There is better scope for water management and reclamation of ravine areas. Out of the estimated 25000 hectares of total ravine areas, 8700 hectares are proposed to be treated during this period.

5.20 In the south-west canal command region, soil conservation will include levelling of sand dunes, lining of common canal water courses and other water management works to increase the efficiency of irrigation. Levelling of sand dunes will be undertaken over 10,000 hectares so as to bring this area under irrigation command. There is need to line 30,000 kms. of canal water courses. This responsibility has been divided equally between the Soil Conservation Department and the Punjab State Tubewell Corporation. Of the 15000 kms. of water courses entrusted to the Department, 2500 kms. had been lined by March, 1978. The balance 12,500 kms. are to be lined during the Sixth Plan. Water management works such as sprinklers and underground pipelines will cover 4000 hectares during the same period.

5.21 In the central plains region, a major conservation programme will be the levelling of sand dunes. The total affected area is around 300 thousand hectares, of which only 8 thousand hectares had been treated by March, 1978. An-

other 38,000 hectares will be covered in the Sixth Plan. The second major programme is to provide underground pipeline system to another 113,000 hectares. Only 25,000 hectares had been covered by March, 1978.

5.22 The other programmes of soil and water conservation include : (i) soil surveys to locate salt affected lands, slopy lands, and sand dunes covered lands in the Districts that have not yet been covered, (ii) strengthening of soil survey organisation, (iii) research on irrigation and land levelling techniques, (iv) training of staff, and (v) demonstration of conservation techniques. It is also proposed to set up a Soil Conservation Corporation to facilitate mobilisation of institutional finance for this programme.

5.23 The Forest Department will undertake soil conservation works over an area of 20,000 hectares (including afforestation over 16,000 hectares) under the Kandi watershed and area development project. Its programme of soil and water conservation on water shed basis, aimed at afforesting the catchment areas of chos (mountain streams) in the sub-montane region will cover, 2,500 hectares.

5.24 A total provision of Rs 19.36 crores has been made for soil and water conservation for the next four years (1979-83) as against the expenditure of Rs 6.04 crores during 1974-78. The physical targets for the Sixth Plan period are summarised in Table 5.7.

Table 5.7 : Anticipated Benefits from the Soil and Water Conservation Programmes in the Sixth Plan 1978-83

	(Hectares)
1. Contour bunding (including gully reclamation)	6,610
2. Bench terracing	9,600
3. Land levelling	69,900
4. Water management	
(i) Canal water courses (12,560 kms.)	
(ii) Underground pipelines (3,880 kms.)	581,300
5. Total 1 to 4	667,410
6. Soil Survey	1500,000

Irrigation

5.25 Irrigation is the main stay of Punjab agriculture. In 1977-78, the estimated gross irrigated area (5.1 million hectares) was 81.6 per cent of the total cropped area (6.25 million

hectares). The national average is around 25 per cent. The State Plan anticipates a marginal improvement in the present position. The position, overall and by principal crops, is given in Table 5.8.

Table 5.8 : Gross Irrigated Area as Percentage of Cropped Area

Crop	Cropped area		Gross irrigated area		Col. 3 as % of Col. 1	Col. 4 as % of Col. 2
	1977-78	1982-83	1977-78	1982-83		
0	1	2	3	4	5	6
1. wheat	2600	2675	2236	2300	86.0	86.0
2. rice	857	1000	817	950	95.0	95.0
3. maize	446	460	287	290	95.3	95.0
4. bajra	105	100	62	60	59.0	60.0
5. barley	49	50	32	30	65.3	60.0
6. other cereals	7	7	4	4	57.1	57.1
7. total cereals	4064	4292	3438	3634	84.6	84.7
8. gram	348	350	80	80	23.0	22.9
9. other pulses	43	58	32	46	74.4	79.3
10. total pulses	391	408	112	126	28.6	30.9
11. total foodgrains	4455	4700	3550	3760	79.7	80.0
12. ground nut	156	175	40	50	25.6	28.6
13. other oil seeds	134	200	103	175	76.9	87.5
14. total oil seeds	290	375	143	225	49.3	60.0
15. cotton	606	650	594	640	98.0	98.5
16. sugar cane	116	125	104	120	89.7	96.0
17. potato	30	40	30	40	100.0	100.0
18. total principal crops	5497	5890	4421	4785	80.4	81.2
19. total other crops	753	910	680	820	90.3	90.1
20. total all crops	6250	6800	5101	5605	81.6	82.4

5.26 The provision for irrigation for the next four years (1979—83) has been set at Rs. 225.99 crores as against the expenditure of Rs. 49.57 crores during 1974—78. The step up is partly explained by the large provision (Rs. 91.95 crores) for the multipurpose Thein Dam Project which, initially, will be implemented by the Irrigation Department. Programmes of irrigation development are discussed in some detail in Chapter 8.

Fertilizers

5.27 Since the onset of the green revolution,

fertilizer consumption has risen rapidly. By 1977-78, the total consumption in terms of plant nutrients (N, P₂O₅, K₂O) had increased to 465,000 tonnes. This works out to 74 Kg. per hectare of cropped area which is about three times the national average of 25 Kg. At this level, the per hectare consumption in Punjab is comparable to that in USA (77 Kg.) and exceeds the USSR level (59 Kg.) by a wide margin. There is, however, yet large scope for further improvement in the consumption rate. Accordingly, the Sixth Plan envisages 94 per

cent increase in total consumption, raising it to 900 thousand tonnes in 1982-83. This would give an

average of 132 Kg. per hectare. The growth of fertilizer consumption is given in Table 5.9.

Table 5.9 : Fertilizer Consumption

(000 tonnes of nutrients)

Year	N	P ₂ O ₅	K ₂ O	Total
0	1	2	3	4
1960-61	5	—	—	5
1965-66	43	3	—	46
1968-69	135	27	10	172
1973-74	218	68	21	307
1977-78	331	105	29	465
1982-83 (target)	600	260	40	900

5.28 Initially, the importance of balanced application of fertilizers was not quite appreciated. The use of phosphatic and potassic fertilizers was relatively very low. The State Government, therefore, took various measures to popularise these fertilizers. In recent years, the trend has been towards correcting the inter-nutrient imbalance. The ratio of N to P₂O₅ in fertilizer use had been brought down from 6.9 in 1967-68 to 3.15 in 1977-78. This ratio is expected to decline further to 2.31 by 1982-83.

5.29 With the increasing use of NPK, the deficiency of micro-nutrients has surfaced. It has been estimated that Punjab will annually need 20,000 tonnes of zinc sulphate, 500 tonnes of ferrous sulphate and 12,000 tonnes of gypsum to overcome this deficiency.

5.30 An essential pre-requisite of efficient fertilizer use is adequate facilities for soil testing. Facilities are already available at the District level. There is intense demand from the farmers for the expansion of these facilities. It is now proposed to provide such facilities at the Sub-Division level by setting up 21 new laboratories in a phased manner, raising the total to 43 by 1982-83. The number of soil samples tested is projected to increase from 160 thousand in 1977-78 to 430 thousand in 1982-83.

5.31 Fertilizer is applied at specific times. The demand is, therefore, concentrated over short periods. The farmer purchases fertilizer only at the time of application. He has neither

the funds nor the storage capacity to do stockpiling on his own. Accordingly, in order to meet the peak-season demand, the supplying organisations (the Markfed and the Agro-Industries Corporation) have to build up stocks in the off-season. This involves extra cost. In the Plan, provision has been made for a subsidy to compensate the supplying organisations for the extra burden. It is proposed to continue the programme for fertilizer demonstration and training on cultivators' fields. Now that the volume of fertilizer sales is increasing rapidly and both public agencies and private trade are in the field, it is very necessary to strengthen quality control. Provision has been made for a new testing laboratory, on a sharing basis with the Government of India. The number of fertilizer samples tested is projected to increase from 500 in 1978-79 to 3000 in 1982-83.

5.32 In the Plan, while the accent is on chemical fertilizers, a modest step-up in the use of organic manures is also envisaged. The utilisation of urban compost is projected to increase from 460 thousand tonnes in 1973-74 to 560 thousand tonnes in 1982-83. Over the same period, the area under green manuring would go up from 400 thousand hectares to 500 thousand hectares.

Multiplication and Distribution of Seeds

5.33 Improved seeds increase productivity. Self-pollinated seeds require replacement every 4-5 years and the hybrids every year. Therefore, the programme for multiplication and distribution

of seeds has to be expanded from year to year. This progress made hitherto and the targets for 1982-83 calls for an active role by the Government. The are indicated in Table 5.10.

Table 5.10 : Supply of Improved Seeds

(Tonnes)

Seed	1974-75	1977-78	1982-83 (target)
	1	2	3
0			
1. Wheat	1,500	2,800	7,500
2. Paddy	370	1,200	4,000
3. hybrid maize	170	273	500
4. hybrid bajra	34	29	100
5. gram	—	120	500
6. pulses	—	4	200
7. groundnut	—	—	200
8. rapeseed and mustard	—	10	50
9. cotton	—	75	500
10. sugar-cane	—	60,000	1,00,000
11. potato	—	1,350	7,500

5.34 For the intensification of seed production, the Punjab State Seed Corporation has been set up. 35% of the share capital is held by the State Government, 30 per cent by the National Seeds Corporation and 35 per cent by the growers. It arranges for production of seed, through registered growers. The Seed Certification Authority, an autonomous organisation, has the responsibility for certification of seed. Provision has also been made for the expansion of the Field Testing Laboratory that has been set, on a sharing basis with the Government of India, at the Punjab Agricultural University (PAU).

High Yielding Varieties Programme

5.35 The High Yielding Varieties Programme has played an important role in raising the produc-

tivity of Punjab agriculture. The maximum progress has been registered in wheat and rice. In the case of maize and bajra progress has been slow as the hybrids could not replace the indigenous varieties because of the much greater risk involved to the farmer. Under the the Integrated Rural Development Programme (IRDP) launched in 1977-78, the technical staff located at the focal points will provide technical guidance to the farmers at their door steps through personal contact with groups of farming families at 10-15 day intervals. This is expected to lend further support to the HYV Programme.

5.36 The progress of the HYV Programme during the Fifth Plan and the target for 1982-83 are shown in Table 5.11.

Table 5.11 : Area under High Yielding Varieties

Crop	Area under HYV (000 Hectares)			Proportion of cropped Area (percentage)		
	1973-74	1977-78	1982-83 (target)	1973-74	1977-78	1982-83 (target)
	1	2	3	4	5	6
0						
1. wheat	1,970	2,452	2,600	84.2	94.3	97.2
2. paddy	433	768	850	86.8	89.6	85.0
3. maize	26	91	100	4.6	20.4	21.7
4. bajra	6	43	50	4.1	41.0	50.0
Total	2,435	3,354	3,600			

Plant Protection

5.37 With growing intensification of cultivation and use of heavier doses of inputs, the farmer has to take particular care that his crops are not damaged by insects, pests and diseases. This underlines the importance of plant protection. The Sixth Plan provides for a variety of plant protection measures including both soil/seed treatment before sowing and prophylactic and curative spraying of crops.

5.38 So far the insecticides/pesticides have been supplied by private trade. There are widespread complaints of malpractices by trade, particularly with regard to sub-standard quality and high price. At the suggestion of the Central Government, provision has been made for testing of pesticides so that trade is subject to quality control. The Government has also decided to enter the market to provide healthy competition to private trade and to regenerate confidence among the farmers. The materials are supplied to the farmer on 'no profit, no loss' basis. The plant protection equipment is supplied on rent. The technical staff organize plant protection campaigns and provide technical guidance.

5.39 Since most of the holdings are small and there is a criss-crossing network of electricity

lines, spraying has to be mostly on ground and not aerial. It is proposed to organise campaigns, in accordance with carefully worked out schedules, by providing squads, pesticides and equipment. To this end, the Plan has provided for the strengthening of the plant protection organisation. At present the organisation has been carried only to the sub-division level. It is now proposed to extend it to the block level. The organisation will be adequately equipped with vehicles and plant protection equipment. Provision has also been made for large scale campaigns to deal with spread of pests and diseases in epidemic forms.

5.40 When the cotton plants grow to a certain size, ground spraying becomes impossible. In this case aerial spraying is undertaken. To make it possible for the farmers to pay for the pesticides and the operational charges, provision has been made in the Plan for grant of loans to them. Provision has also been made for the construction of helipads. With the increasing cropping intensity, weeds have become a problem. These have to be eliminated by using weedicides, but these are expensive. A subsidy on weedicides has, therefore, been provided.

5.41 The progress of plant protection during the Fifth Plan and the targets for 1982-83 are given in Table 5.12.

Table 5.12 : Plant Protection

	Unit	1973-74	1977-78	1982-83 (target)
	1	2	3	4
1. Plant Protection materials (technical grades)	tonnes	3	3800	5000
2. Coverage	000 hectares	..	4700	6500

Commercial Crops

5.42 Punjab's agriculture is predominantly cereal based. In view of the comfortable food grain reserves, it is in the State's interest, and that of the country, to diversify our agriculture. The programme for promoting commercial crops have this aim.

5.43 The programme for the development of sugarcane around the existing six factories, and the two new ones that are being set up (at Gurdaspur and Zira), seek to improve the supply and

quality of sugarcane. Specialised staff has been provided for undertaking development activities and for exercising the regulatory functions. Appreciable success has been achieved in improving sugar recovery.

5.44 There is a chronic shortage of vegetable oils in the country. Accordingly, a scheme for maximising groundnut production has been provided. The specialised staff appointed under the scheme lays out demonstration plots to familiarise the farmers with latest techniques. It also organises plant protection campaigns.

5.45 The per hectare yield of cotton in Punjab is about 150 per cent higher than the national average, but there is yet large scope for further improvement. Accordingly, provision has been made for the continuance of the Integrated Cotton Development Project.

Horticulture

5.46 The Kandi area is suitable for growing mango, litchi, mandarin and pear; the arid south-west canal command area, for citrus fruits; and the central plains, for grapes, peaches, plums and pear. In 1977-78, the area under fruit was estimated at 25,000 hectares. It is proposed to raise this to 50,000 hectares in the Sixth Plan. This is to be achieved by; (i) strengthening the technical staff of the Department to enable it to provide technical guidance to the fruit growers by visiting them at short intervals; (ii) advancing loans to fruit growers (Rs 5,000 per acre in the sub-montane area); (iii) creating three new nurseries and strengthening the existing ones for supplying genuine and quality plants at reasonable rates to the farmers; and (iv) by setting up a second demonstration-cum-fruit preservation unit at Hoshiarpur and strengthening the existing unit at Patiala.

5.47 Under vegetables, the most important programme is that for the production and multiplication of seed potato. For supplying quality and disease free seed potato to farmers at a reasonable rate, the Government has set up a chain of seed multiplication farms covering about 500 acres. Development staff has also been provided to impart technical know-how to growers. The Plan also seeks to promote vegetable cultivation around tube-wells. The vegetable production programme would be extended to the Districts (Bhatinda, Faridkot and Ropar) which are backward in this respect. It is proposed to identify at least 1,000 small farmers in each district who will put 0.2 hectares under vegetables. They will be provided, *inter alia* technical guidance.

Agricultural Engineering

5.48 The plan provides for further contribution to the share capital of the Agro-Industries Corporation which handles the supply programmes for machinery and fertilisers. An important new initiative is the scheme for establishing testing, maintenance and standard certification of agricultural machinery. Punjab has by far the largest

tractor park in the country (over 60,000 tractors). Other machinery and equipment include tube-wells, sowing, harvesting and thrashing equipment, and a variety of other implements. The total investment in machinery and implements has been estimated as of the order of Rs 700 crores, and it is increasing fast. It is necessary to ensure proper maintenance of this machinery. In the State there are about 8,000 manufacturers of farm implements. Quality control is necessary for safety and for ensuring that the farmers get their money's worth. The quality of equipment can be greatly improved by providing the small manufacturers with standardised designs. Standardisation will also facilitate maintenance of the equipment and its optimal use. The day-to-day maintenance of equipment will be easier if the farmer has a pucca platform equipped with washing nozzle and oiling and greasing pump, and if the farmer is given technical guidance. This is the rationale of the new scheme.

The Employment Programme

5.49 Under the employment programme for the agricultural engineering graduates, it is proposed to set up 300 Agro-Service Centres during the Sixth Plan. A beginning has been made with 276 Centres at the focal-points under the IRDP. These Centres will provide custom service to the farmers at reasonable rates, thus enabling the latter to use modern machinery and implements without having to buy them. The engineering graduates are provided with training facilities and seed money assistance.

Marketing and Quality Control

5.50 In the field of marketing the most important programme is the establishment of new mandi townships. These are planned secondary markets having commercial, industrial and residential wings. Taking into account the anticipated increase in agricultural production, the requirement of such secondary markets during the next 15 years has been assessed at 226. A tentative list of 110 urban and 116 rural localities has been drawn up. 40 projects were completed during 1974-78. Another 57 are expected to be completed during the Sixth Plan. There have been some problems about shifting the traders to the new townships. There is also the need for planned vegetable and fruit markets at suitable centres. But, on account of the resources constraint, it has not been possible to provide for these

in the plan. A proposal for setting up a Mandi Township Development Corporation has been mooted.

5.51 There are 109 regulated markets. In addition, a large number of purchase centres are set up to take care of peak season wheat and paddy arrivals. Grading helps the farmers to get a better price. Accordingly provision has been made for strengthening the facilities for grading of foodgrains and oil-seeds in the regulated markets, and for strengthening the Marketing Section at the Headquarters.

Warehousing

5.52 The Punjab State Warehousing Corporation provides storage facilities to the farmers and to the purchasing agencies. The growing agricultural production has given rise to increasing demand for warehousing facilities. In the Sixth Plan provision has been made for additional share capital contribution to the Corporation. This will raise its borrowing capacity from the commercial banks and thus enable it to expand its operations.

5.53 In order to encourage the farmers to store the retained grain and seeds properly, provision has been made in the Plan for a subsidy on construction of pucca bins at the farm. This subsidy supplements the one given by the Agricultural Marketing Board in recent years on the supply of metallic bins. These small sized storage facilities at the farm level have shown encouraging results in preventing damage to the stored grain and seed.

5.54 The Food and Supplies Department has two minor programmes : (i) the spill-over scheme for the construction of 400 tonne capacity godown at Dhuri, and (ii) payments for acquisition of land for open complexes in cases pending with the courts. The necessary provision has been made in the Plan.

Small Farmers and Agricultural Labourers Development Agencies

5.55 The Small/Marginal Farmers and Agricultural Labourers Development Agencies were sponsored by the Centre for improving the economic condition of these categories. Eight Districts have been covered under the Centrally-Sponsored Programme. The remaining four Districts (Gurdaspur, Bhatinda, Faridkot and Ludhiana) have been covered by similar schemes

under the State Plan so that the eligible categories may have the same facilities all over the States. The Sixth Plan provides for the continuance of these Agencies in the four Districts. For the present, it has been presumed that the other eight Districts will continue to be covered under the Centrally-Sponsored Programmes.

5.56 The schemes subsidised by the Agencies include : (i) installation of pumping sets and tubewells, and lift irrigation equipment; (ii) sinking of deep tubewells (by Co-operative Societies of beneficiaries) ; (iii) purchase of improved agricultural implements and storage bins ; (iv) setting up of demonstration plots ; (v) purchase of buffaloes ; (vi) setting up of poultry, sheep and piggery units ; and (vii) supply of spray pumps. In the Sixth Plan, it is proposed to include purchase of cross-bred cows and brick lining of field channels (as distinguished from common water courses), and to increase the number of buffaloes and the unit size of poultry and sheep which would qualify for assistance.

Agricultural Credit

5.57 The plan visualises mobilisation of maximum institutional finance for long-term investment in agriculture. It is proposed to finance installation of 65,000 tube-wells, purchase of 8,000 tractors, reclamation of 241,000 hectares of alkaline and saline lands, grape cultivation and animal husbandry and dairy development schemes through long-term loans provided by the Land Mortgage Bank. The Bank raises the needed finance mostly by floating debentures. The State Government is required to take up varying percentages of the debentures related to the loaning programme for different purposes. The total loaning programme in the Plan period has been targetted at Rs. 286.50 crores. The State's contribution, estimated at Rs. 25 crores, has been fully provided.

Research, Extension and Training

5.58 The Plan includes a comprehensive programme of research, covering 120 schemes, to be undertaken by the Punjab Agricultural University (PAU). In addition, there are 35 schemes relating to agricultural education and extension, and farmer training. The outlay on research, education and extension programmes of the University for the next four years (1979-83)

has been set at Rs. 8.36 crores as against the expenditure of Rs. 3.99 crores during 1974—78. In addition, there will be the grants made available by different Departments for research and training projects sponsored by them.

Agricultural Extension, Administration and Statistics

5.59 The Plan provides for the strengthening and improvement of agricultural extension, administration and statistics to cope with the expanded programme of agricultural development. In the field of training the most important programme is the setting up of composite training centres, each on an area of at least 25 acres. At present, each Department has its own arrangement for farmers training and the facilities are available mostly at the District level. The proposed centres will bring training facilities in various fields to the door steps of the farmers. Training, to be provided mostly through visiting lecturers, will also include practical demonstration of latest techniques. Provision has also been made for higher training of Gram Sevaks (V.L.Ws.) at the Gram Sevak Training Centre at Nabha and for deputing V.L.Ws. to study for B.Sc. Agriculture. Facilities for higher training will also be provided to Agricultural Sub-Inspectors and Compost Inspectors. There is provision for deputing Agricultural Inspectors for higher studies at P.A.U. and at Khalsa College, Amritsar, and for two officers for training abroad. Provision has been made for holding training camps at district, block and village level. The experts from PAU will also participate in these camps. This provides them with an opportunity to ascertain the problems in the field.

5.60 With regard to Agricultural Administration, the most important scheme is that for the introduction of the so called Benor system of 'talk and visit' extension. Under this system a training team with supporting staff and facilities will be set up at the sub-divisional level. It will impart training to the extension staff at fortnightly intervals. There will be a base level worker for each set of 500—800 families. Two subject matter specialists in essential disciplines at the district level, together with the existing specialists, will advise the Chief Agricultural Officer on formulation and implementation of production plans. Provision has also been made for strengthening the planning machinery at the Headquarters and the field staff of the Statistical Wing of the Department.

Integrated Rural Development Programme

5.61 The most significant new initiative in the Sixth Plan with regard to Agriculture and Rural Development is the Integrated Rural Development Programme (I.R.D.P.). The conceptual framework of this programme was outlined above in paragraph 2.19. The programme will be implemented in a phased manner. In 1977-78, 117 clusters, one in each block, and 5 villages in each cluster, were taken for development of the envisaged infrastructural facilities. Henceforth, every year 117 new clusters will be taken up while another group of 5 villages will be added to each of the clusters taken up in the previous years. Thus, in the second year of the programme, the coverage would be 117 clusters with 5 villages each, and 117 clusters with 10 villages each. The coverage will be expanded in the same manner in the third, fourth and fifth year of the programme. Thus, over a period of 5 years, the programme would cover the entire rural area. From the third year of the programme it is proposed to develop higher clusters with a wider and more intensive coverage of facilities.

5.62 The major objectives of the programme are :

- (i) to provide full and gainful employment;
- (ii) to achieve 50% increase in agricultural production in the covered villages ;
- (iii) to revive and develop traditional rural industries and trades ;
- (iv) to facilitate development of cottage and small-scale agro-based and ancillary industries ;
- (v) to ensure full development of local resources ; and
- (vi) to ensure that weaker sections of the rural population are enabled to participate in the development process.

5.63 In each cluster a bench mark survey will be carried out to determine the initial conditions. Development plans covering the whole gamut of agriculture and rural development will then be drawn up for each cluster depending upon its specific problems and potentialities.

5.64 The total cost of the programme upto the cluster level/focal point has been estimated

at Rs 252 crores over the Plan period. Of this, Rs 168 crores are expected to be raised from institutional sources. The balance will have to be provided by the State Government/Central Government. The additional cost of developing higher level focal points has been tentatively estimated at Rs 50 crores. Of this, Rs 35 crores may come from the institutional sources and the balance will have to be provided by State/Central Government. The total cost of the programme thus works out to Rs 302 crores for the Sixth Plan period. Of this amount, Rs 99 crores will have to be provided by the Government. It would not be possible for the State Government alone to find this amount from its own funds. The Central Government will need to contribute at least 50% of this amount. The State contribution has been provided under the Sub-Heads of Development concerned with the specific components of this Programme.

Need for Assured markets at Remunerative Prices

5.65 Punjab can take legitimate pride in its contribution towards the solution of the food crisis. One has only to look back to the decade 1965-74 and compare the food situation then and now. In bringing about this sea-change in the food situation, Punjab has played a creditable part. Suffice it to say that in 1977-78 Punjab's contribution to the national pool was, for wheat, 63 per cent of the total, and for rice, 35 per cent. But the plenty that the Punjab farmer has helped to create has begun to have a bitter taste for him. Taking advantage of the easy supply position, the traders, the processors and the procurement staff have begun to exploit the paddy grower's helplessness. The wheat grower not only considers the present price unremunerative but is increasingly

concerned about the future. The cotton grower feels cheated when the price falls by 30 per cent in a single season or when there is just no customer for the 'white gold'. The sugar cane grower undergoes great hardship and harassment just to be able to sell 15-18 per cent of his produce to the mills. The balance has to be absorbed in other uses which generally give him a much lower return, and often none at all. And so on. If the Punjab agriculture is to maintain its dynamism despite growing physical constraints, assured markets at remunerative prices are the indispensable minimum. The projected increases in crop production during the Sixth Plan are by no means ambitious. Punjab agriculture can produce more, and needs to do so if its projected 5 per cent growth rate is to be fully assured. If effective steps are not taken to dispel the demand uncertainties even the present targets may be in jeopardy, notwithstanding the envisaged many-sided development effort.

5.66 The solution has to be sought in several directions. Punjab must be allowed to have more composite textile mills and sugar mills. Spinning mills and Khandsari units alone will not do. The Cotton Corporation of India must do to the cotton growers what the F.O.I., despite its many faults and failings, has done to the wheat growers. This task is beyond the State Government's capacity. Export outlets must be explored for surpluses which the domestic market cannot absorb at fair prices. The easy food and foreign exchange situation provides a welcome opportunity to accelerate economic development and thus generate additional demand for farm produce. There can be other possibilities as well. Given the national will, the problem would be a manageable one.

Agriculture and Rural Development (II)

In the Sixth Plan, in the interest of diversification of agriculture, the allied activities comprising animal husbandry, dairying and milk supply, fisheries and forests have received greater attention than in the past. Further, in pursuance of the goal of reduced rural-urban disparity, besides allowing a substantially enlarged provision for Community Development and Panchayats, a new comprehensive programme of intensive development, the Integrated Rural Development Programme, has been launched. The development programmes in these fields are spelt out in this chapter.

ANIMAL HUSBANDRY

6.2 With the creation of Haryana as a separate State, Punjab lost most of the infrastructure for livestock development. The State has since been recreating the institutions and organisation required for the development of animal husbandry. This has made it possible to make some progress in livestock development. As the growth curve for cereals tends to flatten out, it has become necessary to accelerate the pace of development in allied agricultural activities. Accordingly animal husbandry has been accorded high priority in the Sixth Plan. The programmes cover development of cattle, poultry, piggery, and sheep and wool. The main ingredients of these programmes are : breed improvement, feed and fodder, health cover and strengthening of the institutional infrastructure.

Cattle Development

6.3 The thrust of the cattle development programme is towards increased production of milk. The total milk production in 1977-78 has been estimated at 2729 thousand tonnes giving a per-capita availability of 492 gms. per day. The buffaloes number about 2348 thousand as against 788 thousand milch cows. The buffalo also gives a higher average daily milk yield, about 4.31 litres as against 2.45 litres in the case of the cow. The buffalo is thus the primary milch animal of the State. In the Sixth Plan, while cattle development covers both cow and buffalo development, the accent is on the latter. The development measures are outlined below.

6.4 Breed improvement is the key to cattle development. It will be undertaken through intensification of the cross breeding programme. The basic infrastructure for this programme has been created and it has become popular with the farmers. The main schemes include the following : (i) Two bull stations-cum-frozen semen banks and 6 liquid nitrogen plants will be established for production, preservation and distribution of frozen Semen dozes. Capital cost would be borne by the Centre and the operational cost by the State. (ii) The frozen semen centre at Amritsar will be expanded. (iii) The scheme for the rearing of cross-bred heifers through small/marginal farmers and agricultural labourers by providing them subsidy in the form of balanced cattle feed will be extended to the remaining 5 districts. (iv) The existing Holstein Friesian cattle breeding farm at Matthewara will be expanded and linked with the progeny testing programme in the field. (v) A farm for raising cross-bred bulls of Brown-Swiss Sahiwal will be set up. (vi) 200 livestock welfare centres will be set up for extending breeding facilities and veterinary aid. (vii) 400 small cattle breeding units of 10 cows each will be established with financial assistance from the State. (viii) Selected gaushalas will be given financial and technical assistance to train private inseminators by providing them three months training in artificial insemination techniques. (ix) It will be necessary to check the unrestricted export of buffaloes which depletes the breeding area of the superior germ plasm.

6.5 Adequate health cover is an essential condition for the success of the livestock development programme. At the end of 1977-78 there were 466 veterinary institutions manned by a qualified veterinarian. It is proposed to provide one veterinarian for every 30 villages under Operation Flood and 383 veterinarians under IRDP. This will enable the State to have a more favourable ratio of livestock to veterinarians than the target fixed by the National Agricultural Commission for 1980. The other important programmes for improving the health cover are as follows : (i) The Punjab Veterinary Vaccine Institute, Ludhiana, will be expanded. (ii) The

50 per cent subsidy on supply of foot and mouth disease vaccine will continue to be available to owners of cross-bred stock and high yielding indigenous animals. (iii) Three polyclinics will be set up at District level to introduce multi-disciplinary approach in combating animal diseases. (iv) The PAU has been provided a large grant for veterinary education and research. (v) The State Veterinary store will be expanded to cope with the enlarged scale of work. (vi) It is proposed to set up a Veterinary Council.

6.6 The present availability of fodder is 11 kg. per animal per day against the requirement of 40 kg. It is proposed to raise availability to 30 kg. during the Sixth Plan period. The measures include the following : (i) A greatly enlarged programme of seed multiplication will be undertaken. Proper arrangement for production of breeder seeds, foundation seeds and certified seeds will be made through close coordination between research institutes, seed multiplication agencies and the farmer. (ii) Production at the Forage Planting Material Farm at Mattewara will be increased. (iii) Production and multiplication of quality fodder seeds through registered growers will be promoted. Farmers will be acquainted with latest techniques of fodder cultivation through demonstration plots. They will be supplied improved seeds. Fodder conservation will be popularised. To these ends, a Feed and Fodder Extension Agency will be created. (iv) Additional capacity will be created for production of cattle feed. (v) The PAU's Research Wing on forage crops and the Feed and Fodder Cell at the Headquarters will be strengthened.

6.7 Milk production is projected to rise to 3820 thousand tonnes by 1982-83, a 40 per cent step-up over the 1977-78 level. The per capita availability will rise to 617 gms per day.

Poultry Development

6.8 The 1972 census showed a poultry population of 3.02 million. Later figures are not available. Commercial poultry farming has made considerable headway. In 1977 there were about 2.6 million layers and 2.1 million chicks in 3907 private poultry farms. 656 farms had more than 1000 layers. Egg production is estimated at 419 million in 1978-79. The Sixth Plan envisages a

50 per cent rise, taking the total to 629 million in 1982-83. This will be achieved through : (i) supply of quality chicks and, to this end, licencing of hatcheries; (ii) extension service at the door steps of the farmers ; (iii) quality control to ensure supply of balanced poultry feed; and (iv) organised marketing of eggs.

6.9 The major programmes of poultry development include : (i) additional production of day-old pullets of high egg laying strains at State Poultry Farm ; (ii) strengthening of poultry extension service by providing poultry inspectors in selected blocks and Poultry Extension Officer in each District ; (iii) establishment of poultry estates for the educated unemployed covering 1,000 units of 500 birds each through financial assistance from the State, supplemented by institutional finance ; and (iv) financial assistance to the Punjab Poultry Corporation for marketing of eggs, setting up of an egg tray plant and extension of feed compounding activities.

Sheep and Wool Development

6.10 The sheep population was about 565 thousand in 1977. The average wool yield of a ram was about 3.23 kg ; of an ewe, 1.86 kg ; and of a lamb, 1.96 kg. The total wool production in 1977-78 has been estimated at 1035 thousand kg. It is proposed to be increased to 1501 thousand kg. in 1982-83, a rise of 45 per cent over the 1977-78 level. The main programmes include : (i) the supply of exotic/cross-bred rams to sheep breeders and, to this end, supplementing the rams available from the State farm with those purchased from the breeders ; (ii) provision of facilities for scientific spraying and shearing of sheep ; and (iii) setting up of a Sheep and Wool Development Corporation.

Piggery Development

6.11 The pig population, estimated at 85,000 in 1976-77, is projected to increase by 50 per cent to 127,000 by 1982-83. The development programme includes : (i) completion of the pig breeding farm at Mattewara and extension of the existing pig breeding farms/units to meet the growing demand for piglets as a result of promotion of pig production by the Small/Marginal Farmers and Agricultural labourers Agencies ; (ii) improvement of pig marketing facilities ; and (iii) assistance to the Punjab Poultry Corporation for the transportation of pigs to the pork processing plant.

Other Development Programmes

6.12 The Kandi Watershed and Area Development Project has a component of animal husbandry. Under the IRDP, 383 veterinary hospitals-cum-artificial insemination centres will be established ; 10 farmers per village will be trained every year, in one-day training camps, in feeding, breeding and management practices of exotic/cross-bred cattle ; a piggery unit will be established in each village in 49 blocks ; five poultry units will be established per cluster of 20—25 villages in all the Districts ; two sheep units per village will be established in four Districts ; a composite demonstration plot and four simple demonstration plots will be set up in each village ; a silo pit will be established in each cluster ; and improved fodder seeds will be supplied to about 100 thousand farmers.

6.13 An interesting new experiment is the proposed establishment of the Kule Majra Co-operative Colony (near Patiala) on State-owned forest land. 100 settlers from among the educated unemployed and the ex-servicemen will be allotted 5 acres per family. Each unit will have a farm house, a double storey poultry shed for 1000 birds, a dairy of 10 milch cattle, a shed for 5 breeding sows and a shallow tubewell.

6.14 Provision has also been made for the creation of planning and information and the publicity cells at the Directorate ; strengthening the District level machinery ; establishment of Animal Husbandry and Dairy Development Board ; and strengthening of arrangements for collection of animal husbandry statistics. The plan provides for an outlay of Rs. 13.94 crores on Animal Husbandry programmes during the next four years (1979—83) as against the expenditure of Rs. 4.93 crores during 1974—78.

DAIRY DEVELOPMENT AND MILK SUPPLY

6.15 Punjab seeks to follow up the "Green Revolution" with a "White Revolution" aimed at a marked increase in milk output. This will provide the farmer with a remunerative supplementary activity, thus promoting the diversification of agriculture. It will be a boon to the land-poor and landless small/marginal farmers and agricultural labourers. Commercial dairy

farming on scientific lines could provide the educated unemployed a new avenue of gainful self-employment. A more plentiful supply of milk will raise nutritional standards. The substantial imports of milk products would be eliminated with beneficial impact on the balance of payments.

Dairy Development

6.16 The most important programme under dairy development is the establishment of cattle feed factories. The increased availability of balanced cattle feed will be an important factor for increased milk production. (ii) The scheme for providing extension services and training in dairying in the village itself is to be expanded by creating an additional extension unit. The extension units take 5 day/one month training courses in scientific dairying. The trainees are paid messing charges and a stipend. (iii) The Punjab Dairy Development Corporation has been provided additional share capital contribution. (iv) Provision has been made for the implementation of Operation Flood II. Punjab has been earmarked Rs. 25 crores under this Central programme. (v) The scheme for creating self-employment opportunities in the field of commercial dairy farming would continue. Under this scheme, the candidates are provided with 21 days training (and given a stipend). The extension units mentioned under (ii) above assist them to arrange finance from the banks for purchase of animals. Under this scheme, they are also given subsidies on interest, insurances and cattle feed. It is now proposed to provide also a 10 per cent subsidy on the amount borrowed from the banks by way of margin money assistance. Under this scheme it is proposed to train about 3600 persons and to arrange financial assistance for them.

6.17 Milk co-operative societies eliminate the middle-men between the producers and the milk plant ; enable the members to avail of institutional finance for purchase of cattle ; and facilitate procurement of inputs and services. The Plan, therefore, provides for assistance to these societies at the rate of Rs. 8000 per society for several purposes. It is proposed to assist 330 societies during the Sixth Plan period. The Integrated Rural Development Programme has also a dairy development component. Under this, subsidies will be provided to the selected

families for construction of a model cattle shed and purchase of high quality fodder seed and feed. The farmers will also be provided technical training and guidance at the village, cluster or block level. Another new programme seeks to promote dairy development in the border, sub-montane, bet and backward areas by setting up 12 milk chilling-cum- demonstration centres and by subsidising the purchase of fodder seed and cattle feed by the cattle owners. The Plan also provides for the establishment of rural-cum-distribution centres in middle level towns (25,000—99,000 population). These will provide quality milk and milk products to the town population, and marketing facilities to the milk producers in the surrounding area. The nearest milk plant will lift the milk collected at these centres and in turn

supply bottled milk. These centres will also supply to the milk producers inputs like cattle feed, artificial insemination facilities, and animal health coverage.

6.18 The Plan provides for the strengthening of the Headquarters staff. In order to meet the growing requirements of milk plants for technical personnel, the Plan makes a provision for training such personnel.

6.19 The physical results achieved during the Fifth Plan and the projections for 1982-83 are given in Table 6.1. It may be noted that the increase in milk production is to be achieved entirely through improvement in yield per cattle as no increase in the number of milch cattle is anticipated.

Table 6.1 : Stock of Milch Cattle and Milk Production, by Type of Cattle

		Unit	1973-74	1977-78	1982-83
		1	2	3	4
1.	Milch cattle	.. th. number	2884	3136	3136
	.1 buffaloes	.. "	1979	2348	2348
	.2 cows	.. "	905	788	788
2.	Milk production	.. th. tonnes	2100	2729	3820
	.1 buffaloes	.. "	1700	2200	2895
	.2 cows	.. "	400	529	925
3.	Per capita availability of milk per day	.. gms	404	492	617

FISHERIES

6.20 Punjab has considerable resources for fresh water fish culture. The length of rivers is 1,830 km. and that of canals and distributaries 13,445 km. The village ponds and tanks suitable for fish culture have a total area of 3,100 hectares. In addition, there are 1,200 hectares of backwater areas and 4,400 hectares of continuous strips of depressions along canals. The total impounded area available for fish culture adds up to 8,700 hectares. The large number of tube-wells and pump sets make it possible to practise fish culture in dug ponds. Punjab thus has scope for supplementing its agriculture by aquaculture.

6.21 In the Sixth Plan the growing requirements of fingerlings are to be met by several schemes for fish farms. (i) The three fish seed farms and the ten fish seed nurseries spilling over

from the Fifth Plan will be completed and equipped with glass jar hatcheries. It is also proposed to set up 4 new fish farms. (ii) About 6 million carp fingerlings will be obtained annually from natural sources by construction of two bundhs and tapping the riverine areas. (iii) A seed farm will be established in the vicinity of Shah Nehar reservoir. It will yield 500 thousand fingerlings per year for stocking this reservoir (200 hectares of water area). (iv) The Kandi water shed and area development project has a fisheries component. It is proposed to construct two fish seed farms to produce carp fingerlings for stocking the reservoirs that will be formed when the chos (mountain streams) are dammed, and also the riverine stretch of Sutluj from Nangal to Ropar.

6.22 Under the IRDP, it is proposed to create 600 hectares of water area for fish culture

by excavation and renovation of ponds. Provision has been made for 25 per cent subsidy on excavation and renovation, interest subsidy on borrowings from the banks for this purpose, and Rs 500 per hectare on inputs. A scheme provides for free assistance by the Department for exploitation and marketing of fish from the stocked ponds.

6.23 Provision has been made for three extension centres for disseminating technical know-how ; two for imparting training in fish farming and one for training fisher men and helping them with nets. There is also provision for (i) training the staff, (ii) strengthening the Headquarter, Circle and District levels with technical and ministerial Staff, (iii) creating a statistical wing in the Department, and (iv) for a survey of the State's fishing potential.

6.24 The total plan provision for the next four years (1979-83) is Rs 2.74 crores as against the expenditure of only Rs 0.60 crore during 1974-78. The fish production is projected to grow from 2,400 tonnes in 1977-78 to 4,200 tonnes in 1982-83.

FORESTS

6.25 In March, 1978, the total forest area was 2,115 sq. kms. comprising 1041 km. of Government area and 1074 km. of private area. This is barely 4.2 per cent of the geographical area. Though it is a very low proportion, yet no improvement is possible. In the Sixth Plan, the main emphasis has been laid on forest development in the Shivalik hills and on the private area (owned by Panchayats and individuals).

6.26 The development programmes include the following : (1) Forest research will be undertaken through the agency of PAU. (2) The staff will be trained at the Punjab Forest School, Hoshiarpur. (3) Grass lands, mostly private owned, will be developed by enclosing them for soil and water conservation and planting these with good fodder grass and trees. (4) Forests will be planted on private lands (owned by individuals). In the area under the control of the Forest Department, planting and maintenance will be done by the Department itself. In other areas, planting will be done by the Department, while the owner will pay for the plants and be responsible for maintenance. (5) Planting

will be undertaken along the link roads, in the adjoining private fields at Government cost. The maintenance will be done by the owners. (6) A major programme pertains to raising of plantations of economic species like shisham, kikar, eucalyptus, mulberry, khair, bamboos and chil in the block forest and the strips along railways, roads and canals. The strip plantations will also serve as shelter belts. (7) The Centrally Sponsored Scheme for raising mixed plantations for firewood, leaf fodder, fruit trees and grass on enclosed Panchayat lands will be continued. Plants will also be distributed among individuals for farm forestry. (8) The Centrally-Sponsored Scheme for meeting the fuel wood needs of the rural and semi-urban population, and for creation of shelter belts, by reforestation of the degraded forests will also be continued. (9) Saplings will be supplied for planting along boundaries of land holdings, water channels, and the village circular roads, in schools and on private waste and marginal lands. (10) Catchment area of chos in the Shivalik region will be afforested.

6.27 Other programmes include : (i) construction of houses for the staff; (ii) further progress with the construction of the Zoological Park at Chhat Bir (near Chandigarh) and other wild life parks and sanctuaries; (iii) contribution to the share capital of the proposed Punjab State Forest Development and Utilisation Corporation; (iv) environmental forestry comprising planting of trees, shrubs and creepers on Government and private areas; (v) the forestry component of the Kandi Watershed and Area Development Project including afforestation (with economic species) of the upper catchments of five chos; (vi) acquisition of land for treatment under the Kandi Development Project; (vii) demarcation of protected unclassified forests; and (viii) establishment of a statistical cell at the Headquarter. The soil conservation work of the Forest Department has been mentioned above under that Head.

6.28 The provision for the next four years is Rs. 13.64 crores as against the expenditure of Rs. 4.77 crores during 1974-78. In addition, funds will be available as Centre's contribution to the Centrally Sponsored Programmes and from institutional sources. Physical achievements during the Fifth Plan and the targets for the Sixth Plan are given in Table 6.2.

Table 6.2 : Physical Achievements and Targets in Forest Development

	Unit	1974—78 (achievement)	1978—83 (target)
1	2	3	4
1. Training of staff	.. Persons trained	217	200
2. Development of forests in private lands	.. Hectares	370	1,230
3. Planting along link roads	.. R.K.M	—	2,400
4. Plantation of economic species	.. Hectares	12,980	10,370
5. Mixed plantations on panchayat lands	.. (a) Hectares	1,443	9,700
	.. (b) Plants Supplied (000s)	—	5,600
6. Reforestation of degraded forests	(a) Hectares	2,100	5,000
	(b) R.K.M.	—	15,400
7. Farm forestry	.. Plants supplied (million)	22	36
8. Construction of houses for staff	.. No.	58	199
9. Forest Development and Utilisation Corporation	.. (a) Planting (Hectares)	—	6,000
	.. (b) Wood extracted (000M ³)	—	200
10. Kandi Watershed and Area Development Project-Planting	.. Hectares	—	16,000
11. Acquisition of land in Shiwaliks	.. Hectares	—	16,000
12. Demarcation of forests	.. kms	—	1,500

COMMUNITY DEVELOPMENT AND PANCHAYATS

6.29 The most important programme, accounting for more than half the total Plan provision, is the improvement of village sanitation by pavement of streets and construction of drains. For this purpose grants of up to Rs 50,000 are made to the Panchayat Samities for approved schemes. During 1974-78 such grants were given to 978 villages. During the Sixth Plan period additional 1300 villages are expected to be covered. This scheme is also very suitable for making use of the Central assistance available under the Food for Works Programme. Under another important continuing scheme, financial assistance is provided to Panchayati Raj Institutions for expenditure on revenue earning schemes in the form of 15 years loans at 3 per cent rate of interest. During the Fifth Plan Rs 0.74 crore were spent on this scheme. The amount was used mostly for the development of shamlat (common) lands. Since the launching of IRDP, the assistance under this scheme has been given to Panchayats of focal point villages for building complexes of 4 shops each. Since 1977-78, Panchayat Samities and Zila Parishads are also eligible for assistance. The third important scheme provides for financial assistance to Panchayats for building Panchayat Ghars (houses). The Government gives a grant of Rs 10,000. The

land and the balance cost is provided by the Panchayats. Under this scheme 240 Panchayat Ghars were financed during 1974-78. The Plan provides for another 710 Panchayat Ghars during 1978-83. A new initiative is the scheme for providing under ground sewerage in villages.

6.30 The other programmes include: (i) the schemes for development of model villages, grants to Panchayat Samities for appointment of Panchayat Secretaries, and disposal of sullage water; (ii) the composite scheme for women and pre-school children (3-6 age group) providing for diet, equipment to craft centres, and the establishment of Balwadi Centres; (iii) study tours of non-officials; and (iv) strengthening of staff. The total Plan provision for Community Development and Panchayats for 1979-83 is Rs 8.38 crores against the expenditure of Rs 4.57 crores during 1974-78.

A DIVERSIFIED AGRICULTURE

6.31 Punjab has made some progress towards diversification of agriculture. Now that cereal production is approaching a saturation point, the pace of diversification must be accelerated. The Sixth Plan programmes for development of allied activities are a move in that direction. They will pave the way for a much quicker progress in the Seventh Plan towards a diversified agriculture.

Co-operation

Cooperatives have been viewed as an important instrument for decentralisation of the economy and encouraging local initiative. They enable the small producers to secure economies which are otherwise available only to the large producers. In a pattern of development which emphasises family farms and village and small industries, cooperatives are an indispensable condition for success.

Fifth Plan Progress

7.2 During the Fifth Plan period, the main stress was on strengthening the co-operative credit structure, developing the cooperative banking system, promoting cooperative marketing of farm produce and supply of inputs, and setting up processing units. Development of industrial and handloom cooperatives and a cooperative distribution system, particularly in the urban areas, also received considerable attention.

7.3 Crop credit, which finances purchase of fertilizers and other agricultural inputs, increased from Rs. 59 crores in 1973-74 to Rs. 85 crores in 1977-78. 40 per cent of the total credit went to small and marginal farmers. Good progress was also registered in the field of long and medium-term credit, the total of which rose to Rs. 18.77 crores in 1977-78. The cooperative banks opened 144 new branches raising the total to 365. They were able to attract additional deposits of Rs 54 crores. The value of the fertilizer sold to the farmers in cash and in kind rose from Rs. 50.32 crores in 1973-74 to Rs. 77.73 crores in 1977-78. Sugar mills in the cooperative sector produced a record output of 74,122 tonnes in 1977-78. Co-operative assistance was extended, for the first time, to milk collection and processing. Two milk plants with an installed capacity of 100,000 litres per day were commissioned and the work on the third was in progress. In 1977-78, intensive co-operative development was undertaken in the first batch of focal points/clusters and encouraging results were achieved in promoting sale of fertilizer and marketing and procurement of wheat

through primary cooperatives. The cooperative sector raised Rs. 2.30 crores as Central assistance under the Centrally Sponsored and the Central Schemes and under the National Cooperative Development Corporation (NCDC) schemes. It was utilised mainly for construction of rural godowns, procurement of fertilizer and distribution of consumer articles.

Sixth Plan Priorities

7.4 The Sixth Plan seeks to give a powerful boost to cooperation. The main thrusts are towards :

- (1) reorganising the cooperative credit structure at the base level with a view to developing viable Primary Agricultural Service Societies for meeting the credit requirements and providing economic facilities and services ;
- (2) revitalising the cooperative banking system for providing convenient and easily accessible credit and banking facilities to the rural population ;
- (3) providing extensive marketing and storage facilities for agricultural inputs to ensure timely supply to farmers ;
- (4) developing a network of milk procurement societies at the village level, affiliated to Milk Unions, for supplying milk to the dairy plants and for providing facilities for improving milk production ;
- (5) creating a strong complement of processing units such as sugar and oil mills and milk plants with the object of providing remunerative prices to producers ;

- (6) assisting village artisans and craftsmen by providing concessional credits and raw materials, and by arranging for marketing of their products ;
- (7) establishing an efficient distribution system for consumer articles in rural and urban areas which could serve as an effective check on private trade ;
- (8) creating new avenues of employment in such activities as marketing of fruits and vegetables, and export of raw and processed foodstuffs ;
- (9) organising the urban cooperative banking structure for providing credit and banking facilities to small entrepreneurs including self employed artisans and technicians ; and
- (10) reinforcing the cooperative inspection and credit.

Credit Co-operatives

7.5 The credit co-operatives will be the main source of institutional finance for agriculture and rural development. The most important Sixth Plan programme is the reorganisation of around 10,000 small village societies into 2500 viable units designated as Primary Agricultural Service Societies. The 1982-83 target for short-term and medium-term loans to be advanced by the PASSs has been set at Rs. 265 crores as against the estimated achievement of Rs. 87 crores in 1977-78. In order to raise their borrowing capacity to match this target, provision has been made for Rs. 4.80 crores contribution to their share capital. The PASSs will be given a managerial subsidy to enable them to set up regular offices with full time staff. The PASSs at the focal points will be given an additional subsidy to enable them to undertake also procurement and marketing of agricultural produce, and direct procurement of fertilizers, seeds and other inputs. The PASSs will need additional storage capacity for stocking inputs and consumer articles. Those at the focal points will also need space to stock food grains. Accordingly, the Plan provides for 435 godowns of 500 tonne capacity each at focal points and 530 godowns of 250 tonne capacity at other localities. The societies will be assisted in this development

by a subsidy under the Plan and loans from the National Cooperative Development Corporation.

7.6 The number of cooperative bank branches will be increased from 365 in 1977-78 to 750 in 1982-83 so that each of the projected 500 focal points may have a branch. Provision has been made for share capital contribution to banks to raise their borrowing capacity commensurate with anticipated loaning programme. It may be noted that the State contributions to the share capital of the banks and the PASSs will be reimbursed by the Reserve Bank of India as loans from the National Agricultural Credit (Long-term Operations) Fund. The cooperative banks will be given a managerial subsidy in respect of the 385 branches which will be opened during the Sixth Plan period. The banks will also be given assistance, amounting to 50 per cent of the cost, for building bank premises at 266 focal points. The weaker banks among the Cooperative Central Banks will be strengthened by giving them assistance, on a matching basis with the Centre, to write off bad debts of the affiliated societies.

Housing Cooperatives

7.7 The State Cooperative Housing Federation, the apex body of the housing societies, arranges long term loans from LIC and other sources which are, finally, advanced to members. A small provision has been made to enable the Federation to develop a promotional and technical cell for helping the affiliated societies in efficient discharge of their responsibilities.

Warehousing and Marketing Cooperatives

7.8 There are 123 marketing societies covering all the regulated markets. Some of these societies are in financial difficulties on account of business losses and administrative shortcomings. Provision has been made for assisting 50 such societies by way of contribution to share capital. There is a large potential for export of vegetables and fruits, particularly to the Middle East. Accordingly, provision has been made for assistance to Markfed for developing such exports. The assistance comprises (i) share capital as margin money, (ii) loan and share capital for setting up cold storage facilities, and (iii) subsidy for the technical and marketing cell.

Processing Cooperatives

7.9 Provision has been made for the payment of the balance contribution of State's share in the capital of the existing processing units, mostly cotton seed processing units. A number of new processing units are also in the pipe line. Provision has been made for State's share in the cost of these projects.

Milk and Dairy Cooperatives

7.10 In pursuance of the policy of giving high priority to dairying and milk supply, it is programmed to make available financial assistance to 2453 milk producers' societies, 8 unions and their federation. The societies will be given subsidy for (i) managerial cost, (ii) milk testing equipment, and (iii) first aid and artificial insemination boxes and cattle crates. Subsidies will be made available to the Unions for (i) managerial cost in the first two years, (ii) supply of chemicals to milk societies for two years, free of cost, for testing milk, (iii) charges on transport of milk from villages to milk plants, (iv) purchase of diesel jeeps (two per union), (v) purchase of audio visual aids for extension programme, (vi) establishment of procurement and inputs wing, and (vii) expenses of the spear-head team. Share capital contribution will be provided to a milk union/federation for setting up a milk plant and a cattle feed plant. The loan component for these plants will be raised from the NCDC. Assistance will be provided to the Federation for: (i) setting up a technical and marketing cell, and (ii) for training of audit and inspection staff. Provision has also been made for share capital contribution to the societies, unions and the federation.

Cooperative Sugar Mills

7.11 Provision has been made for share capital contribution to 2 new cooperative sugar mills, the existing 4 cooperative sugar mills for expansion, and 6 new large sized khandsari units. The loan portion of the investment will be raised from the cooperative banking institutions and the NCDC. The Sugar Mills Federation will be provided a subsidy for its technical cell.

Industrial Cooperatives

7.12 In order to strengthen, revitalise and develop industrial and handloom cooperatives of artisans, craftsmen and technicians, provision has

been made for assistance in the form of share capital contribution, loans and subsidies. The programmes include : (i) share capital contribution to primary industrial cooperatives and their unions/federation ; (ii) subsidy to cooperative banks on loans to industrial and handloom cooperatives at the highly subsidised rate of 2.5 per cent ; (iii) assistance to handloom cooperatives in the form of rebate on sale of cloth and subsidy-cum-loan in the ratio of 3 : 1 for purchase of improved appliances ; (iv) managerial subsidy and share capital contribution to the Handloom Apex Society; (v) share capital contribution to 9 Model Handloom Weavers Societies ; (vi) assistance to 100 women's industrial cooperative societies, engaged primarily in garment making, for engaging craft teachers for training their members ; and (vii) managerial subsidy to industrial and handloom weavers cooperatives.

Consumer Cooperatives

7.13 There are 16 Central Cooperative Consumer Stores and the State Cooperative Consumers Federation. There are also Primary Consumers Stores in the industrial areas. The programmes for the rehabilitation and development of the three levels of consumers cooperatives include : (i) share capital contribution to all the three categories ; (ii) subsidy to the Federation for the business and financial management cell ; and (iii) subsidy to the Central Stores and the Federation to enable them to write off their accumulated losses and the unsaleable stock.

Cooperative Education, Research and Training

7.14 The programmes include : (i) education and leadership training of members of cooperatives ; (ii) training of cooperative subordinate personnel ; (iii) study tours ; and (iv) subsidy for research and case studies of cooperative activities.

Administration and Publicity

7.15 Provision has been made for additional staff at the Headquarters and in the field to cope with the greatly enlarged activities of the Cooperative Department. A small provision has also been made for information and publicity.

Cooperative Audit

7.16 Regular, timely and effective audit is indispensable for proper functioning of the

cooperative institutions. Additional staff is necessary both for proper audit of the existing institutions and to cope with the envisaged expansion of this sector. Provision has been made for additional staff for audit of credit and non-credit societies, training and education of the audit staff and strengthening the Headquarters.

Physical Targets

7.17 The provision for development of the cooperative sector for the next four years (1979-83) has been set at Rs 23.07 crores against the expenditure of Rs 8.79 crores during 1974-78. The position in 1977-78 and the projected physical targets for 1982-83 are given in Table 7.1.

Table 7.1 : Achievements and Targets in the Cooperation Sector

Facility/Service	Unit	1977-78	1982-83	Increase
0	1	2	3	4
1. Cooperative banks				
.1 branches	.. No.	365	750	385
.2 deposits	.. Rs. crores	145	275	130
2. Primary Agricultural Service Societies				
	.. No.	—	2500	2500
3. Agricultural loans advanced during the year				
.1 short-term	.. Rs. crores	85.00	260.00	175.00
.2 medium-term	.. ..	2.50	5.00	2.50
.3 long-term				
(a) ordinary	.. ..	14.02	18.00	3.98
(b) special under A.R.D.C.	.. ..	2.25	60.00	57.75
4. Loans to small and marginal farmers				
.1 short-term	.. Percentage of total agriculture loans	40	45	5
.2 long-term	.. ..	50	60	10
5. Overdues of short-term agricultural loans				
.1 Central Cooperative Banks	.. Percentage of demand	27.6	18.0	(—)9.6
.2 Primary Agricultural Credit Societies	.. ..	28.0	20.0	(—)8.0
6. Fertilizer retailed by cooperatives				
.1 quantity	.. 000 tonnes	1150	3000	1850
.2 value	.. Rs. crores	78	200	122
7. Rural godowns at the end of the year				
.1 godowns	.. No.	2571	3506	935
.2 capacity	.. 000 tonnes	398	740	342
8. Milk producers cooperatives				
.1 primary societies	.. No.	1947	4400	2453
.2 unions	.. No.	5	8	3

7.18 A perusal of the 1982-83 targets shows that, in the Sixth Plan, the cooperative sector is scheduled for large expansion and intensive develop-

ment. The Cooperatives have been assigned a key role in agricultural credit, supply of inputs and processing of farm produce.

Irrigation and Flood Control

Punjab's success in agriculture has been due, first and foremost, to irrigation. In 1977-78, 81.6 per cent of the cropped area was under irrigation. By carefully husbanding the State's water resources, and by taking some bold initiatives, it is projected to add another half a million hectares to the 1977-78 total of 6.25 million hectares of irrigated area. The addition to irrigation potential will be even larger. The irrigation programmes include : (i) the multipurpose projects ; (ii) the major and medium irrigation schemes ; (iii) the water development schemes ; and (iv) the minor irrigation schemes of the Departments of Agriculture and Irrigation and the Punjab State Tubewell Corporation. These programmes are outlined below.

THE MULTIPURPOSE PROJECTS

Thein Dam Project

8.2 Among the multipurpose projects, the pride of place belongs to the Thein Dam Project (hereafter TDP). The TDP (together with Stage II of the Upper Bari Doab Canal Hydel Scheme) seeks to use the waters of Ravi for irrigation and power generation, and to control floods. The project envisages a 147 metre high earth-core gravel shell dam across Ravi at Thein, about 24 Km upstream of the Madhopur Headworks. It will store 2.98 million acre feet (maf) of water, of which 1.9 maf will be the utilisable storage. The project will benefit 348,000 ha. on completion. The power house will have an installed capacity of 480 MW (4×120). Besides, Stage II of UBDC hydel project will add 3 units of 15 MW each. The estimated cost is Rs. 263 crores and the completion time is 8 years. With the Plan provision of Rs. 98 crores, besides covering the establishment charges, it is programmed to undertake : (i) pre-construction works such as land acquisition, investigations and the connecting railway, roads and bridges ; (ii) purchase of construction equipment and machinery and construction of job facilities ; and (iii) works including tunnels, coffer dams, main dam, spillway, penstocks, gates and shafts and the power house. The necessary administrative and tech-

nical measures are being taken to ensure expeditious implementation of the Project.

Shahpur Kandi Project

8.3 The Shahpur Kandi Project envisages construction of a barrage across the Ravi downstream of the proposed Thein Dam site and upstream of the existing Madhopur headworks. The project will irrigate 33,000 ha. in J & K State and yield an installed capacity of 94 MW (2×47) at a cost of Rs 68.36 crores. It is proposed to take up construction in 1981-82 to synchronise the completion of this project with the completion of the Thein Dam, with which it is linked. With the Sixth Plan provision of Rs 5.01 crores, the following works will be undertaken : (i) investigation and survey of the reservoir area and basic planning ; (ii) finalisation of the detailed designs ; (iii) acquisition of land ; and (iv) procurement of machinery.

Diversion Weir of Shahnehar Canal

8.4 Shahnehar is an inundation canal taking off a few kilometres downstream of the Pong Dam on the Beas river. The construction of the Dam has resulted in reduced supply of water in the river. In order to divert sufficient water into the canal, it has been decided to construct a barrage across the river. This will make it possible to continue feeding the existing Shahnehar canal irrigation system. The approved cost estimate of Rs. 11.59 crores is now expected to go up to Rs 21.33 crores. The Plan provision of Rs. 8.85 crores would enable completion of the project in 1979-80.

Dholbaha Dam Project

8.5 The Dholbaha Dam Project involves construction of an earth and rockfill dam across the Dholbaha Choe (District Hoshiarpur) with a maximum height of 32.2 metres. The stored flood waters of the choe will be utilised to irrigate 6,960 hectares. An additional area of 2,700 ha. will benefit from flood protection. Some part of the bed of the choe will also be reclaimed for cultivation. The latest estimate of cost is Rs. 3.90 crores, of which Rs. 0.25 crore was incurred during 1974-78.

A provision of Rs. 3.70 crores has been made in the Sixth Plan to cover the balance amount.

Low Dams in Kandi Area

8.6 The sub-montane region is strewn with choes which have badly cut and damaged the area near the foot hills. During the rainy season, flood waters laden with coarse sand/silt pour down the choes and cause great damage in the plains. In order to check this destruction and also provide irrigation facilities, it is proposed to construct low dams in the catchment areas of Chohal, Siswan Nadi, Patiala Ki Rao, Maili, Soan Nadi and Sirsa Nadi choes, as also the Janauri Dam. The Plan provides Rs. 5 crores for the purpose.

Balance Expenditure on Beas Projects

8.7 A provision of Rs. 10.60 crores has been made to meet the balance expenditure on the Beas Projects : units I and II and the Extensions.

MAJOR-MEDIUM IRRIGATION SCHEMES

Lining of Channels

8.8 A considerable proportion of water from the unlined irrigation channels is lost through seepage/absorption. Seepage of water raises the underground water table which aggravates water logging. Weed growth in the unlined channels impedes free flow of water. Now that the surface waters available with the State have been utilised, it is necessary to prevent avoidable wastage of water. Accordingly, in the Sixth Plan, by far the most important programme in major-medium irrigation is the lining of channels.

8.9 The total length of channels—main canals, branches, distributaries and minors—is 14,882 km. Of this, 506 km of main canals had been constructed as lined channels from the very beginning. Up to 1977-78, a length of 735 km had been lined. With the Sixth Plan provision of Rs. 105.50 crores, it is expected to line another 5500 km, thus raising the total to 6235 km. A project, covering the 4-year period 1979-83, for an estimated cost of Rs. 96 crores has been posed to the IDA (World Bank).

Extension of Non-Perennial Irrigation to Areas in the U.B.D.C. Tract

8.10 In the U.B.D.C. tract, large areas were without irrigation facilities. The scheme "Extension of Non-Perennial Irrigation to Areas in

U.B.D.C. Tract" envisages construction of new distributaries and minors as well as remodelling of the existing channels to increase their discharge capacities. The approved cost estimate of Rs. 5.9 crores is being revised. On completion, the scheme is expected to generate additional irrigation potential of 235,000 hectares. The Sixth Plan provision is Rs. 1.14 crores.

Utilisation of Surplus Ravi-Beas Waters

8.11 Under this project, a part of the surplus Ravi-Beas waters were to be utilised to increase the water allowance to 3.5 cusecs per thousand acres for the areas lying to the south-west of the Ferozepur-Jakhal railway line. However, following the Centre's unfavourable award regarding the inter-State distribution of the surplus waters, the work on this project has slowed down. The Sixth Plan provision is Rs. 2.66 crores.

Extension and Improvement of Shahnehar Canal System

8.12 The Shahnehar Canal System at present covers 26,316 hectares. With the completion of the Shahnehar barrage (Paragraph 8.4 above), the enlarged and regular supply of water makes it possible to increase the irrigated area to 86,320 hectares. The total cost is estimated at Rs. 10.63 crores. The Sixth Plan provision is Rs. 5.50 crores.

Construction of New Distributaries and Bridges

8.13 The following distributaries and minors are proposed to be constructed/remodelled/extended : Changa distributary; New Dhudal and Rurki distributary ; Malerkotla distributary ; Alamwala minor ; Changa Distributary (extension) ; Subelwala minor ; Rania minor ; Kalas minor ; Kalyana minor ; Kot Budha minor ; Talwandi sub-minor ; and Mehdiipur sub-minor. The construction of new channels and the remodelling of old ones will necessitate new bridges. The construction of new link roads will also do the same. The Plan provision for both the items has been set at Rs 4.10 crores.

Modernisation of Existing Canals

8.14 Modernisation of existing canals covers: (i) provision of adequate regulators and escapes and replacement of Kari regulation system by mechanically operated gates ; (ii) provision of accurate measuring devices for water diverted at

various points of the canal system ; (iii) installation of a modern communication system ; and (iv) remodelling of canals. The Sixth Plan provision is Rs 0.50 crore.

WATER DEVELOPMENT

Investigation of Schemes

8.15 With the almost complete harnessing of the available surface water resources, attention will have to be concentrated on making the most efficient use of water. It will be necessary to work out schemes for the improvement and modernisation of the existing irrigation system as well as for the introduction of new irrigation practices and modern water management techniques. For this purpose it will be necessary to investigate the water requirements of crops, the manner in which flow irrigation is actually utilised by the farmer, the prevailing inter-relationship of ground water and canal water irrigation, and the impact on irrigation practices of water-rates based on the area irrigated. In view of the new orientation to investigation of schemes, it may be necessary to bring the concerned agencies under one organisation which may be entrusted with the overall responsibility for planning water resources development. In the Sixth Plan Rs 2.26 crores have been provided for investigation of schemes.

Research Schemes

8.16 For research schemes of a technical nature to be carried out under the aegis of Irrigation and Power Research Institute, Amritsar, a provision of Rs. 0.24 crore has been made in the Plan.

MINOR IRRIGATION

8.17 Punjab is well endowed with ground water resources. Terrain and sub-soil conditions facilitate exploitation. During the last decade or so the Punjab farmer, encouraged by the Government and assisted by institutional finance, has gone all out to exploit the ground water resources. The number of tube-wells has increased from 25,361 in 1965-66 to 225,556 in 1976-77, that is, 9 times in 11 years. The wells have been mostly fitted with pumping sets. Electricity consumption in agriculture is now close to 45 per cent of the total State consumption. The main users are the large number of tube-wells and pumping sets. In the mid-Sixties, Government canals

were the predominant mode of irrigation accounting for 56.8 per cent of the net irrigated area. By 1976-77, their share had declined to 43.2 per cent. On the other hand, the share of wells, mostly tube-wells and pumping sets, had increased from 40.7 per cent to 56.5 per cent.* This trend is expected to continue during the Sixth Plan. The supply of electricity for tube-well irrigation at a subsidised rate has given further impetus to exploitation of ground water resources.

8.18 Government's role in the development of tube-well irrigation has been mostly promotional. Its direct investment in minor irrigation has been limited to deep tube-wells and a few lift and flow irrigation schemes. The promotional role has included (i) investigation of ground water sources, (ii) lining of watercourses, and (iii) mobilisation, mostly through the land mortgage banks, of institutional finance. In the Sixth Plan, a new activity would be to experiment with and promote new techniques such as sprinkler irrigation. The number of Government tube-wells increased from 705 in 1965-66 to 966 in 1976-77. The responsibility for development of minor irrigation is shared by three organisations, namely, the Departments of Irrigation and Agriculture and the Punjab State Tube-well Corporation. The role of the Department of Soil Conservation in lining of water courses has been described in Chapter 5.

Irrigation Department

8.19 The scheme "Integrated Utilisation of Ground Water Resources" aims at investigating and evaluating the assured stable ground water potential of the State towards preparing an optimum integrated development plan covering both ground and surface water resources. Besides the system planning study, exploratory bores will be drilled for locating aquifers for the installation of tube-wells. Under another scheme it is proposed to create additional irrigation potential of about 3000 ha. by sinking tube-wells in the difficult areas of Mahilpur Block (District Hoshiarpur), the Sangrur and Bhawanigarh Blocks (District Sangrur) and the UBDC tract. It is proposed to undertake small lift and flow irrigation schemes in areas where irrigation from existing canals is not possible or is inadequate. An additional irrigation potential of 1,600 ha. is expected. Pacca ghats are to be constructed on canals to prevent

*A small and diminishing proportion of the net irrigated area is accounted for by other sources, mostly used in the sub-montane area.

damage from the development of kacha ghats by the inhabitants of nearby villages for bathing, washing and providing drinking facilities to their cattle. Among the trial bores drilled by the Central Ground Water Board for exploration of ground water bearing strata and aquifers, the successful ones are to be converted into irrigation tube-wells to add 2800 ha. to the irrigation potential. Sprinkler irrigation schemes will be introduced in coarse, sandy, undulating and gravelly soils where percolation losses from surface irrigation are high and where frequent irrigation is required because of the poor water holding capacity of the soil. The expected additional irrigation potential is 1900 ha. Deep tube-wells in areas like the Mahilpur Block (District Hoshiarpur) which have sandy soil and undulating terrain require underground pipe system to convey the water to the fields. The Sixth Plan, therefore, includes a scheme for providing the Government tube-wells with underground pipe systems. The total provision for the Irrigation Department is Rs. 3.78 crores.

Agriculture Department

8.20 The most important programme of the Department of Agriculture relates to investigation and development of ground water resources. It includes strengthening of the Ground Water Cell and the Boring Section. There is also a small provision for subsidy on sinking/repair of wells, tube-wells and pumping sets. The total Sixth Plan provision for the Department is Rs. 0.73 crore.

Punjab State Tube-well Corporation

8.21 The two main programmes of the Punjab State Tube-well Corporation are : (i) lining of water-courses, and (ii) sinking of tube-wells. It is programmed to line 12500 km of water-courses, and energise 475 deep tube-wells during the Sixth Plan. The Plan provision for the two programmes is Rs. 11.14 crores and Rs. 2.28 crores, respectively. In addition, a large amount will be mobilised from the institutional resources. The Plan provision also includes a subsidy to the Corporation of Rs. 1.22 crores to cover losses on running of the tube-wells, Rs. 10.60 crores to enable the Corporation to pay interest and repay the loans, and Rs. 1.20 crores as share capital contribution. The total Plan provision is Rs. 26.44 crores

as against the expenditure of Rs. 10.85 crores in the Fifth Plan (1974-78).

FLOOD CONTROL AND DRAINAGE

8.22 Floods have been a recurrent menace in recent years. Concentrated downpours, denuded hills, choked drains, silted *Choes*, obstructed natural drainage as a result of construction of roads, canals, distributaries and urban habitations, and utter passivity of the populace in the face of threatened floods, leaving it to the Army Jawans or official agencies to fight lone battles against surging waters, are some of the principal causes. Now that agriculture is much more input-intensive, the impact of floods, particularly on the farming community, is all the more crippling. And, as Punjab grows greener, it will, most probably, attract heavier rains.

The Short-term Solution

8.23 The short-term solution lies in an effective drainage system. That has been the approach in the previous Plans. By 1977-78, 821 Kms of flood protection embankments and 5493 kms of surface drains had been completed. These provided relief/protection to about 2.4 million hectares as against the estimated total flood and flooding prone area of 3.7 million hectares. This work is to be carried further in the Sixth Plan. It is programmed to complete 395 Kms of river embankments and 941 kms of surface drains. This will afford protection to another 0.3 million hectares. The provision for flood control has been stepped up sharply, from Rs. 18.94 crores of actual expenditure during 1974-78 to Rs. 39.60 crores for the next four years. The total provision in the Sixth Plan, including Rs. 9.50 crores for 1978-79, is Rs. 49.10 crores. Even this amount is quite inadequate unless it is supplemented in a big way by the assistance available under the Centre's Food for Works Programme, for which the anti-flood works are, in most cases, eminently suitable. This would require that the present hesitation of the concerned agencies to use this aid must be overcome with determination.

The Long-term Solution

8.24 The above, however, is only a temporary and an inferior solution. Water is too precious an asset to be just drained out. The real long-term solution lies in impounding it for meeting the

growing requirements of modern agriculture, industry and daily life. Unfortunately this solution does not lie with Punjab alone. It calls for mutually beneficial co-operation, on a fair basis, among the regional States, particularly Punjab, Himachal and J & K. Punjab must work towards this perspective. Is it too much to expect that Punjab's strivings will evoke a positive response from our neighbours? Punjab's planning in this respect, as in others, must be inspired by lofty purpose and sturdy optimism.

TOWARDS AN INTEGRATED PROGRAMME

8.25 The Sixth Plan provision for irrigation, flood control and drainage, including that for minor irrigation which is traditionally shown under Agriculture, is Rs. 333.11 crores as against the actual

expenditure of Rs. 82.79 crores under the Fifth Plan (1974-78). However, this sharp step-up in outlay alone will not yield the desired results. The State has now reached a point where an integrated programme for efficient and judicious utilisation of surface and ground water has become an urgent necessity. This will call for not only an overall authority for planning and development but also the technical and fiscal measures needed for efficient water use. Further, the development perspective for water management must be worked out in regional terms, and not limited to the State's own resource endowment. To this end, the State must do its utmost to bring about mutually beneficial co-operation on a fair basis among the neighbouring States.

Power

Growing availability of electric power is the indispensable condition of modern economic development. From 1971-72 to 1976-77, Punjab's economic development, particularly industrial development, has been greatly hampered by acute power shortage. It is only since 1977-78 that the State has seen better times. It is necessary to

consolidate the present satisfactory position and to prevent a relapse in the future.

REQUIREMENTS

9.1 The Tenth Annual Electric Power Survey 1977 conducted by the Central Electricity Authority estimated electricity requirements as in Table 9.1.

Table 9.1 : Annual Electric Power Survey 1977, Estimates of Energy and Power Requirements of Punjab

Year	Energy demand (M KWH)			Peak load (MW)		
	Total	NFF*	Punjab excl. NFF	Total	NFF+	Punjab excl. NFF
0	1	2	3	4	5	6
1978-79	5776	1000	4776	1097	127	970
1979-80	6325	1000	5325	1187	127	1060
1980-81	6927	1000	5927	1293	127	1166
1981-82	7534	1000	6534	1398	127	1271
1982-83	8185	1000	7185	1510	127	1383

*Nangal fertilizer factory.

9.2 In 1978-79, in conditions of relatively adequate availability, the actual energy consumption has been rising faster than anticipated in the Tenth Annual Survey. The energy requirement for this year, excluding the Nangal fertilizer factory, has now been estimated by the State Electricity Board (SEB) as 5173 MKWH as against 4776 by the Survey. The peak load rose to 938 in July, 1978. Because of non-availability of capacity, peak load restrictions have been applied. Industry is not allowed to run during peak load hours and power supply to tube-wells is being given in two groups by rotation. The unrestricted peak demand in 1978-79 is anticipated as 1074 MW which is much higher than the Survey estimate of 970.

9.3 On the basis of the observed rise in energy requirements in 1978-79, the SEB has worked out revised estimates for the Sixth Plan period. These are given in Table 9.2.

Table 9.2 : Estimates of Energy Requirements, 1978--79 to 1982-83 (MKWH)

Year	10th Annual Power Survey	State Electricity Board	Col. 2—Col.1
0	1	2	3
1978-79	4776	5173	397
1979-80	5325	6123	798
1980-81	5927	7103	1176
1981-82	6534	8161	1627
1982-83	7185	9297	2112

9.4 If the Punjab economy develops in accordance with the growth targets of the Sixth Plan, the build up of energy requirements is more likely to correspond with the anticipations of the SEB. The demand for power is growing fast, not only

because of the fast tempo of development but also because of replacement of other sources of energy by electricity. Coal, diesel, kerosene, animal power, etc. are yielding place to electricity because the latter is much more economical and convenient.

AVAILABILITY

9.5 On account of slippages in the implementation of the power projects, the additions to installed capacity will be less than what has been anticipated in the Survey. This is brought out in Table 9.3.

Table 9.3: Growth of Installed capacity—1977-78 to 1982-83 (MW)

Year	10th Annual Survey	State Electricity Board	Col. 2 - Col. 1
0	1	2	3
1977-78 ..	1215	1245	30
1978-79 ..	1651	1544	(-)107
1979-80 ..	1947	1556	(-)391
1980-81 ..	1947	1673	(-)274
1981-82 ..	1999	1740	(-)259
1982-83 ..	2104	1800	(-)304

9.6 The revised estimates of the SEB suggest that the capacity and energy surpluses from 1979-80 to 1981-82 forecast in the Survey will not materialise. Even in the Survey, a capacity deficit had been forecast for 1982-83. It seems that, unless further measures are taken, the State will face capacity deficits throughout the Sixth Plan period. Furthermore, lower installed capacity will mean, other things being equal, less energy availability. Accordingly, the energy surpluses forecast in the Survey from 1978-79 may not materialise except for one or two years. There is, indeed, no room for complacency. The present comfortable position (with regard to energy availability) is the result of (i) bountiful monsoons resulting in an overfull Govind Sagar, and (ii) large additions to installed capacity during 1977-78 (298 MW) and in 1978-79 (299 MW). During the remaining four years of the Sixth Plan the total projected addition to capacity is no more than 256 MW. In order to meet even the energy requirements, the KWH available to Punjab for KW of

installed capacity will have to go up steadily as indicated in Table 9.4.

Table 9.4 : Required KWH Availability per KW of Installed Capacity

Year	Energy requirements MKWH	equi- Installed Capacity KW	KWHs/KW
0	1	2	3
1978-79 ..	5173	1544	3350
1979-80 ..	6123	1556	3935
1980-81 ..	7103	1673	4246
1981-82 ..	8161	1740	4690
1982-83 ..	9297	1800	5165

9.7 In the 10th Survey, the KWHs/KW have been estimated at 4220 and 4440 in 1981-82 and 1982-83, respectively. If this projection is considered reasonable, the required KWHs/KW in 1981-82 is quite unrealistic. That required in 1982-83 is just impossible to realise. This suggests that unless additional installed capacity of 200 MW in 1981-82 and 400 MW in 1982-83 over and above the SEB projections is available, the State will face both capacity and energy shortages in the last two years of the Sixth Plan. It will be necessary to make this adjustment in the development programme for power before the Plan is finalised.

POWER GENERATION

9.8 In power generation, priority has been given to the completion of the on-going schemes, including both that have been approved by the Centre and those whose approval is being processed. The projects are briefly described below.

Continuing Schemes

Beas Project

9.9 This is an inter-State project with Punjab, Haryana and Rajasthan as partners. It is being executed by the Beas Construction Board. The Project consists of two units : Unit I (Dehar Power Plant), and Unit II (Pong Power Plant).

9.10 The Dehar Power Project envisages 4 units of 165 MW each. The first two units were commissioned in November, 1977 and March 1978, respectively. The remaining two units are

scheduled to be commissioned in November 1978 and March, 1979, respectively. A provision of Rs. 17.55 crores has been made in the Plan on account of Punjab's share (48 per cent) in the cost of the project.

9.11 The Dehar Power Plant extension project envisages two additional units of 165 MW each. The units are likely to be commissioned after 1984. Rs. 14.43 crores have been provided in the Plan as Punjab's share (48 per cent) in the total cost.

9.12 The Pong Power Project envisages 4 units of 60 MW each. Two units were commissioned during the Fifth Plan. The remaining two units are likely to be commissioned in 1978-79. The Sixth Plan provision on account of Punjab's share (24.9 per cent) is Rs. 0.94 crore.

9.13 Pong Power Plant extension project envisages two additional units of 60 MW each. The first unit is likely to be commissioned in 1982-83 and the second unit after the Plan period. Plan provision on account of Punjab's share (24.9 per cent) is Rs. 1.65 crores.

G.N.D.T.P. (Extension)

9.14 The Project provides for 2 units of 110 MW each. One unit was commissioned in March, 1978. The second unit is scheduled to be commissioned in December, 1978. The Plan provision is Rs. 13.70 crores.

Shanan Renovation Project

9.15 The Project envisages the renovation of 4 units of Shanan Power House at Jogindernagar whose derated capacity is 9 MW each (against the original capacity of 12 MW each). After completion of the project, the capacity will be raised to 15 MW each. The work on Stage I of the project which aims at renovating the units to their original capacity has been completed. Stage II designed to raise the capacity of the units to 15 MW each is scheduled to be completed in 1979-80. The Plan provision is Rs. 4.02 crores.

Shanan Extension Project

9.16 The scheme envisages a 50 MW unit at Shanan Power House. The unit is likely to be

commissioned in June, 1980. The plan provision is Rs. 5.94 crores.

U.B.D.C. Stage I

9.17 Under this project 3 power houses of 15 MW each have been commissioned. But some protection/cross drainage works required for the protection of the hydel channel and the power plant have been left incomplete. A provision of Rs 0.65 crore has been made to complete them. There will be no addition to capacity

Unapproved Continuing Schemes.

Anandpur Sahib Hydel Project

9.18 The Project envisages 4 units of 33.5 MW each on a hydel channel to be constructed parallel to the existing Nangal Hydel Channel. On completion, it will generate 908 MKWH annually. While the sanction from the Government of India is awaited, the construction work has started. The first unit is to be commissioned in October, 1980. The remaining 3 units will be commissioned at three month intervals. The Plan provision is Rs. 68.10 crores.

Mukerian Hydel Project

9.19 The Project envisages 4 power stations on the Hydel Channel which will take off from the left bank of Beas. Power stations 1 and 2 will have 6 units of 15 MW each and power stations 3 and 4 will have 6 units of 19.5 MW each. The total installed capacity will thus be 207 MW. The power station I (3 × 15 MW) is scheduled to be commissioned during 1982-83. The Plan provision is Rs. 66.82 crores.

Thein Dam Project

9.20 A brief description of the Project has been given in Chapter 8. It will have 4 units of 120 MW each. It will take 8—12 years to complete. Since, initially, it is to be implemented by the Irrigation Department, the Plan provision has been made under irrigation. Only Rs. 5.00 crores have been provided under power.

Shahpur Kandi Project

9.21 An outline of the project has been given under Irrigation. The power station will have 2 units of 47 MW each. The project awaits Centre's clearance. In the Sixth Plan a token provision has been made for preliminary work.

New Schemes

9.22 In paragraph 9.7 it has been explained that unless additional installed capacity of 200 MW in 1981-82 and 400 MW in 1982-83 is available, the State will face both power and energy shortages during these years. In other words, it is necessary to plan for two additional units of 200 MW, one to be commissioned in 1981-82 and the other in 1982-83. It is also necessary to take advance action so that there is uninterrupted growth of installed capacity in the early years of the next 5-year period. To that end, two new projects have been included in the Plan, namely, GNDTP Extension and Ropar Thermal Plant.

GNDTP Extension

9.23 It envisages two additional units of 200 MW each. The Project awaits Central clearance. The Plan provision is Rs. 70 crores.

Ropar Thermal Plant

9.24 It envisages five units of 200 MW each. The scheme awaits Centre's clearance. But preliminary work has begun. The Plan provision is Rs. 47.15 crores.

Participation in Hydro Projects of H. P. and J & K

9.25 Punjab has no significant unexploited primary energy resources—no fossil fuel reserves, very little untapped hydro-potential, and no fissionable material resources. One proposal discussed in recent years has been that of an atomic power station. While remoteness from fossil fuel resources quite justifies this, the experience

of atomic power stations elsewhere in the country shows that this proposal is pre-mature. Hence no provision has been made in the Plan. An alternative theoretical possibility would be to rely on power transmitted in bulk from pit-head super stations located in Madhya Pradesh. In the prevailing situation in the country, it has been considered extremely hazardous to rely on such an uncertain source and the Plan has ruled this out. Additions to thermal capacity are necessary to firm up hydro-power and to relieve the peaking capacity from the base load operations. Adequate provision for this has been made in the Plan. However, in the foreseeable future, the ideal solution would be to undertake joint exploitation of the large hydro-potential of Himachal Pradesh and J & K on a fair basis, for the mutual benefit of the participating States. Punjab must spare no efforts to bring this about. The unprecedented rise in the price of oil and the very probable future increases in the price of coal have decisively changed the balance of comparative economic advantage in favour of hydro-power. Their dam is a good beginning. A token provision of Rs. 0.20 crore has been made under preliminary studies. If progress is made in this direction before the Plan is finalised, an adequate provision will be made for joint exploration and other preparatory steps with regard to the new projects that may be agreed upon.

9.26 The total Sixth Plan provision for the continuing generation schemes is Rs. 198.86 crores and for the new schemes Rs. 117.35 crores. The total for all the generation schemes is Rs. 316.21 crores. Some details concerning these schemes are given in Table 9.5.

Table 9.5: The Cost Estimates and the Sixth Plan Provision for Power Generation Projects

(Rs. Crores)

Project	Total cost (latest revised/ tentative estimate)	Punjab's share*	Expenditure up to March, 1978	Provision 1978-83	Spill over beyond 1982-83
0	1	2	3	4	5
I Continuing Schemes—Approved					
1. Beas, Unit I-Dehar Power Plant ..	382.57	172.62	156.29	17.55	—
2. Beas, Unit I-Extension ..	35.54	16.04	0.35	14.43	2.70
3. Beas, Unit II-Pong Dam Plant ..	259.80	15.20	14.50	0.94	—
4. Beas, Unit II-Extension ..	30.93	1.81	0.06	1.65	0.16
5. GNDTP-Extension Units III and IV ..	71.15	71.15	57.45	13.70	—
6. Shanan Renovation ..	7.53	7.53	3.33	4.02	0.18
7. Shanan-Extension ..	15.66	15.66	9.72	5.94	—
8. UBDC-Stage I ..	—	—	—	0.65	—
				58.88	
II. Continuing Schemes—Unapproved					
1. Anandpur Sahib Hydel ..	52.40	52.40	19.13	68.10	—
2. Mukerian Hydel ..	75.57	75.57	3.48	66.82	5.27
3. Thein Dam ..	263.16	263.16	—	5.00	—
4. Shahpur Kandi ..	..	..	—	0.06	—
				139.98	
III. New Projects					
1. GNDTP-Extension Units V and VI ..	150.00	150.00	—	70.00	80.00
2. Ropar Thermal Plant ..	400.00	400.00	—	47.15	352.85
3. Participation in Hydro Schemes of H.P. and J. & K. ..	..	..	—	0.20	—
				117.35	
Grand Total				316.21	

Note:—The columns 3, 4 and 5 do not necessarily add up to Column 2 because of further cost escalations.

*Relevant to only inter-state projects.

9.27 The projected additions to installed in Table 9.6. capacity are given year-wise and project-wise

Table 9.6: Projected Additions to Installed Capacity 1978-79 to 1982-83

MW

Project	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	Total 1978-79 to 1982-83
0	1	2	3	4	5	6	7
I. Continuing Schemes-Approved							
1. Beas, Unit I-Dehar Power Plant ..	158	159	—	—	—	—	159
2. Beas, Unit I-Extension ..	—	—	—	—	—	—	—
3. Beas, Unit II-Pong Power Plant ..	30	30	—	—	—	—	30
4. Beas, Unit II-Extension ..	—	—	—	—	—	15*	*15
5. GNDTP-Extension Units III and IV ..	110	110	—	—	—	—	110
6. Shanan Renovation ..	—	—	12	—	—	—	12
7. Shanan Extension ..	—	—	—	50	—	—	50
8. U.B.D.C.-Stage I ..	—	—	—	—	—	—	—
II. Continuing Schemes—Unapproved							
1. Anandpur Sahib Hydel ..	—	—	—	67	67	—	134
2. Mukerian Hydel ..	—	—	—	—	—	45	45
3. Thein Dam ..	—	—	—	—	—	—	—
4. Shahpur Kandi ..	—	—	—	—	—	—	—
III. New Schemes							
1. G.N.D.T.P.-Extension Units V and VI ..	—	—	—	—	—	—	—
2. Ropar Thermal ..	—	—	—	—	—	—	—
3. Participation in Hydro Schemes of H.P. and J.&K. ..	—	—	—	—	—	—	—
Total	298	299	12	117	67	60	555

*Suggested in the Planning Commission Guidelines.

9.28 Table 9.6 presents a disconcerting perspective. During the next four years of the Plan (1979-80 to 1982-83) only 256 MW of additional capacity will be commissioned. Thus in these four years less capacity will be commissioned than in 1977-78 (298 MW) or in 1978-79 (299 MW). The State cannot sustain its economy over the next four years merely on the basis of the substantial addition to installed capacity during 1977-78 and 1978-79, a large part of which was absorbed in meeting the acute shortage that had built up during the previous six years. Table 9.6 strongly reinforces the conclusion drawn in paragraph 9.7 above that unless additional 200 MW is installed in each of the last two years of the Plan, the State will face both capacity and energy shortages during these years. The only practicable solution seems to be to commission 2 sets of 200 MW each either at GNDTP or at Ropar within the Sixth Plan period.

TRANSMISSION AND DISTRIBUTION

9.29 It has been a common lapse in power planning to make inadequate provision for transmission and distribution of power. This has been avoided in the Sixth Plan and adequate provision has been made for this purpose to match the anticipated additions to the generating capacity. The Plan provision is summarised in Table 9.7.

Table 9.7: Sixth Plan Provision for Transmission and Distribution.

Items	Rs. Crores
1. Transmission	112.79
2. Distribution including normal development	46.50
3. Reduction of transmission losses	19.40
Total	178.69

Transmission

9.30 The transmission system has been planned keeping in view the need to evacuate power from various generating plants and distribute it to load centres, and to strengthen and augment the system so that it may cater to new loads, cover additional areas and improve the quality of supply to consumers. The transmission lines and the sub-stations included in the Plan are given in Annexure 9.1 to this Chapter.

Distribution and Normal Development Works

9.31 The Plan provision of Rs 46.50 crores under this head covers the cost of 11KV lines, distribution sub-stations, low tension lines, etc. The targets fixed for the release of general and industrial connections are given in Table 9.8.

Table 9.8: Targets for General and Industrial Connections. (No.)

Year	General connections	Industrial connections
0	1	2
1978-79	150,000	3,500
1979-80	100,000	2,700
1980-81	140,000	3,300
1981-82	150,000	3,325
1982-83	170,000	3,850
Total	710,000	16,675

Reduction of Transmission Losses

9.32 The State's power system is characterised by high rates of transmission losses which have averaged well over 21% in recent years. While in a system where agriculture accounts for close to 45% of the total consumption the transmission losses are bound to be high, the actual losses in Punjab have been excessive. The Plan provides Rs. 19.40 crores for measures to reduce system losses. The target is to bring these to 21% or less by the end of the period.

RURAL ELECTRIFICATION

9.33 In the Sixth Plan rural electrification has been given due emphasis. Now that all the villages have been electrified, at least in a formal sense, the next step is to intensify and improve use of power in the rural areas. The most important directions are : (i) the energisation of tube-wells/pumping sets and replacement of diesel engines by electric motors; (ii) electrification of post harvest operations and cottage and small industries; (iii) more intensive coverage of rural households including Harijan basties; and (iv) improvement of supply conditions by augmentation and improvement works. The target for energisation has been set at 149,500 tube-wells; 37,500 tube-wells in 1978-79 and 28,000 tube-wells in each of the following years. The total Plan provision is Rs 71.00 crores, including Rs. 29.20 crores from the Rural Electrification Corporation.

OTHER PROGRAMMES

9.34 A provision of Rs. 0.98 crore has been made for (i) upgrading the research unit of P.S.E.B. into a research station and (ii) for setting up a load Despatch Centre at Patiala to facilitate the operation of the Northern Regional Grid. A provision of Rs. 0.35 crore has been made for investigation of new projects including Goindwal Sahib Hydel Scheme, and the U.B.D.C. Hydel Scheme Stages III and IV.

SUMMARY OF PLAN PROVISIONS

9.35 The Plan provisions for Power development are summarised below:

	(Rs. crores)
1. Generation Schemes ..	316.21
.1 Continuing ..	198.86
.2 New ..	117.35
2. Transmission and Distribution Schemes ..	178.69
.1 Transmission ..	112.79
(a) Continuing ..	77.77
(b) New ..	35.02
.2 Distribution including normal development ..	46.50
.3 Reduction of transmission losses ..	19.40
3. Rural Electrification ..	71.00
.1 Normal Plan ..	41.80
.2 R.E.C. ..	29.20
4. Other Programmes ..	1.33
.1 Research, Load Despatch Centre, etc. ..	0.98
.2 Survey and Investigation ..	0.35
Total ..	567.23

The cost Estimates and the Sixth Plan provision for Power Transmission Schemes

ANNEXURE 9.1

(Rs. crores)

Scheme	KV	Length (Km)	Cost (Approved/revised)	Expenditure up to March, 1978	Provision 1978—83	Spill over beyond 1982-83	Target date for completion
0	1	2	3	4	5	6	7
I. Continuing Works							
1. Jamalpur -Lalton Kalan	220	1	0.03	0.03	0.03	—	3/79
2. Ganguwal-Patiala	..	125	4.60	—	4.60	—	3/81
3. Sarna-Batala	..	57	1.95	—	1.95	—	Not fixed
4. Batala-Verpal	..	49	1.64	—	1.64	—	..
5. Pong-Jullundur	..	97	3.20	—	3.20	—	..
6. Tee off at Malerkotla	..	2.5	0.04	—	0.04	—	..
7. Tee off at Chandigarh	..	2.0	0.02	—	0.02	—	3/79
8. Jamalpur Sub-Station	2.56	1.86	0.70	—	Not fixed
9. Muktsar S/S	2.25	0.03	2.22	—	6/80
10. Verpal S/S	1.19	—	1.19	—	3/79
11. Lalton Kalan S/S	2.57	—	2.57	—	3/81
12. Chandigarh S/S	2.82	—	2.82	—	3/82
13. Malerkotla S/S	2.92	—	2.05	0.87	Not fixed
14. Patiala S/S	1.08	—	1.08	—	3/81
15. Sarna S/S	2.16	—	2.16	—	Not fixed
16. Jullundur S/S	2.30	—	1.50	0.80	..
17. B.C.B. Works—Punjab's share	12.68	2.38	..	..
18. 132 to 33 KV works 132 ; 66 ; 33	179.23	81.11	47.62	50.50	..
Total					77.77		
II. New Works							
1. Dehar-Patiala (Punjab's share)	440	180	—	—	4.70	..	Not fixed
2. Bhatinda-Moga	220	80	2.60	—	1.20	1.40	..
3. Bhatinda-Sangrur	..	110	3.50	—	1.00	2.50	..
4. Pong-Jullundur 4th circuit (Punjab's share)	..	99	..	—	1.00	..	..
5. Tee off at Gobindgarh	..	5	0.27	—	0.27	—	..
6. Jullundur-Moga	..	80	2.60	—	0.70	1.90	..
7. Dasuya-Batala	—	0.01	..	..
8. Patiala S/S —(Punjab's share)	440	..	..	—	0.70	..	..
9. Batala S/S	220	..	2.30	—	1.30	1.00	..
10. Moga S/S	2.30	—	0.80	1.50	..
11. Gobindgarh S/S	2.30	—	0.60	1.70	..
12. Dasuya S/S	2.50	—	1.60	0.90	..
13. Works connected with Ropar Thermal Plant	—	1.20	..	..
14. 132 to 33 KV Works 132 ; 66 ; 33	29.20	—	17.91	..	..
Total					32.99		
III. PLC equipment etc.					2.03		
Grand Total (I+II+III)					112.79		

Industry and Minerals

Punjab's performance in industry is in sharp contrast to its success in agriculture. The industrial sector accounts for about 11 per cent of the State income (GDP) as against around 26 per cent in the case of Maharashtra. Moreover, whatever industrial development has taken place is largely confined to the small scale sector. There were just 160 large and medium industrial units in 1976-77. They employed a total of 69,942 persons which is no more than about 1.5 per cent of the State's working force. Industrial development has also been uneven spatially. The industrial units are concentrated in half a dozen towns. The rural area is particularly devoid of modern industry. The level of underdevelopment of large and medium industry, small industry and village industry is brought out in Annexures 10.1a, 10.1b and 10.1c to this chapter. A perusal of these Annexures will show that the large and the small industries that have come up are not mutually integrated and are not of the types that would sustain and promote each other's growth. In other words, industrial development in Punjab has been not only meagre but also uncoordinated and haphazard.

10.2 It has been explained in Chapter 2 (paragraphs 2.8 to 2.11) that the State has now reached a stage where sustained accelerated progress calls for a diversified approach, particularly greater emphasis on industrial development. The growing awareness in the State for this reorientation in its development activities is reflected in the March, 1978 Statement of Industrial Policy. The Plan programmes of industrial development have been conceived in the light of this Statement. This Statement visualises, *inter alia*, the following :

- (i) a net-work of village and small industries so as to cover all the villages in the next five years ;
- (ii) sustained growth of small scale industries with special emphasis on tiny units so as to create maximum employment ;
- (iii) medium and large industrial units which are agro-based to the maximum extent possible ;

- (iv) attracting the maximum number of industrialists and small entrepreneurs for setting up industries with special incentives for non-resident Indians ;
- (v) maximum export of the State's industrial products ; and
- (vi) continuous upgrading of technology in industry.

THE PLAN PROGRAMMES

10.3 Unlike the position at the Centre, the State Government's financial resources are too meagre to permit large scale direct investment in industry. Its role is, therefore, largely limited to promoting private investment in this field. Any direct investments that are contemplated are mostly of the pioneering type. Accordingly the Plan programmes are mainly a continuation and enlargement of the measures already under implementation. There are also some new initiatives in the light of the Industrial Policy Statement. The principal Plan programmes for industrial development are briefly described below.

Industrial Finance

10.4 *The Punjab Financial Corporation (PFC)* is the main term lending institution. Upto 1977-78, the total loan sanctions were 2217 for an amount of Rs. 46.75 crores ; of this, 2001 sanctions for a total amount of Rs. 31.57 crores were for small scale units. The total disbursements upto 1977-78 were Rs. 34.41 crores to 1913 loanees ; of this, the small industry accounted for Rs. 23.06 crores and 1717 loanees. The sanctioned amount and the disbursements during the Sixth Plan are estimated at Rs. 51.10 crores and Rs. 34.35 crores, respectively. This scale of operations calls for a stronger equity base for the Corporation. Of the estimated requirement of Rs. 1.80 crores of additional share capital, Rs. 0.90 crore have been provided in the State Plan. The balance of Rs. 0.90 crore will be provided by the IDBI in accordance with the established pattern.

10.5 A provision of Rs. 0.15 crore has been made for investment in the Industrial Finance Corporation of India.

Investment in Public Undertakings

10.6 The *Punjab State Industrial Development Corporation (PSIDC)* has played a major role in the field of large and medium industry. Out of the 31 projects taken in hand by this Corporation, 18 were commissioned by 1977-78 and six are to be commissioned during 1978-79. At present the Corporation has 12 projects under implementation and 20 in advanced stages of investigation. The Plan provision is Rs. 24.50 crores including Rs. 2.50 crores for term loans under the IDBI refinance scheme.

10.7 The *Punjab Export Corporation (PEC)* is proposed to be merged with the Punjab State Small Industries Corporation (PSSIC). Accordingly, except for the amount allocated in 1978-79, no provision has been made.

10.8 The *Punjab State Small Industries Corporation (PSSIC)* undertakes procurement and distribution of raw materials, creates infrastructural facilities such as development of Industrial Focal Points and construction of sheds, provides machinery on hire-purchase basis, renders consultancy services, grants seed money, runs emporia and trade centres, and makes available assistance in marketing and exports. The share capital of this Corporation is now disproportionately small, the debt equity ratio being 14 : 1. Accordingly, a provision of Rs. 1.42 crores has been made as share capital contribution. An additional amount of Rs. 1.53 crores has been provided as loan to the Corporation under the Focal Points Scheme for the creation of infrastructural facilities.

10.9 The *Punjab State Electronics Development and Production Corporation (PSEDPC)* besides taking up a number of production units, has undertaken the development of the Electronics Town at SAS Nagar where entrepreneurs will be encouraged to set up electronics units. The Plan provision is Rs. 1.10 crores.

10.10 The programme of *Punjab State Handloom and Textile Development Corporation (PSHTDC)* includes setting up of an export production complex, a cotton waste spinning plant and a shoddy spinning plant. A provision of

Rs. 0.55 crore has been made for contribution to its share capital.

10.11 The *Punjab State Hosiery and Knitwear Corporation (PSHKC)* provides technical, marketing, common facility and export assistance to the hosiery and knitwear industry. It is establishing a modern dyeing and finishing plant. The Corporation will promote new technology, suited to local conditions, through training and demonstrations.

Small Scale Industries Programmes

10.12 This Head covers a large number of promotional programmes. A major programme, in line with the Centre's guidelines, is the establishment of District Industries Centres in all the Districts including those which are covered under the Rural Industries Projects. These Centres will provide a package of facilities and services to rural and other tiny and small entrepreneurs. The Centres will work in close collaboration with State Departments and institutions, the Central financial and other institutions and the voluntary associations engaged in the development of cottage and small industries. Seven such centres will be established in 1978-79 and five in 1979-80. The non-recurring expenditure on these Centres is to be borne by the Government of India and the recurring expenditure is to be shared between the Centre and the State in the ratio of 75 : 25. The total expenditure on these Centres during the Plan period is estimated at Rs. 3.60 crores. The State share of Rs. 0.88 crore is provided in the Plan.

10.13 A provision of Rs. 1.02 crores has been made for credit facilities under the State Aid to Industries Act. The credit is available mostly to tiny units who find it difficult to borrow from the financial institutions. The amount that can be advanced to a single party is limited to Rs. 10,000. The State policy, however, is to encourage even tiny units to tap the financial institutions. To enable such units to borrow from these institutions at the low rates charged under the State Aid to Industries Act, a subsidy on interest has been provided. The rate of subsidy has been limited to 4 per cent. Under another subsidy scheme, the small scale industries are eligible for assistance for research work, purchase of equipment and the like.

10.14 A Central subsidy of 15% on fixed capital investment is available in the three backward districts of Hoshiarpur, Sangrur and Bhatinda.

In the Plan a provision of Rs. 0.85 crore has been made for a subsidy on the Central pattern to be available in the border, bet, and sub-montane areas and in any other areas which may be declared as backward by the State Government.

10.15 The small scale units, in most cases, are suffering from backward technology. In order to upgrade their technology a number of schemes were initiated in the Fifth Plan for creating common services/testing facilities. These would enable the SSI units to improve quality control and standardisation. The Plan provides for the early completion of these facilities which include the following, (i) The Industrial Development Centres, seven in all, for providing common facilities at Amritsar (paints and varnish), Batala (gear cutting), Ludhiana (plastics and moulds), Jullundur (rubber goods), Gobindgarh (roll grinding), and Bhatinda and Hoshiarpur (engineering) are expected to start working by the end of 1978-79. (ii) The Quality Marking Centres at Ludhiana (electronics), Rajpura (engineering) and Bhatinda (engineering) have started functioning. On completion of their buildings by March, 1979, they will start functioning at full strength from 1979-80. The Quality Marking Centres at Malerkotla and Moga (Engg.) which have already begun to function will be ready by 1978-79 and 1979-80, respectively. (iii) The Machine Tool Design Development Centre (Batala), the Sewing Machine Development Centre (Ludhiana) and the Research and Development Centre for Bicycles (Ludhiana) will be taken up for implementation. Their project reports are under consideration. (iv) The building for the Tool Room being set up at Ludhiana by the Government of India with FRG (West German) aid for assisting the SSI units in designing/manufacturing good quality jigs and fixtures etc. will be completed. The building for the Handtool Design Institute (Jullundur) to be set up by the Government of India will also be completed. (v) Provision has been made for the Punjab Test House (Ludhiana) and the Regional Sub-Centre of ISI (SAS Nagar). (vi) It is programmed to set up consultancy technical services and testing facility centres for chemical industries. (vii) Under a scheme for the modernisation of small scale industries, reports are prepared for modernisation of selected units and incentives provided for implementation. (viii) The Electronic Testing and Development Laboratory has started functioning at

SAS Nagar. The first phase of the programme will be completed in 1978-79 and then the second phase will be taken up.

10.16 The work on the comprehensive programme for the development of the leather industry would continue. This will include : (i) hide flaying and carcass utilisation centres, one in each of the hitherto uncovered districts ; (ii) the completion, by March, 1979, of the buildings that are being constructed by the State Government to enable the Extension Centre of the Central Leather Research Institute (Madras) to extend its activities ; and (iii) the establishment, by end of 1978-79, of the Light Leather Development Centre at Amritsar, aimed at promoting tanning of light leather required by the sports goods industry.

10.17 The sports goods industry, which is very suitable for development in the small scale sector, is concentrated at Jullundur. It is proposed to set up a Sports Goods Complex there on the basis of the feasibility study undertaken by the Trade Development Authority. Provision has also been made for a Surgical Goods Complex.

10.18 The marketing assistance programme to small scale industries includes facilities for participation in Government store purchase programme, promotion of ancillary relationship between large and small scale industries, and market intelligence studies. The PSSIC will be given a soft loan to provide special assistance for marketing small scale industry products. It will also arrange the marketing of these goods through the Trade Centres at Calcutta and Bombay and the Centre at Ludhiana which is expected to be completed in 1978-79. The Plan also includes a scheme for participation in international fairs.

10.19 Several schemes aim at promoting employment of the unemployed engineers, the educated unemployed, and the qualified technicians and skilled workers. These schemes include training for guaranteed employment, training for self-employment, promotion of self-employment through seed or margin money assistance, and supply of machinery on hire purchase basis.

Industrial Areas/Incentives to New Industries

10.20 The scheme 'Setting up of Focal Growth Points for Industries' was started in 1967-68. It was aimed at integrated development of large,

medium and small scale industrial units by providing infrastructural and other facilities. Under this scheme, land is acquired by the Department of Industries and transferred to PSSIC for development of infrastructural facilities. Plots of varying sizes are carved out and are allotted to the intending entrepreneurs on no-profit no-loss basis. By March, 1978, 3387 acres had been acquired and 2760 acres developed at a cost of Rs. 11.16 crores. Nine focal points at SAS Nagar, Dhandari Kalan, Rajpura, Nawanshehar, Khanna, Moga, Kotkapura, Bhatinda and Hoshiarpur had been developed.

10.21 During the Sixth Plan, the targets for acquisition and development of land are 1730 acres and 2407 acres, respectively. Another 14 focal points are to be developed at Sangrur, Nabha, Tarn Taran, Jullundur, Batala, Jaitu, Ropar, Amritsar, Malout, Phagwara, Abohar, Malerkotla, Ahmadgarh and Goraya. Some of the existing focal points are to be expanded.

10.22 In the past, the occupation rate of developed plots has been low. Out of the 1575 plots that had been developed till March, 1978, only 1081 had been allotted. The number of units in operation was 136. The slow progress was partly due to shortage of power. Now that the position in this respect is easier, the occupation rate of plots is picking up. To speed up the process of industrial growth the incentives policy has been further liberalised. The incentives available under the scheme have been made applicable to all new units irrespective of their location. In addition, two new incentives, namely investment loans for priority industries, and land subsidy on developed and undeveloped plots, have been provided. Other incentives under the scheme include interest free loans, and subsidy on electricity tariff. The total Plan provision for the scheme is Rs. 18.63 crores.

Handloom Industries

10.23 There are about 20,500 handlooms employing 34,000 persons. The Plan programmes include (i) interest free loans for margin money, (ii) marketing assistance, (iii) regular supply of inputs at reasonable prices, (iv) modernisation, (v) setting up of training-cum-production centres in sub-montane areas, (vi) provision of sheds to weavers, (vii) training of weavers, and (viii) rebate on sale of cotton handloom cloth. The Plan

provision is Rs. 0.66 crore. It is expected that better utilisation of capacity and addition of 5,000 looms will raise annual production from 25 million metres to 40 million metres.

Village Industries

10.24 In 1977-78, employment for 5152 persons in 1803 units is estimated to have been generated at the IRDP focal points. The programme is to be continued in the Sixth Plan at a cost of Rs. 2.25 crores. Targets for full-time employment in village industry units, and small scale industry units under the IRDP programme, are being worked out.

Handicraft Industries

10.25 The programme includes supply of improved appliances, study tours of master craftsmen, celebration of all India Handicrafts Week, and training-cum-production in carpet weaving, leather embroidery, toy making, ivory inlay, fancy leather, bamboo goods and artistic furniture. The marketing of handicrafts is undertaken by PSSIC. The Corporation is also taking a hand in the development of handicrafts. The Plan provision is Rs. 0.22 crore.

Sericulture

10.26 The programme includes : establishment of 15 sericulture development centres, setting up of training centres in sericulture, construction of grainage building at Sujampur, subsidy to selected rearers, and establishment of 3 sericulture farms and 3 extension centres in the sub-montane area. The annual production of cocoons is projected to go up from 34,000 Kg in 1977-78 to 64,000 Kg in 1982-83. Additional full time employment to 1540 families and part-time employment to 2,000 families has been estimated.

Statistics

10.27 It is necessary to fill certain gaps in information, for example, with regard to production data. As a sequel to the revised policy with regard to the registration of small scale units, returns containing varied information have to be provided to the Government of India at specified intervals. Accordingly provision has been made for strengthening the statistical cell.

Mines and Minerals

10.28 Punjab has no known reserves of any

important mineral. Accordingly, a modest provision of Rs. 0.14 crore has been made for mineral exploration, geo-technical survey and completion of the building of the geological survey.

Summary of Plan Provisions

10.29 The Plan provisions are summarised by Heads/Sub-Heads of Development in Table 10.1.

Table 10.1 : Plan Provision for Industry and Minerals by Heads/Sub-Heads of Development, 1978-83

Head/sub-Head of Development	Rs. Crores
1. Industrial Financial Institutions ..	1.05
2. Investment in Public Undertakings ..	28.42
3. Direction and Administration ..	0.14
4. Small Scale Industries ..	11.94
5. Industrial Areas/Incentives to New Industries ..	18.63
6. Handloom Industry ..	0.66
7. Village Industries ..	2.25
8. Handicraft Industries ..	0.22
9. Sericulture ..	0.19
10. Statistics ..	0.03
11. Mines and Minerals ..	0.14
12. Weights and measures ..	0.10
Total ..	63.77

PRODUCTION TARGETS

10.30 In agriculture, output estimates of different products are available. It was, therefore, possible to fix corresponding production targets for 1982-83. Similar information is, however, not available with regard to industrial products. This

is a major gap in industrial statistics. It is proposed to fill this gap in the near future. But till this is done, it is not possible to fix output targets for industrial products. The only available targets are with regard to production of handloom cloth and cocoons. These have been given above (paragraphs 10.23 and 10.26).

NEED FOR DYNAMIC LEADERSHIP

10.31 The programmes of industrial development included in the Plan are adequate with regard to cottage and small industries. But, if the large and medium industry is to be imparted the required momentum, the State Government agencies will have to provide a more dynamic leadership and undertake a more effective promotional effort, at least in the initial stages. It is not enough just to provide certain facilities and incentives. It is necessary to actively seek the interested entrepreneurs, provide them information about the specific development possibilities, enthuse them about the overall development perspective of the State, and assist them to overcome the various hurdles in the way of promoting particular industrial ventures. Moreover, the development effort has to be concentrated on a selected number of industries which have strong forward and backward linkages and a good potential in the State. Progress in these areas will inevitably trigger off movement on a much wider industrial front. The final version of the Plan will take into account the requirements of such a development strategy for the large and medium industries.

Large and Medium Scale Units by Industry 1976-77

Industry	No. of units	Fixed Assets (Rs. crores)	Employment (No.)	Production (Rs. crores)
0	1	2	3	4
1. Food products ..	38	33.98	12,799	156.22
2. Distilleries ..	6	9.33	1,750	16.17
3. Cotton textiles (including ginning and pressing) ..	13	25.70	16,590	62.32
4. Woollen textile ..	22	14.58	12,817	61.27
5. Paper and paper board ..	1	0.17	33	0.01
6. Plastic products ..	2	0.54	608	3.40
7. Chemical fertilisers, gas, drugs, solvent oil ..	12	122.85	4,303	34.04
8. Non-metallic mineral products ..	2	0.74	46	3.59
9. Basic metal industries ..	16	10.29	3,382	26.94
10. Metal products and machinery (excluding electrical machinery and transport equipment) ..	22	11.87	5,350	29.91
11. Electrical machinery and appliances ..	7	7.41	2,185	25.33
12. Transport equipment ..	19	19.86	10,079	55.45
Total ..	160	257.32	69,942	474.65

Small Scale Industrial Units by Industry 1976-77

Industry	No. of Units	Employment (No.)	Production (Rs. crores)
0	1	2	3
1. Food Products ..	3,305	12,778	117.92
2. Beverage and tobacco products ..	25	126	1.29
3. Cotton textile (including ginning and pressing) ..	4,425	22,359	103.26
4. Woollen textile ..	2,773	15,615	21.89
5. Hosiery and ready made garments ..	4,513	50,834	41.57
6. Wood and wood products ..	952	2,823	2.75
7. Paper and paper products ..	255	1,234	2.76
8. Leather and leather products ..	3,060	9,205	10.37
9. Rubber, plastic and coal products ..	691	4,973	13.65
10. Chemicals ..	802	5,517	19.44
11. Non-metallic mineral products ..	470	3,218	6.51
12. Basic metal industries ..	1,281	20,988	71.64
13. Metal products and machinery (excluding electrical machinery and transport equipment) ..	9,309	61,220	87.21
14. Electrical machinery and appliances ..	552	3,908	10.41
15. Transport equipment ..	3,105	38,758	53.66
16. Miscellaneous industries ..	1,036	4,772	9.42
17. Servicing and repairing ..	183	468	0.17
Total ..	36,737	258,796	573.92

Village Industrial Units by Industry 1975-76

Industry	No. of Units	Employment (No.)	Production (Rs. crores)
0	1	2	3
1. Handloom ..	11,719	19,739	2.68
2. Leather tanning ..	2,251	4,693	1.07
3. Leather goods including shoes ..	14,431	20,294	2.49
4. Ban making ..	5,460	6,735	1.08
5. Potteries ..	886	1,445	0.28
6. Agricultural implements ..	2,920	4,615	0.84
7. Village oil ..	437	895	0.50
8. Gur and khandsari ..	1,810	3,696	1.41
9. Hand pounding (rice) ..	93	368	0.59
10. Handicraft ..	78	206	0.97
11. Poultry ..	389	723	0.08
12. Blacksmithy ..	75	90	0.04
13. Khadi Yarn ..	..	..	..
14. Miscellaneous industries ..	10	16	*
Total ..	40,559	63,515	12.03

*Insignificant.

Transport and Tourism

In the field of transport and communications, the State Plan is mainly concerned with roads and road transport. There is a small provision for civil aviation, largely for training purposes. Following the established practice, development of tourism has been included in this sector.

ROADS AND BRIDGES

Village Roads

11.2 In a predominantly agricultural State, with large surpluses of farm produce, village roads are an essential component of the rural infrastructure. A 'Crash Programme' for village roads was launched in the Fourth Five-Year Plan. Ever since, the village roads have been accorded high priority. The total length of roads required to link all villages has been estimated at 23886 Km. By the end of 1977-78, 21246 Km. had been constructed. The balance of 2640 Km. is scheduled to be completed by Baisakhi (April) 1979. By this date all villages would have been provided at least the first road link. There is, however, a growing demand for the second and third links. It is proposed to construct 1360 Km. of road length for providing inter-links. A total of Rs 28 crores has been provided for these programmes. This would add 4000 Km. of village roads, raising the total to 25246 Km.

11.3 Under another programme, the Zila Parishad roads are taken over by the State Government for bringing them up to the P.W.D. standards. A provision of Rs 2 crores has been made for the purpose.

State Highways, District and Other Roads

11.4 The concentration on village roads has brought the villages into intimate contact with the mandies and the rest of the State. But this has been achieved at the cost of other roads. In the meantime, in the absence of any further extension of the railway system, there has been a sharp increase in the goods and passenger traffic on State highways and district and other roads. The Sixth Plan, therefore, accords high pri-

ority during the next four years (1979-83) for improvement and widening of these roads, and providing additional crust on these. A provision of Rs 25 crores has been made for the 5-year period 1978-83. The target for widening the existing roads has been set at 2500 Km. An additional provision of Rs 2 crores has been made for providing 160 Km of missing links in these roads.

Bridges and Bye-Passes

11.5 A number of bridges on main roads and link roads are needed to provide all-weather transport facilities. It is proposed to build 40 bridges during the Plan period, mostly on roads in sub-montane, bet and backward areas. The growth of internal traffic in a number of towns calls for bye-passes to enable smooth and uninterrupted flow of through-traffic. The bigger towns, in fact, need a second bye-pass. It is proposed to build bye-passes with a total length of 40 Km. The provision for these programmes has been set at Rs. 12 crores and Rs. 4 crores, respectively. These amounts are several times the expenditure under the Fifth Plan.

Machinery

11.6 In order to cope with the enlarged road building and maintenance programme, as also to ensure standardisation and quality control, the provision for machinery has been set at Rs 5 crores. This is eleven times the expenditure under this Head during the Fifth Plan (1974-78).

Improvement of Roads within Municipal Limits

11.7 The improvement of the stretches of State roads that lie within the municipal limits is the responsibility of the State Government. A provision of Rs. 4 crores has been made for this purpose. The requirement is much larger but the provision has had to be limited because of resources constraint. The programme includes widening and strengthening of roads,

provision of foot paths and construction of over/under bridges.

Central Road Fund

11.8 The Central Road Fund is fed from the proceeds of a levy on motor spirit. From this Fund allocations are made to the State Governments for approved road programmes. A part of the cost of the bridge on the Beas near Goindwal is being met from this source. The total provision under CRF is Rs. 3 crores. It is proposed to build 100 Km. road length under this scheme.

Research and Development

11.9 The provision for research and development has been sharply stepped up to Rs 1.00 crore as against an expenditure of only Rs 0.02 crore during 1974-78.

11.10 In order that the physical achievements are commensurate with the Plan provision, determined efforts will be necessary to bring about a radical improvement in the efficiency and quality of road and bridge construction. The problems and leakages in this sector are well-known. What is needed is determined remedial action. In this sector there is also a large scope for supplementing the Plan funds with the Central aid available under the Food for Works Programme. Furthermore, the roads could easily sustain a larger flow of motor vehicles if separate provision is made and enforced for the slow moving traffic. A still larger flow of tra-

ffic will be sustainable if steps are taken to improve the road sense of the users and the enforcement of traffic rules. This will also contribute to road safety. It is imperative to reinforce the Plan outlays by the needed organisational, administrative and educational measures. It is also necessary to prevent choking up of bye-passes and other roads by mushrooming establishments of all kinds on the road side.

ROAD TRANSPORT

11.11 The goods transport is almost entirely in the private sector. The passenger transport is shared between the two public undertakings and the private sector, the desired ratio being 60 : 40. In the Plan, provision has been made only for the two public sector undertakings. Their urgent requirements include construction of additional depots so as to work towards the norm of 100 buses to a depot ; replacement of old buses; addition to the fleet ; and provision of workshop facilities. The Plan provision of Rs. 40.94 crores as against the actual expenditure of Rs. 21.43 crores during the Fifth Plan (1974-78), if spent properly, should go a long way towards meeting these requirements.

Punjab Roadways

11.12 The Punjab Roadways, being a departmental undertaking, has no access to institutional sources. Its requirements have to be met entirely from the State Plan. Its development programme is given in Table 11.1.

Table 11.1 : Development Programme of the Punjab Roadways 1978-83

Item	1978-79	1979-80	1980-81	1981-82	1982-83	Total
0	1	2	3	4	5	6
1. New Depots (starts) ..	—	6	7	1	1	15
2. Motor Vehicles (addition)—						
·1 buses ..	110	100	100	100	100	510
·2 cars ..	—	4	4	1	1	10
·3 jeeps ..	—	4	4	1	1	10
·4 trucks ..	—	4	4	1	—	9
3. Motor Vehicles (replacement)—						
·1 buses ..	134	347	126	271	237	1115
·2 cars ..	—	4	4	3	3	14
·3 jeeps ..	—	4	4	3	3	14
·4 trucks ..	—	3	3	3	3	12
4. Fleet strength (at the end of the year) ..	2281	2381	2481	2581	2681	

11.13 The estimated outlays for the implementation of the above development programme are given in Table 11.2.

Table 11.2 Estimated Development Outlays of the Punjab Roadways 1978-83

(Rs crores)

Sub-Head	1978-79	1979-80	1980-81	1981-82	1982-83	Total
0	1	2	3	4	5	6
1. Land and Buildings (Depots) ..	0.50	2.02	2.22	0.97	0.90	6.61
2. Motor Vehicles (addition) ..	1.49	1.54	1.59	1.57	1.61	7.80
3. Motor Vehicles (replacement) ..	1.81	5.11	1.97	4.27	3.86	17.02
4. Workshop facilities ..	0.08	0.25	0.20	0.30	0.12	0.95
5. Other expenditure ..	0.02	0.05	0.05	0.03	0.02	0.17
Total ..	3.90	8.97	6.03	7.14	6.51	32.55

11.14 Of the total outlay of Rs. 32.55 crores, Rs 17.02 crores will be met out of the Depreciation Reserve Fund. The balance of Rs. 15.53 crores will be the net investment from the State Budget. As a result of this investment programme the total number of buses with the Punjab Roadways will increase from 2,171 at the end of 1977-78 to

2,681 at the end of 1982-83.

Pepsu Road Transport Corporation (PRTC)

11.15 The development programme of the Pepsu Road Transport Corporation (PRTC) is given in Table 11.3.

TABLE 11.3 Development Programme of the Pepsu Road Transport Corporation, 1978-83

Item	1978-79	1979-80	1980-81	1981-82	1982-83	Total
0	1	2	3	4	5	6
1. Bus stands scheduled for completion—						
·1 spill over ..	6	1	2	—	—	9
·2 new* ..	—	—	—	—	2	2
2. Purchase of buses—						
·1 addition ..	77	81	87	94	101	440
·2 replacement ..	169	113	68	197	97	644
3. Total fleet strength (at the end of the year) ..	880	961	1048	1142	1243	
4. Route kilometrage per day ..	2,08,753	2,25,601	2,43,697	2,63,249	2,84,257	

*Two bus stands scheduled to be taken up in 1980-81 and 1981-82 will spill over beyond 1982-83.

11.16 Besides the outlay on bus stands and the purchase of vehicles, the P.R.T.C. will also be investing in vehicles for the supervisory and maintenance staff and in workshop facilities. It has also to meet its interest obligations to the State including the accumulated arrears. Of the esti-

mated total obligation of Rs. 6.5 crores by March, 1983, Rs. 3.26 crores will be paid out of capital and the balance out of current revenues. The projected outlay on all these items has been summarised in Table 11.4.

TABLE 11.4 Estimated Outlays of PRTC on Capital Account 1978-83

(Rs. crores)

Item	1978-79	1979-80	1980-81	1981-82	1982-83	Total
0	1	2	3	4	5	6
1. Bus stands—						
·1 spill over ..	0.73	0.19	0.15	—	—	1.07
·2 New ..	—	0.31	0.25	0.40	0.40	1.36
2. Purchase of buses—						
·1 addition ..	1.04	1.13	1.22	1.32	1.41	6.12
·2 replacement ..	2.28	1.58	0.95	2.76	1.36	8.93
3. Other vehicles ..	0.02	0.04	0.03	0.02	0.02	0.13
4. Workshop facilities ..	0.10	0.10	0.10	0.10	0.10	0.50
5. Interest payments to the State Government ..	—	0.59	0.73	0.87	1.07	3.26
Total ..	4.17	3.94	3.43	5.47	4.36	21.37

11.17 The P.R.T.C., being a corporate body, avails of institutional finance. The State Government and the Central Government contri-

bute in the ratio of 2 : 1. The sources of finance for the projected total outlay of Rs 21.37 crores are given year-wise in Table 11.5.

TABLE 11.5 Sources of Funds for the PRTC 1978-83

(Rs. crores)

Source	1978-79	1979-80	1980-81	1981-82	1982-83	Total
0	1	2	3	4	5	6
1. State Government ..	1.05	1.57	1.52	2.22	2.03	8.39
2. Central Government ..	0.53	0.78	0.76	1.11	1.02	4.20
3. Bank loans ..	2.59	1.59	1.15	2.14	1.31	8.78
Total ..	4.17	3.94	3.43	5.47	4.36	21.37

11.18 Table 11.5 shows that the PRTC will be meeting three-fifths of its financial requirements by drawing on the banks and the Central Government. The corporate form of organisation will thus substantially reduce the burden on the State budget.

Need for Organisational and Management Improvements

11.19 For a long time, there has been no addition to the Railway kilometrage in Punjab. The traffic between Ludhiana and Chāndigarh has grown to the level where a railway line connecting the two cities is justified and very necessary. There may also be some other stretches where there is an ample justification for a railway connection. But no such proposal figures in the Centre's Sixth Five Year Plan for the Railways. Road transport is, therefore, increasingly becoming the mainstay of the transport system in the State. It is of the utmost importance that the two State undertakings must be brought upto reasonable levels of efficiency. Adequate Plan provision is but one step towards that. Even more urgent are major improvements in the organisation and management of the two undertakings.

11.20 Firstly, the Punjab Roadways must be converted into an autonomous undertaking. Punjab and Haryana are about the only odd States out in this respect. All other States have converted their transport undertakings into corporate enterprises. The State is needlessly denying itself institutional finance and various operational advantages. Secondly, the two undertakings, particularly the Punjab Roadways, have become too unwieldy. This will be moreso with the contemplated additions to the fleet, depots and the personnel. The two undertakings must be decentralised, preferably into subsidiary corporate bodies. Thirdly, the additional depots provided in the Plan must be constructed expeditiously so as to achieve tangible progress towards the goal of 100 buses to a depot. Fourthly, a specialised management cadre needs to be built up. The middle level management is very inadequate at present. Fifthly, to the maximum extent possible, public undertakings should be segregated from the private bus operators, each to be assigned different routes. The co-existence of the two on the same

routes raises all manner of problems for efficient operation of the State undertakings. Finally, a radical improvement needs to be brought about in the maintenance of the fleet, the purchase, stocking and disposal of spare parts, the purchase and body fitting of new vehicles and disposal of old ones, and in the discipline among the operational and the supervisory staff. Unless these organisational improvements are effected, the Plan provision by itself may be of little avail in coping with the growing traffic.

Amenities to the Operational Personnel

11.21 It is time that the operational personnel, particularly the truck personnel, are provided with reasonable roadside facilities, at convenient points, for rest, bath and meals, initially at least on the main routes. It is proposed to make a beginning in the present Plan. It is hoped that a proposal to this effect will be worked out and the needed provision made before the Plan is finalised.

CIVIL AVIATION

11.22 Punjab has a Civil Aviation Department since 1962. During the Fifth Plan, 606 persons were trained in flying and gliding for various licences. The Sixth Plan programme includes the following schemes :

- (i) The grants to aviation clubs will be continued up to 1978-79. Thereafter these will be provided on the non-plan account. The Plan includes provision only for 1978-79.
- (ii) An Aircraft Maintenance Engineering School will be started at the Patiala airfield. It will admit the school leavers for a 3-year diploma course in aircraft maintenance. The School will make use of the workshop facilities available at Patiala. There are only two such schools in the country at present.
- (iii) The runway at Ludhiana will be extended to 6500 feet and the Patiala runway to 4800 feet to enable Indian Airlines to operate regular flights. The Ludhiana airfield will be provided with the necessary infrastructure for the air service.
- (iv) The Pushpak trainer aircraft has become obsolete. Moreover, on account of

difficulties in the availability of spare parts, 25 engines lying in the Government workshop have become unserviceable. It is proposed to import 11 new aircrafts to replace the Pushpak.

- (v) Other purchases of machinery include avionics/instrument section test equipment, a second hand simulator, and V.H.F. set and equipment.

11.23 The total provision for the Department is Rs. 0.93 crore as against the expenditure of Rs. 0.50 crore under the Fifth Plan.

TOURISM

11.24 As a result of reorganisation in 1966, Punjab lost the hilly areas. Its tourism potential has since been largely limited to what may be called cultural tourism. The religious centres, the monuments, and the rich variety of traditional arts and crafts attract foreign and Indian tourists. With a view to promoting tourism, a separate Department of Tourism, Cultural Affairs, Archaeology and Museums was created in 1974. There has been a rapid expansion of tourist facilities ever since. Besides the previously existing facilities at Pathankot, Nangal, Shahpurkandi and Anandpur Sahib, new tourist facilities have been created at Ropar, Sirhind, Phagwara, Ludhiana, Chandigarh and Amritsar. Additional facilities are

under implementation, including a 3-star hotel, at Amritsar. On the basis of a survey undertaken through a specialised agency, the Department has drawn up a number of schemes for implementation during the Sixth Plan. These schemes cover board, lodging, transport, recreation and other facilities for tourists. There is also provision for strengthening and training of the staff. The total cost of these schemes has been estimated at Rs. 8.14 crores.

11.25 In order to remove the difficulties inherent in the departmental operation of the tourist facilities and to avail of institutional finance for tourist development, it has been decided to set up a Tourism Development Corporation. To the extent feasible and desirable, the existing tourist facilities will be transferred to the Corporation as and when it is formally incorporated. The Plan provision for Tourism is Rs. 2.86 crores as against the actual expenditure of Rs. 1.66 crores during 1974-78. This provision will be largely transferred to the Corporation when it comes into being. It is hoped that, by mobilising institutional finance and by carefully husbanding its own internal resources, it will be possible for the Corporation to undertake its projected programme of development of tourist facilities. The Corporation is also expected to show much better operational results than has been the case with departmental operations.

Education

The general education plan covers (i) school education, (ii) college and university education, and (iii) other programmes. The main thrust is towards extension and improvement of school education. Of the total provision of Rs. 59.42 crores, Rs. 45.90 crores, that is about three-fourth of the total, is for school education. The Plan has also laid much greater emphasis on technical education than has been the case in the past.

SCHOOL EDUCATION

12.2 The school education plan includes development programmes pertaining to (i) primary school education, (ii) middle school education, (iii) secondary education, (iv) teachers training, (v) adult education, (vi) physical education and sports, and (vii) administration and supervision. The break up of the total provision for school education is given below:

	(Rs. crores)
1. Primary school education (6-11 age group)	.. 7.11
2. Middle school education (11-14 age group)	.. 23.65
3. Secondary school education (14-17 age group)	.. 11.00
4. Teachers training	.. 0.73
5. Adult education	.. 0.79
6. Physical education and sports	.. 2.40
7. Administration and supervision	.. 0.14
8. Others	.. 0.08
Total	.. <u>45.90</u>

Primary School Education

12.3 In the field of primary school education, the most important programme is the expansion of facilities. The State has 14,059 Government primary schools. The total number of children in the primary schools is 2.27 million which is 118.4 per cent of the 6-11 age group. However, it is necessary to start new schools to meet the needs of new townships, colonies and habitations which are likely to develop during the Plan period. Provision has been made for starting 10 single-teacher primary schools every year. At present no wooden furniture is provided for the use of the students. Only *tats* are supplied but these get

worn out within a year or so and the students have to squat on the floor. It is proposed to provide *patras* (wooden seats) and desks for the use of the students. In order to beautify the environment of primary schools with plants and flowers, provision has been made for the appointment of *malis/ chowkidars*. It is also proposed to provide drinking water facilities and lavatories. On account of the resources constraint, the programme will be suitably phased. This will not only make the school environment more healthy but will also promote hygienic and disciplined habits among the students.

12.4 In the submontane, bet, border and other backward areas, it is often difficult to raise sufficient resources from the Panchayats, parents and others to construct school buildings. Accordingly, provision has been made for the cost of school buildings in such difficult cases. In 1978-79, there is also a small provision for replacement of science kits.

12.5 A separate Directorate of primary education has been created. The primary schools have been detached from middle and secondary schools and put under the charge of this Directorate. The schools are inspected and supervised by the Block Primary Education Officer (BPEO). In terms of the norm of 50 schools per BPEO, the Department is short of 66 BPEOs. Provision has been made for the additional BPEOs and the supporting staff.

12.6 The Plan provision for primary school education is summarised below :

	(Rs. crores)
(i) Opening of single teacher schools	2.53
(ii) Furniture for Government schools	0.50
(iii) Environmental improvement	.. 2.74
(iv) Lavatories and drinking water facilities	.. 0.42
(v) New class rooms/school buildings	0.39
(vi) Replacement of science kits	.. 0.04
(vii) Strengthening of administrative and supervisory staff	.. 0.49
Total	.. <u>7.11</u>

Middle School Education

12.7 Now that the enrolment in the primary schools has been pushed up to 118.4 per cent of the 6-11 age group,* more emphasis has been laid on the second phase of elementary education covering the age group 11-14. It is proposed to increase the enrolment from 636 thousand to 995 thousand, thus raising the coverage from 57.5 per cent to 86.8 per cent of 11-14 age group. The most important programme is expansion of facilities for full-time schools including both Government Middle Schools and Middle Departments of Government High/Higher Secondary Schools. To cope with the additional enrolment, it is proposed to create 6,200 additional posts of teachers in a phased manner over the next 4 years. Physical education has been made a compulsory subject. But most of the middle schools have no post of a qualified physical education teacher. Though some rudimentary training has been provided to other teachers, they cannot do justice to the subject. It is, therefore, proposed to create 800 posts of physical education teachers over the next four years. Most of the middle schools are woefully deficient in furniture. Provision has been made to make up this deficiency atleast partially. The Annual Plan 1978-79 includes a large provision on account of the schools that have been upgraded from the primary to the Middle Standard since 1974-75.

12.8 There is a high percentage of drop-outs in the age group 6-11. There are also others who cannot join a school for economic reasons. Efforts will be made to induce the maximum number of children to join school and also to reduce the percentage of drop-outs in the 6-11 age group. But a substantial percentage will still remain outside the full time school. It is proposed to run condensed courses for them in their free hours by establishing 100 centres for non-formal education in 1979-80 and another 100 centres in 1981-82. Thus, those who are unable to study in a full time school, will still have an opportunity to receive elementary education.

12.9 In order to develop artistic tastes and creative activities among the school children, it is proposed to set up Children's Theatre Groups. Provision has been made for a post of Art and

Cultural Organiser in each District. He will co-ordinate the school activities in the field of art and culture. He will also organise competitions in this field among school children at local and District levels.

12.10 In the sub-montane, bet, border and other backward areas, it is difficult to raise funds from the Panchayats and Parent-Teacher Associations for school buildings. Provision has, therefore, been made for this purpose in the Plan. Further, though science is a compulsory subject, most of the Middle Schools have no science rooms or equipment. It is proposed to make up this deficiency by building 140 science rooms each year. It is also proposed to create 240 posts of science teachers during 1979-80 so that each Middle School has 2 science teachers, one for physics and chemistry and the other for biology. Provision has been made for supplying 270 science kits to the Middle Schools which are yet without one, and for the replenishment of science kits which have got depleted through breakages and use of consumable items.

12.11 The programmes for qualitative improvements include vocationalisation of education. Under this programme children are provided opportunities to work with their own hands and thus also develop greater awareness of their environment. This programme has already been introduced in 100 Middle Schools/Middle Departments and has been found useful. It is proposed to extend it to 100 additional Middle Schools/Departments each year. At present the co-educational schools do not have facilities for teaching domestic science, thus depriving the girl students from learning a useful subject. Provision has been made for introducing this subject in the Middle Schools/Departments.

12.12 The Plan provision for Middle School Education is given below :

	(Rs. crores)
1. Additional posts of teachers ..	8.68
2. Posts of P.T.Is. ..	1.17
3. Furniture ..	0.72
4. Upgrading of primary schools to middle standard ..	4.45

* An enrolment percentage higher than 100 per cent of the 6-11 age group indicates that it also includes a substantial number of children over 11 years or under 6 years of age.

	(Rs. crores)
5. Non-formal education ..	0.11
6. Children's Theatre Groups ..	0.11
7. Construction of class rooms/school buildings ..	0.15
8. Construction of science rooms ..	1.76
9. Additional posts of science teachers ..	1.69
10. Supply of science kits ..	0.10
11. Replenishment of science kits ..	0.06
12. Introduction of work experience	3.88
13. Introduction of domestic science	0.09
14. Additional supervisory staff ..	0.68
Total ..	23.65

Secondary Education

12.14 The most important programme is the upgradation of Middle Schools to High Schools. This is being done in response to persistent demand from the rural areas. About 150 schools would be upgraded during 1978-79. It is proposed to upgrade another 200 Middle Schools during the next four years at the rate of 50 schools each year. Provision has been made for 2,191 scholarships each year to poor but brilliant students. These scholarships are tenable for 3 years of school education. When a school is upgraded to the high level, the village Panchayat is required to provide the building. But in the sub-montane, bet, border and other backward areas, the Panchayats are often in no position to do this. Provision has, therefore, been made in the State Plan for construction of new buildings and class rooms and for extension of existing buildings. It is also proposed to construct science laboratories at the rate of 40 per year. In order that the students from the State may do better in the science talent search examination conducted by the NCERT, provision has been made for special coaching of the promising ones. At present, in the absence of laboratory assistance, the science practicals are not organised properly. For strengthening science education, provision has been made for 1,200 posts of Laboratory Assistants, to be created at the rate of 300 per year during the next four years.

12.15 It is proposed to establish library service in 100 High/Higher Secondary Schools each year, during the next four years. During this period, it is also proposed to provide Rs 17,000

per school to 400 schools (100 schools each year) for purchase of furniture, library books and science equipment.

12.16 There are several programmes for the benefit of the girl students. It is proposed to introduce Home Science in 10 Schools and music and dancing in another 10 schools each year, during the next four years. For promoting girls education, all schools have been declared co-educational schools, if a separate girls schools does not exist in the village. As a sequel to this decision, it has become necessary to provide lavatory and drinking water facilities to girl students. Provision has been made for providing these facilities in 100 schools each year, for the next four years.

12.17 The provision for secondary education is summarised below :

	(Rs. crores)
1. Upgradation of middle schools to high schools ..	6.22
2. Scholarships for poor but brilliant students ..	0.33
3. Construction/extension of buildings and class rooms ..	1.00
4. Construction of science laboratories ..	0.32
5. Special coaching for Science Talent Search Examination (NCERT) ..	0.01
6. Creation of posts of Laboratory Assistants ..	1.18
7. Provision of work experience to students ..	0.20
8. Introduction of library service in schools ..	0.65
9. Improvement of schools (furniture, library books and science equipment) ..	0.68
10. Introduction of Home Science as a subject ..	0.17
11. Introduction of Music as a subject	0.12
12. Lavatory and drinking water facilities for girl students ..	0.10
13. Appointment of teachers/supervisory staff in connection with the implementation of 10+2 pattern of education ..	0.03
Total ..	11.01

Teachers Education

12.18 In-service training centres have been established at Jullundur, Patiala and Ferozpur. A provision of Rs. 0.58 crore has been made for paying T.A./D.A. to the teachers who are called for training. With a view to proper development of educational research and training, and for coordinating the activities of the various research and training institutions, it is proposed to set up a State Council of Educational Research and Training. A provision of Rs. 0.15 crore has been made for the purpose.

Adult Education

12.19 Towards eradicating illiteracy among the 15-35 age group, it is programmed to set up 10 projects of 100 centres each. Provision has also been made for the production of literature for the students and the neo-literates, the establishment of library service for the neo-literates, and for administration and supervision. The total provision for the programme is Rs. 0.79 crore. While the programme needs more funds, a larger provision is ruled out by the resources constraint.

Physical Education and Sports

12.20 Physical education and sports have been made compulsory in schools. If justice is

to be done to these subjects, the High/Higher Secondary Schools need to be provided with D.P.Es. Provision has been made for creating 200 posts of D.P.Es. each year, for the next four years. For the development of budding sportsmen and sports-women, Sports Wings have been attached to several High/Higher Secondary Schools. There is also a full-fledged sports school at Jullundur. In order to provide the sports men with opportunities for training, competition and the development of their skills, provision has been made for holding coaching camps for sports men and sports women. There is intense demand for providing sports wings to more schools. It is proposed to provide, during the next four years, three sports wings each year, two for boys and one for girls.

Administration and Supervision

12.21 The Department has been disbursing grants-in-aid to private institutions, but accounts staff for this is not available. Provision has been made for the posts of assistant accounts officers with supporting staff, one at the Headquarter and one in each District.

Principal Physical Targets

12.22 The principal physical targets for 1982-83, together with corresponding position in 1977-78, are given in Table 12.1.

Table 12.1 : Principal Physical Targets Pertaining to School Education

Item	Unit	1977-78	1982-83
0	1	2	3
1. Schools-			
.1 Primary	No.	10,866	14,099*
.2 Middle	"	1,649	1,249
.3 High/Higher Secondary	"	1,367	1,767
2. Teachers			
.1 Primary School	No	43,947	43,987
.2 Middle School	"	21,145	29,674**
.3 High/Higher Secondary Schools	"	15,478	18,498
3. Enrolment in classes I to V			
.1 Number			
(a) boys	000 No.	1,257	1,057
(b) girls	"	1,014	875

* Includes Primary departments detached from the Middle Schools and High/Higher Secondary schools after the setting up of the Directorate of Primary Education.

** Includes Middle departments of High/Higher Secondary Schools.

	0	1	2	3
.2 Proportion of the 6-11 age group				
(a) boys		.. %	124	103
(b) girls		.. "	112	93
4. Enrolment in classes VI to VIII				
.1 Number				
(a) boys		.. 000 No.	394	597
(b) girls		.. "	242	398
.2 Proportion of the 11-14 age group				
(a) boys		.. %	67	99
(b) girls		.. "	47	73
5. Enrolment in classes IX to XI				
.1 Number				
(a) boys		.. 000 No.	162	256
(b) girls		.. "	96	154
.2 Proportion of the 14-17 age group				
(a) boys		.. %	29	43
(b) girls		.. "	20	30

COLLEGE AND UNIVERSITY EDUCATION

12.23 The administrative work of the Directorate has increased in recent years. In 1977-78, the maintenance of service records of Gazetted Officers, which was earlier done by the Accountant General, Punjab, was transferred to the respective Departments. Since there are 1,734 Gazetted college lecturers, this has involved heavy additional work load. The grants-in-aid payable to private colleges have increased on several counts such as revision of salary scales of lecturers with effect from 1st November, 1966, ad-hoc relief with effect from 1st April, 1972, grant of U.G.C. scales of pay eventually with effect from 1st January, 1973, and sanction in 1974-75 of funds to enable the colleges to pay additional Dearness Allowance. But there has been no commensurate addition to the staff. Provision has, therefore, been made for additional staff, inter alia, to have effective financial control over the payment of grants-in-aid amounting to several crores. Provision has also been made for strengthening the Planning Cell in the Directorate.

12.24 Provision has been made for grants-in-aid to Guru Nanak Dev University, Amritsar, the Punjabi University, Patiala, and the Punjab Agricultural University, Ludhiana on account of the

Chairs established by these Universities and for running the vocational courses which have been started at the instance of the Punjab Government. Provision has also been made for grants to the Universities at Amritsar and Patiala for construction of buildings.

12.25 The Plan includes several programmes with regard to Government Colleges. It is proposed to open two new Government Colleges, one in a backward/rural area and the other at S.A.S. Nagar. There is no further proposal for take-over of any private college. To meet the increasing demand for sports facilities, it is proposed to establish seven Sports Wings. Provision has been made for completing the buildings of six new Government Colleges which were started in the Fifth Plan and for the buildings of the proposed two new colleges. There is also provision for purchase of land for the proposed new college in a rural/backward area and for additional land for Government College, Gurdaspur. As a sequel to the Government's decision to allow Government Colleges to admit 20 per cent more students, provision has been made for additional posts of lecturers and other staff. On the capital account, provision has been made for the completion of works such as principals' residences, tube-wells and boundary walls spilling

over from the Fifth Plan and those proposed to be taken up in the Sixth Plan.

12.26 Under the U.G.C. sharing scheme introduced in 1977-78, assistance is available to the extent of 50-100 per cent for the development of existing colleges. The Plan includes State's share in this scheme. Provision has also been made for additional ministerial staff for colleges.

12.27 With regard to student amenities, provision has been made for the completion of the 3 hostels spilling over from the Fifth Plan and for the construction of a new hostel. 5 new posts of hostel superintendents have been provided. The Plan also has a large provision for the State merit scholarships.

12.28 Provision has been made for completing the Guru Nanak Library Building at Jullundur.

12.29 The Plan provision for college and university education is detailed below :

	(Rs. crores)
1. Strengthening of the Administration	0·12
2. Strengthening of the Planning Cell	0·02
3. Grants-in-aid to the Universities	3·12
4. Expansion of Government Colleges	1·83
5. Improvement of existing Government Colleges	1·79
6. Development of colleges under the UGC sharing scheme	0·39
7. Strengthening of the administration of Government colleges	0·06
8. Grant-in-aid to non-Government colleges	0·38
9. Hostels for Government Colleges	0·16
10. Merit scholarships	0·79
Total	8·66

OTHER PROGRAMMES

12.30 The other programmes pertain to a variety of subjects such as promotion of art and culture, development of Indian languages, youth services

and the National Service Scheme (NSS), sports and games, archives, revision of District Gazetteers, and archaeology and museum.

Art and Culture

12.31 The programmes for promotion of art and culture include revival of Punjab folk songs and dances, setting up of an Academy of Arts and Crafts, sponsoring of visits of cultural troupes and artists to other States and countries, grants-in-aid to institutions engaged in the development of art and culture, setting up of a Centre of Punjabi Culture at Bombay, publicity through booklets and other media, and holding of music and other cultural conferences, seminars, festivals and competitions. The programmes under art and culture also include establishment and strengthening of District libraries.

Development of Languages

12.32 The programmes for the development of Punjabi, Hindi and Urdu include: setting up of a Literacy Centre at Delhi; production of Punjabi literature in paper back series; holding of on-the-spot competitions in poetry, short story and essay writing; pensions to creative writers; establishment of rapport with Punjabi writers and literacy associations and honouring of eminent writers, from outside the State; honouring of one outstanding ragi jatha every year; and creation of two mobile exhibition-cum-sale facilities.

12.33 The proposed Literary Centre at Delhi will (i) establish liaison with other literary organisation such as the National Book Trust, the Children Book Trust, the Central Hindi Directorate and the Sahitya Akademy, (ii) co-ordinate its activities with those of private literary organisations interested in Punjabi language and literature, and the Punjabi Theatre Groups, (iii) develop contacts with Punjabi writers resident in Delhi, (iv) set up a writers club, (v) organise drama festivals and other literary and folk festivals, (vi) hold literary symposia and seminars in Punjabi, (vii) establish a permanent book exhibition and an information centre for Punjabi literature, and (viii) and set up a sales centre for the publications of the Department of Languages.

12.34 No publisher, private or public, is at present producing Punjabi books in cheap paper back series. The Department of Languages proposes to undertake this responsibility. The on-the-spot

literary competition, to be limited to persons below 17, will be held both at the State and the District levels. The pensions to creative writers will enable them to continue their work undisturbed even after they retire from their bread-giving normal avocations. The two vans serving as mobile exhibition-cum-sale facilities will help to take Punjabi literature to far off rural areas.

NSS and Youth Services

12.35 The National Service Scheme (N.S.S.) is a Centrally Sponsored Scheme. It aims at "education through community service". Grants-in-aid are given to the Universities at the rate of Rs. 60 per student activist/camper. The expenditure is shared between the Centre and the State in the ratio of 7 : 5. Another Centrally Sponsored Scheme is that for setting up Planning Forums in colleges and universities. The aim is to develop plan consciousness among the educated youth and through them among the general public. An annual grant-in-aid is given to colleges at the rate of Rs. 400 per category A college, and Rs. 1,600 per category B college. The expenditure is shared between the Centre and the State in the ratio of 6 : 4. In the plan, provision has been made for State's share of the anticipated expenditure on the N. S. S. and the Planning Forums.

12.36 Director Youth Services has several other programmes. These include ;(i) an annual inter-varsity youth festival ; (ii) camps for training college and secondary school teachers in youth work ; (iii) youth leadership training camps ; (iv) hiking, trekking and mountaineering in high altitude areas ; (v) grants-in-aid to village youth clubs ; (vi) subsidy (at the rate of Rs. 100 per person) for inter-State tours by youth ; (vii) grants-in-aid to college and secondary school youth clubs ; (viii) non-student youth festivals ; and (ix) promotion of adventure through rock climbing, hiking, trekking and surfriding. There is also provision for strengthening the Department.

Sports

12.37 Punjab is a leading State in the matter of sports. The Plan includes a number of programmes for further development of organised sports and taking these to the rural areas. Provision has been made for (i) the national level, State level and league tournaments, (ii) specialised

coaching to athletes and players, (iii) construction of village and block level playgrounds, (iv) scholarships to outstanding players, (v) establishment of the State Sports Academy, (vi) allotment of sports seats to colleges covering free board and lodging, equipment and training facilities to promising players, (vii) grant-in-aid to the Punjab State Sports Council for the construction of sports complexes at the District headquarters, selected blocks, municipal towns, and villages having traditional sports potential, and (ix) for the establishment of the audiovisual and press cell.

Archives

12.38 The Punjab State Archives, Patiala, is the principal repository of the State records. The records are an evidence of the past events and cater alike to the needs of Government Departments and research scholars. It is imperative to preserve these records on modern scientific lines and prepare their reference media. It is also necessary to take care of the State records that lie scattered at the District, Divisional and State levels. Provision has been made in the Plan for these purposes. It has been observed that the non-current records at the District headquarters are at present poorly maintained by the staff who are not properly trained. Accordingly a scheme has been formulated for the proper maintenance and preservation of these records. It has also been observed that records pertaining to the Secretariat of the pre-1947 undivided Punjab are lying in a bad condition in the central record room of the Punjab Secretariat, Chandigarh. Reference media to these records are not available. Research scholars consulting these records have found it difficult to locate material relevant to their subject. There have been many suggestions about placing these records under the control of the Punjab State Archives. It is, therefore, proposed establish a Repository at the State Capital to manage and preserve these records on archival lines. With the proposed establishment of the archival repositories at the District and State levels, the workload of the administrative wing of the State Archives will increase. A proposal has, therefore, been worked out to strengthen this Wing.

Revision of District Gazetteers

12.39 The rewriting of District Gazetteers has become necessary as their pattern and the

information contained have become obsolete. The Government of India has instituted a Centrally Sponsored Scheme for the purpose. It has laid down a uniform pattern for writing District Gazetteers. Under the scheme, the State is entitled to 100 per cent grant subject to prescribed ceilings for compilation and printing. Since the grant is released to the State after the work has been done, the State has first to spend the money out of its Plan Budget. It has been decided to revise the Gazetteers of three backward Districts, namely, Hoshiarpur, Sangrur and Bhatinda. The revision of Hoshiarpur District Gazetteer was completed in March, 1978, that of Sangrur District is in hand and is expected to be completed by March, 1980, and that of Bhatinda will be completed by March, 1982. Printing of these Gazetteers will be undertaken in 1982-83.

Archaeology and Museums

12.40 It has been estimated that about 200 monuments and sites need to be declared as protected under the State Archaeological Act. So far only about 40 of them have been extended protection. The protection and conservation of monuments will not only preserve our cultural heritage but will also help to promote tourism. The most important scheme under Archaeology and Museums is, therefore, that for the conservation of ancient and historical monuments. The other programmes include: excavation and exploration operations; display equipment for museums/galleries including purchase of art and antique objects; opening of museums at Ropar, Anandpur Sahib and Khatkar Kalan; development of the State archaeological library; publication of archaeological reports and publicity literature for museums; holding of archaeological exhibitions in the rural areas; creation of a horticultural wing for the proper landscaping of monuments; strengthening of the administrative and technical staff of the Department; purchase of machinery such as mixing and grouting machines, spraying and welding sets, lifting and shifting machines, pumping sets and grass mowers; lectures and conferences; removal of murals from unsafe monuments and their transplantation; and setting up of an archaeological laboratory including the chemical conservation expenses of archaeological buildings, antiquities and museum objects.

Provision for "Other Programmes"

12.41 The plan provision for "other programmes" is summarised below :—

	(Rs. crores)
1. Promotion of art and culture	0.24
2. Establishment and strengthening of District libraries	0.04
3. Development of Hindi, Punjabi and Urdu	0.39
4. NSS	0.42
5. Youth Services	0.49
6. Self/Employment Promotion Programmes	0.05
7. Sports	2.30
8. Archives	0.30
9. Revision of District Gazetteers	0.02
10. Archaeology and Museum	0.60
Total	4.85

TECHNICAL EDUCATION

12.42 The Plan has laid great emphasis on technical education. Training of personnel has to start many years in advance of requirements. Action in relation to the requirements of the diversified Punjab economy ten years hence must, therefore, be taken now. Technical education is an important means towards turning out more employable educated persons. There is also the consideration that technical education will enable the large number of Punjabis seeking employment opportunities abroad to qualify for better-paid and more respectable jobs. For all these considerations, the Plan provides for a sharp step up in outlays, from just Rs. 0.74 crore during 1974-78 to Rs. 3.52 crores during the next four years. The total outlay under the Sixth Plan (1978-83) is Rs. 3.87 crores.

12.43 The principal programmes under Technical Education pertain to :

- (i) consolidation and development of polytechnics, introduction of new diploma courses, and modernisation of equipment ;

- (ii) establishment of training-cum-production centres and introduction of part time diploma, AMIE and degree courses;
- (iii) assistance to private engineering colleges for faculty improvement, modernisation of equipment, diversification of courses, introduction of new disciplines, and other measures for consolidation and development
- (iv) scholarships for degree and diploma students ;
- (v) development of libraries ; and
- (vi) residential accommodation and other amenities to staff and students in engineering Colleges and polytechnics

CO-ORDINATION OF PLAN AND NON-PLAN OUTLAYS

12.44 In the case of social services, Plan provision is often a small proportion of the total outlay on Plan and non-Plan account. This is increasingly so with every successive Plan because, at the end of each Plan period, the Plan expenditure is almost entirely shifted to the non-Plan account as committed expenditure. For the next four years, while the Plan outlay on general education (including art and culture) has been set at Rs. 44 crores, the non-Plan outlay during the same period (taking into account both the continuing non-Plan expenditure and the expenditure that will become committed with effect from 1979-80) has been estimated at around Rs. 406 crores.

Thus during the next four years, the budgetary expenditure on Education will be as much as Rs. 450 crores. The State's total budgetary expenditure during this period, including both Plan and non-Plan expenditure on revenue and capital accounts but excluding repayment of short-term loans and ways and means advances, has been estimated as of the order of Rs. 2715 crores. Thus Education will account for about one-sixth of the total Budgetary expenditure. The effort should, therefore, be to view the Budgetary expenditure on Education as a whole and to strive for the maximum results from the entire amount, whether provided on plan or non-Plan account. It should also be possible for the School Education Board to earmark some funds from its resources for the improvement of school education.

NO BASIC REFORM

12.45 The State's basic problem, as of the rest of the country, is to bring about a fundamental restructuring and reorientation of the education system so as to make it relevant to the needs of the economy and society for educated, trained and skilled personnel. However, Punjab, by itself, cannot bring about the needed basic change. It is a common problem of all the States and can be tackled only in a concerted manner. The Plan programmes mostly seek to provide more of the same thing and not something radically new. The needed basic restructuring and reorientation of the educational system remains a problem for the future.

Medical Education and Public Health

The Sixth Plan visualises a major development effort in the field of medical education and public health. It provides for an outlay of Rs. 58.47 crores as against the expenditure of Rs. 11.29 crores under the Fifth Plan. The step up is more than 5 times.

MEDICAL EDUCATION AND RESEARCH

Medical College, Faridkot

13.2 In the field of medical education (allopathic), the most important programme is the taking over, improvement and expansion of Guru Gobind Singh Medical College, Faridkot. The college has been taken over as the Trust was unable to provide facilities and staff according to the norms prescribed by the Medical Council of India. Fresh admissions, stopped since 1977, will be resumed only after the required staff and facilities have been made available. A provision of Rs. 6.77 crores has been made for the purpose.

Expansion and Improvement of Medical Colleges

13.3 The Plan provides for the expansion and improvement of the medical colleges at Amritsar and Patiala. With regard to the Medical College, Amritsar, the Plan provides for (i) completion of the spill-over works of library-cum-multipurpose hall, (ii) a hostel for the interns and residential accommodation for the faculty and the staff, (iii) cycle/scooter stands and garages, (iv) a hostel for the post-graduate students, (v) an OPD play centre, (vi) a hall for the children's department, (vii) paramedical staff for the new and understaffed units, and (viii) ministerial staff to cope with the increased work load in the principal's office. The provision for Medical College, Patiala is for (i) ministerial staff for the principal's office, (ii) paramedical staff in new and understaffed units, (iii) additional specialists, (iv) equipment, (v) third storey of the new office building, (vi) student amenities including cafeteria, study and recreation centre, cycle stands and garages, and (vii) three warden quarters within the hostel premises.

Expansion and Improvement of Dental College/ Wing

13.4 Provision has been made for improvement and expansion of the Dental College, Amritsar and the Dental Wing of the Medical College, Patiala. In the first case, the Plan provides for (i) an additional teaching unit to fulfil the norms prescribed by the Dental Council of India, (ii) para-medical staff, and (iii) construction of garages, scooter sheds and staff quarters. In the second case, the provision is for (i) increasing the seats from 12 to 20, (ii) the staff and equipment to match the additional seats, and (iii) the purchase/acquisition of a building for the Dental Wing to relieve over-crowding in the medical college.

Other Programmes, the Christian Medical College and the Dayanand Medical College

13.5 The two private colleges at Ludhiana, are finding it difficult even to meet the running expenses and can spare little for improvement and further development. Provision has, therefore, been made for *ad-hoc* grants to these colleges. In order to bring up the scheduled caste M.B. B.S. students to the level of the open merit students, provision has been made for special coaching to them. Provision has also been made for applied research into such fields as rural health, and development of a suitable health care delivery system.

13.6 The Government of India provides assistance, at one time basis, to medical colleges for attaching three development blocks each for training students in community medicine. The assistance is, however, limited to a few items. The salary of the staff after the first year and the purchase of medicines have both to be financed from the State Budget. The scheme has been put into effect in the Medical College, Patiala. It is proposed to extend it to the Medical College, Amritsar. In the Plan, provision has been made for the State's liability on this account.

Training Facilities for Para-Medical Staff

13.7 When the admissions are restarted at Faridkot, the annual intake for the M.B.B.S. course will be 460 (Amritsar, 150 ; Patiala 150 ; Faridkot, 60; the two private colleges, 50 each). The annual outturn of around 450 medical graduates will fully meet the requirements of the public services and the private facilities. However with the existing training facilities, the outturn of the paramedical staff will fall short of the requirements of the anticipated expansion in the health services. It is, therefore, proposed to increase the intake and outturn of the categories that are expected to be in short supply and to introduce new courses.

13.8 The intake of pharmacists will be increased from 80 to 110 at the Medical College, Amritsar and from 70 to 100 at the Medical College, Patiala. The course will be started at the Medical College, Faridkot with an intake of 50. Thus the total intake will be raised from 150 to 260. The intake of radiographers will be increased from 10 to 15 at M.C. Amritsar and from 6 to 12 at M.C. Patiala. For laboratory technicians there are at present 20 seats each at M.C. Amritsar and M.C. Patiala and 4-5 seats at C.M.C., Ludhiana. It is proposed to add 10 seats each at Amritsar and Patiala and to start a training centre at M.C. Faridkot with an intake of 20. The intake will thus be raised from 45 to 85.

13.9 At present nurses are trained at the S.G.T.B. Hospital, Amritsar, Rajendra Hospital, Patiala and Civil Hospital, Jullundur. The annual outturn is about 100. It is proposed to increase the intake by 30 at each of the above training centres and to start a new training centre at Civil Hospital Faridkot. It is also proposed to start the following new courses :

	<i>Seats</i>
(i) Operation theatre assistants (at S.G.T.B. Hospital, Amritsar and Rajendra Hospital, Patiala)	10
(ii) Anaesthesia assistants (at Rajendra Hospital, Patiala)	5
(iii) Ophthalmic assistants (at Ram Lal Eye Hospital, Amritsar)	10
(iv) Physiotherapists (at Rajendra Hospital, Patiala)	10

13.10 With regard to the training facilities for paramedical staff, provision has been made for additional staff, stipends to students, construction of School of Nurses and hostel accommodation for student nurses at Faridkot, and pharmacy blocks at Patiala and Faridkot.

Improvement and Extension of the Teaching Hospitals

13.11 Provision has been made for improvement and expansion of the hospitals attached to the Medical Colleges. With regard to S.G.T.B. Hospital, Amritsar, the provision is for : (i) completion of the new OPD block and indoor units for 500 additional beds at the new campus and some related works ; (ii) additional nursing and class IV staff to match the increase from 700 to 1200 beds ; (iii) staff for the new hospital workshop and the orthopaedics workshop ; (iv) staff for the glucose saline unit and the intensive care unit ; (v) additional ministerial staff ; and (vi) additional paramedical staff and equipment for the newly completed units/wards. The provision for Rajendra Hospital, Patiala is for : (i) completion of the works under implementation ; (ii) staff for the additional 200 beds and other units that would be completed within the Plan period ; (iii) additional ministerial staff ; (iv) strengthening of the medical record unit ; and (v) additional equipment.

13.12 Improvement and expansion of the T. B. Hospital, Amritsar includes : (i) construction of OPD within the campus of the Hospital ; (ii) lecture room, administrative block, modern kitchen block, nurses duty room, and stores ; (iii) conversion of cottages into patients' sarais ; (iv) additional ministerial staff; and (v) modern equipment and drugs. The provision for T. B. Hospital, Patiala, is for completion of the spill-over works, additional nurses and class IV staff to match the bed strength, and staff for normal maintenance work.

Strengthening of DRME's Office

13.13 There is a modest provision for strengthening the office of the Director, Research and Medical Education, Punjab, in line with the increased work load.

Plan Provision

13.14 The purpose-wise break-up of the provision for medical education and research is given below :

	(Rs. crores)
1. Strengthening of the office of the D.R.M.E. ..	0.02
2. Expansion and improvement of medical colleges ..	1.51
3. Expansion and improvement of dental college/wing ..	0.17
4. Take over and development of G. G. S. Medical College, Faridkot ..	6.77
5. Grants to private medical colleges	0.40
6. Extra coaching to Scheduled Caste M.B.B.S. students	0.02
7. Grants for applied research ..	0.06
8. Additional training facilities for para-medical staff ..	0.60
9. State's share in the Centrally-sponsored Scheme for the integration of the medical colleges with primary health centres ..	0.05
10. Expansion and improvement of teaching hospitals at Amritsar and Patiala ..	4.70
11. Expansion and Improvement of T.B. Hospital at Amritsar and Patiala ..	0.54
Total ..	14.84

PUBLIC HEALTH

13.15 Public Health has not received due priority in the past. In particular, the rural areas have received scant attention. In the Sixth Plan, not only the total outlay on this sector has been stepped up to over 5 times the expenditure in the Fifth Plan, but also the concentration is on health facilities in the rural areas. The major thrust of the Public Health programmes is towards creating a comprehensive and well-structured rural health service. Out of the total provision of Rs. 40.86 crores under this Head as much as Rs. 29.22 crores (that is 72 per cent of the total) has been earmarked for this purpose.

Rural Health Service

13.16 The subsidiary health centres (rural dispensaries, for short) form the base of the structure. At the end of the Fifth Plan, there were 716 rural dispensaries. It is proposed to set up 1200 new dispensaries under the Sixth Plan, 200 in 1978-79 and 250 in each of the subsequent years, raising the total to 1916. If this schedule is adhered to, there will be one dispensary for every 10,000 rural population by the end of 1979-80, and the final target of one dispensary per 5000 rural population will be realised by 1984-85 or 1985-86. Since the dispensary building is to be provided by the local community, the Plan provision is mostly for staff salaries and other running expenses. Only Rs. 0.50 crore is provided for construction of buildings in the areas where the local community is too poor to provide accommodation. The provision under "Improvement of Subsidiary Health Centres" is in respect of a spill over liability of the scheme.

13.17 The second tier of the structure is the 25-bed or 30-bed rural hospital at the block level. It will serve as the first referral institution for the rural dispensaries. The target is to have 117 such hospitals, one in each block, by 1982-83. Eventually, there will be two such hospitals in each block. On the eve of the Plan, there were 7 such hospitals. These had been set up by upgrading the primary Health Centres (PHCs). Under the Sixth Plan, 110 additional rural hospitals are to be set up. This will be done in two ways : 50 hospitals by upgrading the PHCs and 60 by setting up new hospitals. In the latter case, the community will provide the land and at least a part of the cost of the building. It is proposed that the specialist services will also be available at the rural hospitals, at least in the essential fields, on a regular or a mobile basis. It is hoped that eventually the preventive, curative and rehabilitative services, the family welfare programme and the control of communicable diseases will all be integrated in the envisaged structure.

13.18 Out of the existing 128 PHCs the buildings in respect of 105 PHCs have been completed. The work with regard to 10 PHCs is in hand. The remaining 13 PHCs are proposed to be taken up and completed by the end of the Sixth Plan. This should facilitate upgradation of

PHCs into rural hospitals. The scheme "Completion and Improvement of Sub-Centres" has been given up with effect from 1979-80. Dental clinics have been opened at the block level. It is proposed to establish 45 new clinics, raising the total to 93. All these programmes will help to achieve very substantial progress towards closing the rural-urban gap with regard to availability of health services.

Health Facilities in Urban Areas

13.19 The most important programme for the development of health facilities will be the upgradation of the existing hospitals. Every District headquarter has already been provided with a 100-bed hospital. Jullundur and Faridkot have 400-bed and 200-bed hospitals, respectively. In the Sixth Plan 2 other District Hospitals are to be upgraded to 200-bed hospitals. In the Fifth Plan, it was proposed to up-grade all Tehsil hospitals to 50-bed status. However, this target could not be achieved due to resources constraint. It is proposed to upgrade the remaining 10 Tehsil hospitals to 50-bed status during the Sixth Plan. Five Tehsil hospitals are to be upgraded to 100-bed hospitals to remove regional imbalance in the availability of hospital beds. The new town at Mohali is to be provided with a 100-bed hospital. The hospitals are to be furnished with adequate modern equipment and are to be enabled to provide specialist services. Intensive care units are to be established in the District level hospitals.

13.20 Another important programme is the opening of 45 new dispensaries in the Urban slum areas or other suitable localities. These will relieve the pressure on the outdoor patient departments in the existing hospitals. At present about 60 Local Bodies hospitals and dispensaries are operating. It is proposed to provincialise a substantial proportion of these during the Sixth Plan. Several schemes including "completion and improvement of existing District hospitals" and "Completion and improvement of Tehsil and other hospitals" are to be discontinued with effect from 1979-80, either because some other schemes have taken their place or because it is no longer necessary to continue them.

Control/Eradication of Communicable Disease*

13.21 The control and eradication of communicable diseases such as malaria, T.B., sexually transmitted diseases (STD), and trachoma and other causes of visual impairment and blindness have been hitherto covered by the Centrally Sponsored Schemes. Pending a decision by the National Development Council in regard to the scope of the Centrally Sponsored Schemes, it has been assumed that these programmes will retain their present status. Accordingly, in the Sixth Plan only a limited provision has been made by way of State's share in the implementation of these schemes.

Other Programmes

13.22 The National Draft Five-Year Plan 1978-83 has laid considerable emphasis on the Community Health Workers Scheme. The scheme was initiated in Punjab in 20 blocks on 2nd October, 1977. The initial experience suggests that, in the conditions obtaining in the State, this scheme is of doubtful utility. The Plan, therefore, does not provide for the extension of this scheme. Instead, the stress is on the Multipurpose Worker Scheme. Under this scheme, for every 5000 rural population, one sub-centre is provided, manned by one male and one female multipurpose worker. The scheme had been extended to three districts (Ropar, Kapurthala and Jullundur) under the Fifth Plan. It is proposed to extend it to four districts (Faridkot, Sangrur, Hoshiarpur, Bhatinda and the PHC Manawala of Amritsar) during 1978-79. The remaining five districts will be covered during 1979-80. Thus the entire State will be covered by March, 1980. In the Plan, provision has been made for equipment (Rs 2,000 non-recurring) and Rs 2,000 for medicines for each of the additional sub-centres. No provision is made for additional staff as the A.N.Ms. and the male workers for these sub-centres will be drawn from other schemes.

13.23 Under a Centrally Sponsored Scheme, it is proposed to train at least one indigenous *dai* in every village. 2,000 were trained in 1977-78. It is proposed to train 10,000 *dais* during the Sixth Plan to match the number of villages

in the State. It is hoped that the trained indigenous *dai* will be a better contact between the health staff and the community than the community health worker commended by the Union Ministry of Health.

13.24 In order to bring the various health institutions and workers in the rural areas under a unified control, a PCMS—I at the block level has been put in charge of the entire set-up. He heads the PHC and has administrative and technical control over all health institutions and workers in the block. It is proposed to place the multipurpose workers under the control of the medical officer of the local rural dispensary. This will enable the rural dispensary to provide an integrated package of health care services to the local community, eventually, of 5000 persons.

13.25 At present the field officers in the State indent their medicine requirements on the Medical Store Depot, Karnal (Haryana). The Depot charges 30 per cent as handling charges over and above its purchase rates. Moreover, it is able to supply only 20 per cent of the State's requirements. It is, therefore, proposed to establish a Central Medical Store at Ludhiana. It will stock medicines so as to ensure adequate timely supplies to field offices.

13.26 The State Health Transport Organisation has a fleet of 501 vehicles. About 30 per cent of these need replacement and are off the road. It is proposed to replace them at the rate of 10 vehicles a year. It may also be necessary to buy some motor cycles and other vehicles for operating in the rural areas. Proper maintenance of the vehicles will require some strengthening of the Organisation. Provision has been made for all these.

13.27 The State hospitals are estimated to have equipment worth more than Rs 25 crores. In the absence of a satisfactory arrangement for preventive maintenance and repair, costly equipment remains out of order for long periods till it is got repaired at heavy cost from the open market or the manufacturers. Provision has, therefore, been made for setting up a repair and maintenance unit for the health equipment.

13.28 In order to strengthen the district level laboratories, provision has been made for purchase of binocular microscopes and high speed centrifuges, and for providing one technician and one Class IV employee per laboratory. It is also proposed to strengthen the Drug and Food Standard Control Organisation by (i) providing additional equipment to the State Food and Drug Laboratory, Chandigarh, (ii) setting up four new District Food Laboratories, (iii) reinforcing the State Drug Control machinery, and (iv) establishment of a food wing in the Directorate of Health and Family Welfare.

13.29 The Plan has provided for the administrative reorganisation of the Health Department. It is also proposed to strengthen the Health Intelligence Organisation in the Directorate.

E. S. I. Schemes

13.30 The schemes of the Employment State Insurance Corporation have been a neglected field in the past, even though for every rupee provided by the State Government, the Corporation provides seven rupees. In the Sixth Plan, the provision for the ESI schemes has been sharply stepped up. It is proposed to (i) open 7 ESI dispensaries in new areas and 19 additional dispensaries in the implemented areas, (ii) strengthen the existing ESI dispensaries, (iii) upgrade the ESI hospitals at Amritsar, Ludhiana and Jullundur, (iv) open new 50-bed hospitals at Phagwara, Gobindgarh, Rajpura, Batala and S. A. S. Nagar, (v) strengthen the Drug Depots at Ludhiana and Jullundur, (vi) provide ambulance services at the major industrial centres, and (vii) strengthen the Headquarter staff.

Plan provision

13.31 The break up of the Plan provision for Public Health, by major programmes, is given below :

	(Rs. crores)
1. Opening of Subsidiary Health Centres in rural areas	15.94
2. Establishment of block level rural hospitals	10.81

	(Rs. crores)
3. Completion and improvement of Primary Health Centres	1.37
4. Establishment of a dental clinic in each block	0.34
5. Other rural Health programmes	0.76
6. Upgradation of the existing hospitals in urban areas	4.15
7. Providing specialist services in existing hospitals	1.00
8. Establishment of Intensive Care Units in district hospitals	0.75
9. Opening of new dispensaries in urban slum areas and other suitable places	0.46
10. Provincialisation of local bodies hospitals and dispensaries	0.27
11. Other programmes for hospitals and dispensaries in urban areas	0.73
12. Control and eradication of communicable diseases	1.01
13. Multipurpose Workers scheme	0.98
14. Establishment of a central medical store depot	0.20
15. Replacement of vehicles of Health Department	0.20
16. Establishment of health equipment maintenance and repair unit	0.50
17. Strengthening of District Health laboratories	0.11
18. Strengthening of Drug and Food Standard Control Organisation	0.10
19. Administrative reorganisation of the Health Department	0.18
20. E. S. I. schemes	0.92
21. Other programmes	0.08
Total	40.86

INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

13.32 In the past, a policy of drift has been followed with regard to Ayurveda and other Indian systems of medicine. The State is too poor to afford simultaneous full-blown development of the allopathic and the Ayurvedic systems. A choice needs to be made at the earliest. In the Sixth Plan Health Programmes, the implied choice is in favour of the allopathic system. It is, therefore, necessary to define the precise role of the Indian Systems of Medicine in the total set up of health services. The supporters of Ayurveda feel that this system has not had a fair chance to prove its worth. The Ayurvedic facilities, they claim, have been too patchy and inadequately supplied to prove the true worth of the system. Accordingly, the provision in the Sixth Plan for the I.S.M. is 9 times the expenditure under the Fifth Plan, that is Rs. 2.76 crores as against Rs. 0.30 crore. The main aim is to consolidate the existing institutions and fill up the obvious gaps. A limited expansion has also been allowed.

13.33 The existing I.S.M. and Homoeopathic dispensaries are each to be provided with additional medicines and equipment worth Rs. 3,000 every year, furniture worth Rs. 3,000 and one Class IV employee designated as herb collector-cum-attendant. One hundred dispensaries will be strengthened this way every year. It is proposed to establish 168 new dispensaries, 138 I.S.M. dispensaries and 30 Homoeopathic dispensaries, raising the total of rural dispensaries to 584. Provision has also been made for the improvement and expansion of the Government Ayurvedic College, Hospital, and the Pharmacy at Patiala. In order to ensure effective inspection of the dispensaries and proper implementation of the Plan programmes, it is proposed to appoint one District Ayurvedic Officer in every district and provide him with the necessary supporting staff and a vehicle. Provision has also been made for strengthening the Headquarter staff of the Department. The provision for these programmes is given below :—

	(Rs. crores)
1. Strengthening of the existing I.S.M. and Homoeopathic dispensaries ..	0.76
2. Opening of new I.S.M. and Homoeopathic dispensaries	1.00

<p>3. Improvement and expansion of Government Ayurvedic—</p> <p>(i) College .. 0.14</p> <p>(ii) Hospital .. 0.25</p> <p>(iii) Pharmacy .. 0.23</p> <p>4. Strengthening of the district level staff. .. 0.30</p>	(Rs. crores)	<p>5. Strengthening of the Department Headquarters .. 0.08</p> <p style="text-align: right;">Total .. 2.76</p>	(Rs. crores)
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Physical targets

13.34 The Plan's physical targets with regard to health facilities and services are given in Table 13.1.

Table 13.1 : selected Plan Targets for Health Facilities and Services

Facility/Service	Unit	1977-78 (estimate)	1982-83 (target)
0	1	2	3
1. Rural areas			
.1 Rural dispensaries	.. No.	716	1916
.2 25/30-bed hospitals			
(a) by upgrading PHCs	.. No.	7	57
(b) by setting up new hospitals	.. No.	—	60
.3 Dental clinics at block level	.. No.	48	93
2. Urban areas			
.1 Upgradation/opening of hospitals			
(a) District	.. No.	10	12
(b) Tehsil	.. No.	20	30
(c) Others	.. No.	10	18
.2 Total dispensaries	.. No.	118	163
.3 Strengthened district laboratories	.. No.	—	12
3. E.S.I. Schemes			
.1 Total hospitals	.. No.	3	8
.2 Total dispensaries	.. No.	20	46
4. I.S.M.			
.1 Ayurvedic dispensaries	.. No.	406	544
.2 Homoeopathic dispensaries	.. No.	10	40

Urban Development, Housing and Rural Water Supply

Urban development, housing and water supply are inter-related fields. The total provision of Rs. 181.1 crores for the development programmes in the three fields accounts for 10.8 per cent of the total Sixth Plan outlay.

URBAN DEVELOPMENT

14.2 The 1971 census showed that a quarter of the State's population lived in the urban areas. There are indications that the pace of urbanisation has quickened in recent years. The urban facilities and civic amenities are lagging behind the growth of the urban population. In order to check this trend, a large provision has been made in the Plan for urban development which, together with funds from institutional, municipal and other resources, should achieve substantial results.

Urban Estates

14.3 The development of Urban Estates involves the acquisition and development of land by providing infrastructural facilities and public amenities. A part of the land is earmarked for construction of houses for the economically weaker sections by the Housing Development Board (H.D.B). It has now been decided that, in the interest of speedy implementation, the Department may also undertake construction of public utility buildings such as schools and hospitals. The remaining land is carved out into residential and commercial plots for sale to the public. The provision of Rs. 26.12 crores should enable the Directorate to (i) complete the development works that are in hand, (ii) develop the land that has been acquired, and (iii) acquire and develop additional land.

14.4 If the Urban Estates are located at suitable places, and if the acquisition and development of land and the sale of plots is undertaken efficiently, the programme should become largely self-financing after an initial period when Budgetary investment is required to fill the pipe line. In this case, the initial investment will serve as a

sort of revolving fund for the programme. However, several snags in the implementation of the scheme have resulted in persistent and repeated shortfalls in the realisations from the sale of plots. It is of utmost importance that the Urban Estates now begin to recover the large investment that has gone into their development. It is hoped that the recent steps to overcome the various hurdles hampering the sale of plots will facilitate the operation. The provision for the Urban Estates is conditional on their achieving significant improvement in sales realisations.

14.5 The development of Urban Estates so far has been undertaken departmentally. For this reason, it has not been possible to avail of institutional finance. Moreover, this arrangement necessarily involves certain administrative, procedural and other impediments to efficient implementation. It needs to be examined whether the reorganisation of this activity on a co-operative basis will yield better results, while reducing the burden on the State Budget.

Urban Water Supply and Sewerage

14.6 The most important programme of urban water supply and sewerage is the Rs 66.7 crore project for 8 major cities to be carried out with IDA (World Bank) assistance of Rs 32.3 crores. The Government of India will give 70% of the IDA assistance, that is, Rs. 22.61 crores to the State Government as special assistance for the implementation of the project. In addition, the State Government, will contribute Rs. 10.07 crores from its own resources. The State's Budgetary contribution will thus be Rs. 32.68 crores. This has been fully provided in the Plan as loans to municipal committees. The balance will be met by direct loans from LIC and the contribution of the beneficiary municipalities and corporations. Provision has also been made for loans to other municipalities for water supply and sewerage schemes. These loans will be refinanced from the LIC. The total provision under the scheme is Rs. 39.10 crores.

14.7 The Punjab Water Supply and Sewerage Board, set up under a State Act, started functioning with effect from 15th September, 1976. Its main function is to investigate, plan, prepare and execute schemes for water supply and sewerage on behalf of the local authorities. The IDA assisted project is also to be implemented through the agency of the Board. Since the Board finances the projects initially from its own resources, it needs to have some funds of its own. A provision of Rs 4 crores has been made for the Board.

Improvement Trusts

14.8 The Improvement Trusts receive a contribution from the municipal committees at the rate of 2 per cent of the latter's revenue. This is a very inadequate amount, particularly in the case of municipalities with a weak financial position. The newly established Trusts often find it difficult even to meet the expenditure on staff and contingencies. Only 4 out of the 21 Trusts, namely those at Ludhiana, Jullundur, Amritsar and Pathankot, are in a position to raise the needed funds for development works. The other Trusts generally need loan assistance from the State Government. Rs. 1.41 crores have been provided for the purpose.

14.9 An important new initiative in 1978-79 has been the scheme to provide, through the Improvement Trusts, 50-75 sq. yards plots to Harijans living in the urban areas. To this end, a provision of Rupees one crore has been made for assistance to the Improvement Trusts.

Integrated Urban Development Programme

14.10 The Centrally-Sponsored integrated urban development programme is intended to augment essential urban infrastructure such as water supply and sewerage, and roads and road transport, and to promote planned urban growth. Under this programme loan assistance is available from the Centre for (i) seed capital for bulk acquisition of land and its development, and (ii) improvement of urban infrastructure up to 50 per cent of the total cost. In the first phase, the programme covers the three major cities of Ludhiana, Jullundur and Amritsar. A provision of Rs. 11 crores has been made to complete the first phase and to initiate the second phase covering five more towns,

namely, Patiala, Rajpura, Bhatinda, Moga and Pathankot.

Environmental Improvement of Slums

14.11 All the major towns have slum areas. The ideal solution would be to clear the slums and provide new houses to the slum dwellers. But this is not possible with the State's meagre resources. The development Programme is, therefore, limited to environmental improvement of slums by providing basic amenities such as drinking water, paved streets, pucca drains, street lights, and public urinals and latrines. A modest provision of Rs. 0.06 crore has been made under the Sixth Plan.

Town and Regional Planning

14.12 Area planning in the rural sector involves preparation of physical development plans for the blocks and the villages. By 1977-78 such plans had been prepared for 28 blocks and 18 villages. It is proposed to prepare plans for additional 65 blocks, thus covering, 93 of the 117 blocks, and for further 98 villages, raising the total to 116 villages during the Sixth Plan. The Plan also includes a new scheme for setting up "New Towns", to begin with, at Phillaur, Beas and Sirhind. The scheme provides for the establishment of Planning and Development Agencies for the purpose. On account of the resources constraint, the provision in the Plan is only for one such "New Town". The total provision for both the programmes is Rs. 1.09 crores, Rs. 0.70 crores for the rural sector and Rs. 0.39 crores for the urban sector.

14.13 There is a strong case for enlarging the scope of town and regional planning. It will be desirable to cover the remaining 24 blocks also by the end of the Plan period. It is also necessary to undertake planning of small towns which have been neglected so far, and to prepare master plans for the towns mushrooming in a haphazard fashion along highways and other important roads, so that their future growth may be given a planned direction. The provision for town and regional planning will be adjusted at the time of finalisation of the plan depending upon the volume of work that may be eventually agreed to.

Plan Provision

14.14 The provision for Urban Development is summarised below :

	<i>Rs. crores</i>
1. Development of Urban Estates ..	26.12
2. Water Supply and Sewerage	
.1 Loans to municipalities ..	39.10
.2 Water Supply and Sewerage Board	4.00
3. Assistance to Improvement Trusts for	
.1 General activities ..	1.41
.2 Allotment of plots to urban harijans	1.00
4. Integrated Urban Development Programme ..	11.00
5. Environmental improvement of slums ..	0.06
6. Town and regional planning ..	1.09
Total	83.78

HOUSING

14.15 The main thrust of housing development is towards houses for the State employees. The three programmes, namely, Government residential buildings, loans to Government servants, and houses for police, account for about 70 per cent of the total plan outlay (Rs. 39.79 crores out of a total of Rs. 57.62 crores). The balance is made up by the provision for the Housing Board, the subsidised industrial housing scheme, the houses for Harijans, the loans for Low Income Group houses, and the loans for building houses in the Urban Estates.

Houses for Government Servants

14.16 Over the years, there has been a large increase in the number of Government employees. But there has been no commensurate increase in the residential accommodation available with the Government. In the meantime an acute general shortage of residential accommodation has emerged all over the State and the rents have risen sharply. Government servants who, in the absence of official accommodation, are obliged to pay high rents for very inadequate accommodation are put to great hardship. This affects their morale, efficiency and sense of discipline. The fear of non-availability of accommodation and

high rents at a new place builds up great resistance against transfers even when these are very necessary and desirable. In the case of such categories as the police personnel, it is all the more necessary that Government employees are not obliged to reside in areas where they inevitably come in contact with undesirable and anti-social elements. It is also imperative to provide at least the minimum accommodation to Government employees at the focal points, which form the core of the Integrated Rural Development Programme. It is proposed to make a significant dent into these problems during the Sixth Plan.

14.17 A large programme of residential housing for Government employees has been formulated covering buildings at Chandigarh, district and tehsil headquarters, other places, and the IRDP focal points. It is proposed to build 1,200 flats of various categories at Chandigarh through the agency of the Housing Development Board at a cost of Rs. 4.9 crores. The Chandigarh Administration has agreed to provide land in Sectors 38-B and 46-D for the purpose. It is proposed to build 8,000 houses at district and tehsil Headquarters and other places outside Chandigarh. The Housing Board will raise 70 per cent of the cost from HUDCO. Rs. 13 crores have been provided to meet the balance 30 per cent cost as well as the cost of the land. In addition Rupees one crore have been provided for completing the programmes spilling over from the Fifth Plan. It is proposed to construct 900 houses of two categories at the IRDP focal points at the rate of 8 houses per focal point. A provision of Rs. 2.5 crores has been made for this programme.

14.18 There is a growing demand by Government servants for house building loans. During 1977-78, the demand was of the order of Rs. 2.3 crores. The Government has enhanced limits for advances due to increase in the cost of construction. For this reason, as also on account of the anticipated changes in the pay structure, the demand for loans is expected to increase further and average about Rs 3 crores a year during the Sixth Plan period. However, on account of constraint of resources, the total provision has been limited to Rs 8.79 crores. This should help to finance about 4,400 houses. On account of the restricted provision, the waiting period for loans may rise to over one year.

14.19 A provision of Rs. 9.6 crores has been made for houses for police. In addition a substantial amount is expected to be available from the Centre and the institutional sources.

Housing Development Board

14.20 The Housing Development Board is provided assistance by way of loans and subsidy for the construction of houses, booths and the acquisition and development of land. A provision of Rs. 5.85 crores has been made.

Subsidised Industrial Housing

14.21 Under the scheme for subsidised industrial housing, provision is made for the construction of houses for the industrial workers. For houses in the co-operative sector assistance is given equal to 90 per cent of the cost, 65 per cent as loan, and 25 per cent as subsidy. For private employers, assistance is limited to 75 per cent of the total cost, 50 per cent as loan and 25 per cent as subsidy. This scheme, for which no provision had been made in 1978-79, is to be revived during the next four years. The provision of Rs 1.6 crores would help to meet the expenditure on the ongoing works and construction of about 6,000 additional houses.

Houses for Harijans

14.22 The scheme for the construction of houses for the Harijans, who have been allotted free plots is being implemented through the agency of the Housing Development Board. The Board raises institutional finance to supplement the Plan provision. It is expected that, with the Plan provision of Rs 4.5 crores, it should be possible to build about 22,500 houses.

Loans for Low-Income Group Houses

14.23 Loans are provided to low income groups (that is, persons with an annual income below Rs 7,200), for construction of houses both in the rural and urban areas. A provision of Rs. 3.5 crores has been made for the purpose. It is expected to grant loans to 8,500 persons.

Loans for building houses in the Urban Estates

14.24 Since 1975-76, there is a scheme for providing house building loans to allottees of plots in the urban estates. No provision, however, was made for the purpose during 1978-79. It is proposed to reactivate this scheme and a provision of Rs 2.38 crores has been made for the next four years. This will help to stimulate house building in the urban estates.

Plan Provision

14.25 The provision for Housing programme is summarised below :—

	<i>Rs. crores</i>
1. Houses for Government Employees	
(1) Government residential buildings ..	21.40
(2) Loans to Government servants ..	8.79
(3) Houses for the police ..	9.60
2. Contribution to Housing Development Board ..	5.85
3. Subsidised industrial housing	1.60
4. Houses for harijans ..	4.50
5. Low Income Group housing	3.50
6. Loans for building houses in the urban estates ..	2.38
Total ..	57.62

RURAL WATER SUPPLY

14.26 The hand pumps, open wells, *baulies* and *diggies* are the main sources of domestic water in the villages. The water from these sources is not safe. The only satisfactory arrangement is to provide potable drinking water through a piped water supply system. The cost of covering all the 12,188 villages has been estimated at Rs. 257 crores. This is beyond the State's capacity. For the present, the coverage is to be limited to the scarcity villages in terms of the criteria laid down by the Government of India, that is, villages (i) who do not have an assured source of drinking water within 1.6 km. or so, or (ii) where the source of water supply is endemic to water borne diseases like cholera, or (iii) where there is excess salinity, iron or flourides. There are 3,800 such villages in the State.

14.27 Over the years, the design criteria for rural water supply schemes have been made more liberal. Originally, the water supply allowance had been fixed at 5 gallons per head per day and there was to be practically no distribution system.

Water supply was to be given through a battery of taps close to the water works. In 1961, the design criteria were increased to a water allowance of 10 gallons per day per head with a terminal pressure of 5 metres, and a skeleton distribution system catering to public stand-posts only. In 1976, the criteria were further liberalised to 15 gallons (70 litres) per head per day and a terminal pressure of 8 metres. The State Government have now laid down that the schemes should also have a complete distribution system in the village. They have also required that the existing schemes should be augmented so as to conform to the new criteria.

14.28 By March, 1978, water supply schemes had been commissioned in 1674 villages with a population of 1.59 million. A total of Rs 30.73 crores had been spent. The cost of covering the remaining villages, and augmenting the existing schemes to the new criteria, has been estimated at Rs 111 crores (excluding any future cost escala-

tion). On account of the resources constraint as well as the organisational and physical problems in the implementation of the programme, the provision in the Sixth Plan has been limited to Rs 39.7 crores. Allowing Rs 2.37 crores for establishment and other infrastructure, it has been programmed to cover, during the Plan period, 850 additional villages, raising the total of covered villages to 2,524. In addition, water supply schemes will be under implementation in 440 villages.

14.29 The financing of the operation and maintenance of the rural water supply facilities remains as yet an unsolved problem. It is necessary to induce the beneficiaries to make substantial contribution, one way or the other, to the running costs of these facilities. Otherwise, there will be a growing burden on the Budget. And there will always be the danger that the funds provided for creating additional facilities get diverted to meeting the running cost.

Development of Scheduled Castes and Backward Classes

The proportion of scheduled castes in the State is about 25 per cent of the total population. In the Jullundur District, this proportion is as high as 33 per cent. The scheduled castes form the bulk of the population below the poverty line. The eradication of poverty requires, first and foremost, the development of the scheduled castes. The Plan has laid due emphasis on the uplift and welfare of these castes. The programmes fall into three main categories : (i) programmes for the spread of education, (ii) programmes for economic betterment, and (iii) programmes for housing, environmental improvement and other social assistance. These are briefly described below.

Education Programmes

15.2 The spread of education has been considered an important instrument. The most important scheme is for pre-matric coaching to scheduled caste students. Three teachers in English, Mathematics and Science are engaged in each High/Higher Secondary School for providing extra coaching to the scheduled caste students. The teachers are each paid a monthly honorarium of Rs. 100 for six months. Rs. 1.65 crores have been provided for this scheme. A sum of Rs. 1.43 crores has been set aside for providing grants to 6-8 class students for the purchase of stationery and books. Grants will also be available for the purchase of books for scheduled caste law, medical and engineering students, as the books in these subjects are generally very expensive. A provision of Rs. 0.06 crore has been made. Since there are good employment opportunities for competent stenographers, a new scheme has been started in the Sixth Plan for providing training in this trade to 100 scheduled caste persons (employees and non-employees) each year. The non-employees will be given a stipend of Rs. 100 per month. The cost of the scheme during the Sixth Plan period has been projected at Rs. 0.14 crore.

Programmes for Economic Betterment

15.3 A high proportion of the scheduled castes are agricultural labourers. In order to enable them to grow into cultivators, subsidy is provided for the purchase of agricultural land at the rate of Rs. 2000 per acre, subject to a maximum of Rs. 5000 per beneficiary. Provision has been made for a total of 1560 beneficiaries. A subsidy of Rs. 1000 is given for the construction of a house/well on the purchased land and a further Rs. 180 for meeting the registration charges. The provision for the three subsidy schemes is Rs. 0.97 crore. Provision has also been made for training in such trades as tailoring, embroidery and carpentry. The trainees are paid a stipend of Rs. 45 per month. During the Sixth Plan, 18580 persons are expected to benefit from this scheme at a cost of Rs. 0.43 crore.

15.4 Two land development and finance corporations have been set up, one exclusively for the scheduled castes and the other for the backward classes including the scheduled castes. The two corporations provide highly concessional finance for investment in land and other activities. The Backward Classes Land Development and Finance Corporation has also been active in identifying the persons eligible for low interest loans under the Differential Interest Rate (DIR) scheme and arranging loans for them from the banks. A provision of Rs. 3.78 crores has been made for the various activities of this Corporation. Many Punjabis have sought employment opportunities in foreign lands. The scheduled castes are handicapped as they do not have enough money to pay for the passage and other 'incidental' expenses. In order to enable them to overcome this handicap, provision has been made in the Sixth Plan for interest-free loans/subsidy to scheduled castes going abroad for employment. The provision for this scheme is Rs. 0.22 crore.

Environmental Improvement, Housing and Other Programmes

15·5 The Scheduled castes often live in dirty, unclean and unhygienic basties and houses. Provision has been made in the Sixth Plan for improvement in both these respects. Rs. 7·23 crores have been set aside for environmental improvement of Harijan basties including pucca streets and drains, and drinking water. A provision of Rs. 3·82 crores has been made for constructing houses for sweepers, scavengers, flayers and tanners. The beneficiaries are provided a grant of Rs. 2000 per house. The provision should enable grants for about 19000 houses and 6660 wells. It is proposed to construct 2330 dharamsalas/chaupals (community buildings) for the use of the scheduled castes. Besides,

provision has been made for the repair of old dharamsalas and the completion of the unfinished dharamsalas spilling over from the Fifth Plan period. The total cost of the scheme has been set at Rs. 2·87 crores. A provision of Rs. 0·02 crores has been made for legal aid to the scheduled castes in the form of lawyers fees to enable them to protect themselves against forcible eviction from land and to pursue other allied cases.

Welfare of Vimukat Jaties

15·6 Attention has also been paid to welfare of the Vimukat Jaties (denotified tribes). In order to induce them to take to settled life, provision has been made for a subsidy, at the rate of Rs. 2000 per beneficiary, for building houses. The provision of Rs. 1·03 crores will help to construct 5150 houses for Vimukat Jaties.

Social Welfare and Nutrition

Social Welfare includes programmes for the welfare of children, women, the destitutes, the old and the infirm, the mentally retarded, the orthopaedically handicapped, the blind, the deaf and dumb, and the other under-privileged and maladjusted groups. The nutrition programmes seek to remedy malnutrition among pre-school children and pregnant and lactating mothers of weaker sections.

SOCIAL WELFARE

Child Welfare

16.2 Financial assistance is provided to orphan and destitute children, below 16 years of age, who have either lost their parents or whose parents are unable to maintain them due to incurable disease or permanent disability. Financial assistance is given at the rate of Rs. 50 per month per child. Preference is given to school going children so that such children are encouraged to study. A provision of Rs. 1.06 crores has been made for this purpose. Including the postage expenses, the amount would cover about 17,200 child-years.

16.3 Under a State Act, the destitute, delinquent and school drop outs of 8-16 years of age, and the children who commit a crime, are kept in the reception-cum-observation homes. After completion of their case history, with the approval of a children court, they are sent to certified schools. The certified school at Hoshairpur is housed in a dilapidated unsafe building. Provision has been made for constructing a new building. Rs. 8.8 lakhs have been provided.

Women Welfare

16.4 Financial assistance is made available at the rate of Rs. 50 per month to widows and destitute women below the age of 60 years, who have been left without means of subsistence after the death of the husband, or who have been deserted by the husband, or whose husband is physically or mentally incapable of earning a livelihood. A provision of Rs. 1.72 crores has

been made. Including the postage expenses, it should provide 27,270 women-years of assistance.

16.5 Widows and destitute women need institutional care for moral protection, psychological adjustment, educational and technical training, and rehabilitation. The Ashram at Jullundur provides such care. The widows are provided monthly assistance at Rs. 50 per month per inmate subject to a maximum of Rs. 250 per family. A provision of Rs. 3.58 lakhs has been made for the purpose.

Welfare of the Handicapped

16.6 Persons in the age group 6-30 who are orthopaedically handicapped or are deaf, dumb or blind, and the income of whose parents/guardians is less than Rs. 500 per month, are provided scholarships ranging from Rs. 15 to Rs. 100 per month, according to the standard of education or training. A provision of Rs. 1.38 lakhs has been made.

16.7 The orthopaedically handicapped are provided with artificial limbs to enable them to lead as normal a life as possible. Persons with income up to Rs. 300 per month are paid the full cost of the limbs, and those with income up to Rs. 500 per month half the cost. The Plan provision is Rs. 2.26 lakhs.

16.8 A provision of Rs. 1.50 lakhs has been made for the home for mentally retarded children in the age group 6-16 where they are educated and trained according to their capacity and aptitude. An equal amount has been provided to patients of chronic diseases discharged from hospitals to enable them to continue treatment and special diet in their homes, provided the annual income of the family does not exceed Rs. 300 per annum.

Eradication of Beggary

16.9 Most of the beggars in the State are migrants from other States. Beggars need to be

psychologically treated, trained and rehabilitated. The provision for the scheme is Rs. 3.50 lakhs.

Other Programmes

16.10 Grand-in-aid is given to the voluntary organisations/institutions engaged in welfare activities concerning children, women, the aged and the handicapped. A provision of Rs. 7.16 lakhs has been made.

16.11 The P. G. I. has a programme for the rehabilitation of the blind. It aims at training the blind in simple skills according to their individual aptitude with the ultimate goal of complete rehabilitation. The Plan provides a grant of Rs. 7.04 lakhs to the P. G. I. for the purpose.

Punjab State Women and Child Welfare Corporation

16.12 An important new initiative in the Sixth Plan is the provision of Rs. 1.76 crores for setting up the Punjab State Women and Child Welfare Corporation. The Corporation will develop programmes for providing opportunities for gainful employment to needy women and children.

NUTRITION

16.13 The Nutrition programmes seek to

tackle the problem of malnutrition at its very roots by taking care of the expectant and nursing mothers and the pre-school children of the weaker sections in the age-group 0-6 years. The rate of diet is 30 paise per head per day for 300 days in a year in the 5 districts of Kapurthala, Hoshiarpur, Gurdaspur, Ferozepur and Faridkot which were covered from the very beginning under the State Plan. It is 20 paise per head per day in the other 7 Districts where the programme had been initially started as a Centrally Sponsored Scheme. This anomaly needs to be removed. The programme is implemented through the District Child Welfare Council and the All-India Women's Voluntary Services Organisation. Distribution is done through part-time workers. Nutrition bread prepared by the Chandigarh unit of the Modern Bakeries is supplied to the nutrition centres. In the Nurpur Bedi, Nathana and Lambi blocks, however, the traditional food is given. The Plan provision is Rs. 1.84 crores for pre-school children and Rs. 0.21 crore for pregnant and lactating mothers, making a total of Rs. 2.05 crores for the entire nutrition programme.

Other Programmes

The other Plan Programmes pertain to public works, labour and labour welfare, Punjab State Civil Supplies Corporation, stationery and printing, information and publicity, the Film and News Corporation, Statistics, and the Administrative Training Institute. These programmes are briefly described below.

PUBLIC WORKS

17.2 Many Government administrative and office buildings, particularly at the district, tehsil and local levels, are in a bad shape. This is an important factor for operational inefficiency in Government offices. There is also an urgent need for new court, police station and jail buildings and for major improvements in the existing buildings. More circuit/rest houses are needed as also renovation of the existing ones. A substantial improvement in all these respects is envisaged.

Administrative Complexes

17.3 The State has 3 divisions, 12 districts, 41 sub-divisions, 42 tehsils and 34 sub-tehsils. For convenience to the public it has been decided that all Government offices and courts in a town will be constructed at one place. Such administrative complexes have been constructed at 2 district headquarters and at seven tehsil headquarters. Construction work is in progress at 18 places. The Plan outlay has been fixed at Rs. 8.58 crores for administrative complexes and Rs. 0.49 crore for judicial courts.

Patwarkhanas

17.4 It is proposed to build 1672 *Patwarkhanas* during the Plan period. A provision of Rs. 1.76 crores has been made to cover 30 per cent of the cost. The balance 70 per cent is to be raised from HUDCO.

Other Public Works

17.5 A provision of Rs. 1.76 crores has been made for police stations, Rs. 7.01 crores for jails and Rs. 1.12 crores for circuit houses and rest-houses.

LABOUR AND LABOUR WELFARE

17.6 This Head covers labour welfare, the employment service, and industrial training.

Labour Welfare

17.7 The programmes of labour welfare include : (i) strengthening of the machinery for industrial relations and enforcement of labour laws ; (ii) setting up of machinery for arbitration of industrial disputes ; (iii) strengthening of enforcement machinery for the Minimum Wages Act, 1948, by creating 8 new posts each of Labour Inspector Grade-I and Labour Inspector Grade-II, together with the supporting staff; (iv) strengthening of the Factory Inspectorate by creating 4 new posts of Factory Inspectors and the supporting staff ; (v) setting up of a Safety Cell to educate the employers and employees towards avoidance of accidents ; (vi) setting up of a mobile medical laboratory for examination of industrial workers with a view to reducing the incidence of disease ; and (vii) additional staff for the collection of labour statistics.

Employment Service

17.8 The most important programme is the expansion of the employment service. (1) It is proposed to set up 3 Town Employment Exchanges at Nabha, Sunam and Tarn Taran to serve as an employment-cum-guidance agency for the surrounding rural areas. These will provide to the rural youth, guidance about choice of careers, information about the employment avenues and the available training facilities, and other employment assistance. (2) It has been programmed to set up 13 Rural Manpower Units. The Units will help in manpower planning at the block level and will extend employment information, vocational guidance and employment assistance to the rural job seekers. (3) On account of the increase in the number of Employment Exchanges and the projected further expansion of the employment service, provision has been made for a separate inspection unit to

undertake routine as well as surprise inspections, and to make prompt and on the spot investigation of complaints by the candidates. (4) It has been decided to grant unemployment allowance to the educated unemployed at the rate of Rs. 40 to matriculates and Rs. 50 to graduates if they have been on the Live Register of the employment exchanges in the State for more than 5 years. Staff will be provided for the implementation of the scheme. (5) Several other schemes are also under consideration. For all these schemes a provision of Rs. 15.65 lakhs has been made.

17.9 The number of establishments covered under the Employment Market Information Programme has increased from 5522 in 1966-67 to 8291 in 1977-78, but the staffing pattern of the State and the District Employment Market Information Units has largely remained unchanged. The demands for supplying more detailed data are also increasing. With a view to meeting such demands and improving the collection, compilation, presentation and dissemination of the employment and unemployment data, it is proposed to strengthen the staff. It is also proposed to set up Sub-Employment Market Information Units at the Town Employment Exchanges referred to in paragraph 17.8 above. The total provision for the two programmes is Rs. 4.08 lakhs.

Industrial Training

17.10 The industrial training programmes aim at meeting the growing requirements of the economy for skilled workers, improving the technicians' skills by systematic and scientific training and improving the employability of educated men and women. The training falls into three categories ; (i) Craftsmen Training ; (ii) Industrial Schools for Girls; and (iii) Professional Training. The programmes in each category are briefly described below.

17.11 The scheme of Craftsmen Training is run on an all India pattern under the aegis of the National Council for Training in Vocational Trades. The major policies are controlled and regulated by the Directorate General of Employment and Training, Government of India. There are 29 Industrial Training Institutions in the State with a capacity of 11,772 trainees. The Sixth Plan programmes include : (i) identification and popularisation of trades which continue to have

large unsatisfied potential for employment, and purchase of machinery and equipment for providing training in these ; (ii) addition to and replacement of equipment in the existing ITIs; (iii) training seminars and study tours for staff; (iv) completion of Industrial Training Institute (ITI) buildings and construction of ITI building at Nabha ; (v) the strengthening of the Training-cum-Placement Cell which maintains the link between industry and the passed out trainees to help the latter to locate employment opportunities; (vi) staff for the Apprenticeship Training Wing to cope with the additional work load of the scheme as a result of the increase in the target of number of apprentices from 1230 to 3750; (vii) two additional mobile training centres in the rural areas for training the farmers in maintenance and minor repair of agricultural machinery and implements; (viii) maintenance of ITIs at Lalru and Baba Bakala in 1978-79; (ix) strengthening of the Instructional Centre at Chandigarh; (x) modernisation of the ITI, Patiala, under an UNDP/ILO aid programme to provide highly specialised courses in Indian standards and blue-print reading, tool and die making, and electrical and mechanical maintenance; and (xi) conversion of R.A.T.C./J. T. S./G.I. S. into ITIs in response to pressing public demand and opening of new ITIs in non-represented areas. A provision of Rs. 2.39 crores has been made for all these programmes.

17.12 In the State Industrial Schools for girls, training is imparted on the D.G.E.T. pattern in trades such as cutting and tailoring, embroidery work, knitting, preservation of fruits and vegetables, and Punjabi stenography. There are 43 schools for girls including the one newly started at Kheowali, Distt. Faridkot. The Fifth Plan programmes for Industrial Schools include : (i) completion of the building of the Industrial Teachers Training Institute, Jullundur; (ii) construction of new buildings; (iii) opening of new Schools at Mohali, Rajpura, Batala, Jagraon and other unrepresented areas and expansion of the existing ITIs; (iv) opening of new teachers training classes to meet the pressing demand from Industrial School trainees for further training as craft teachers; (v) opening of new training-cum-production centres tours at Ludhiana and Bhatinda; (vi) study tours, training and retraining, seminars and conferences, and educational study tours; and

(vii) modernisation and replacement of equipment and machinery in the Industrial Schools. The Plan has provided Rs. 0.92 crore for these programmes.

17.13 In the field of professional training, the major programme is the construction of the building of Arts and Crafts Training Institute at Amritsar. The total provision for the programmes in this area is Rs. 0.33 crore.

PUNJAB STATE CIVIL SUPPLIES CORPORATION

17.14 Punjab State Civil Supplies Corporation (PUNSUP) was incorporated as a Government company in 1974 with the primary objective of ensuring supply of essential commodities to the consumers at reasonable rates throughout the year. Besides making procurement of wheat for the Central Pool, PUNSUP is mainly engaged in the supply of essential commodities to the consumers through its net work of 197 procurement-cum-distribution centres and 500 retail outlets. The essential commodities are procured generally from the producing States or from the manufacturers direct without involving the middle men. Since 2nd October, 1977, the Corporation is engaged in the supply of atta, vanaspati and pulses to the consumers against ration cards at subsidised rates fixed by the Government. Proposals are under consideration to involve PUNSUP in the distribution of slack coal and cement which are in serious short supply. A provision of Rs. 1.47 crores has been made for contribution to the share capital of PUNSUP. This will raise its paid up capital to Rs. 4.81 crores.

STATIONERY AND PRINTING

17.15 The programmes under Stationery and Printing include : (i) the maintenance expenditure during 1978-79 of the four workshops opened at Amritsar, Ferozepur, Hoshiarpur and Sangrur for the repair and servicing of Government type writers during the Fifth Plan ; (ii) opening of new typewriter workshops at Ropar, Faridkot and Kapurthala during 1979-83 ; (iii) strengthening of the staff at the Headquarters and the Central typewriter Workshop at Chandigarh ; (iv) additional machinery and equipment for the Government Press and the Ticket Printing Unit, Patiala ; (v) extension of the Press building and construction of staff quarters at Patiala ;

(vi) construction of Government Press at SAS Nagar and the machinery and equipment for it ; (vii) additional staff for Government Press (Ticket Printing Unit), Patiala, Government Press, SAS Nagar and the Headquarters ; and (viii) the apprenticeship scheme for typewriter mechanics under which each apprentice is given a stipend of Rs. 100 per month. The total provision for all these programmes is Rs. 0.81 crore.

INFORMATION AND PUBLICITY

17.16 Effective communication with the people is necessary for informing, educating and motivating them for development. So far, the main reliance has been on man-based publicity. This has serious limitations. The large number of publicity workers required to reach over twelve thousand villages in the State, and the vehicles and other gadgets that will have to be provided to them, will involve an excessive burden on the Budget. Moreover, all of them will not be equally effective or have a uniform approach to what is to be communicated. It is, therefore, proposed to shift gradually from man-based to media-based publicity. The Sixth Plan Programmes, for which a provision of Rs. 2.65 crores has been made, have this orientation.

17.17 The scheme for the strengthening of the Department of Public Relations provides for recruitment of 3 middle level journalists on contract basis. They will be stationed at the Divisional Headquarters and provided with vehicles. They will tour the districts and visit the development projects with a view to feeding the regional and the national press with the stories of positive achievement. In a situation of widespread illiteracy, the motion picture is an affective audio-visual medium of communication. Provision has, therefore, been made for production of documentaries and news-reels and for the purchase of feature films which, singly or together, can be used both to entertain and educate the public. The scheme includes purchase of equipment for this purpose.

17.18 So far 14 sub-centres have been established at the tehsil level for purposes of field publicity. It is proposed to cover all the tehsils during the Sixth Plan. Provision has been made for the additional staff and for the purchase of mobile cinema units. It is proposed to set up

five Audio Broadcasting Centres in important cities like the one operating at Amritsar. From these stations important announcements can be made to the city population quickly. Provision has been made for the purchase of equipment and payment of rent to P&T. When the T.V. station at Jullundur begins to function, the greater part of Punjab will be covered by television. Provision has, therefore, been made for purchase of community television sets by panchayats and for purchase of films suitable for television.

17.19 The Plan envisages strengthening of song and drama services including cultural troupes, folk music, *dhadi jathas* and drama parties. Provision has also been made for vans and other equipment. A small amount has been provided for the maintenance of the community listening sets.

17.20 It is proposed to strengthen the Exhibition Unit of the Department so that it may be able to stage exhibitions periodically at the district level. A much larger provision has been made for display advertisements than in the Fifth Plan, as also for purchase and production of publicity literature. Outside agencies will be involved in its production. It is proposed to construct buildings at the District Headquarters for use by the Department as information centre-cum-office. Under the Fifth Plan three districts, Patiala, Ludhiana and Bhatinda were inter-linked with the Headquarters through teleprinter lines. It is now proposed to link all the remaining districts.

17.21 Provision has been made for display of hoardings at strategic points in the interior areas depicting major State achievements. The library at the Headquarters is to be strengthened.

17.22 Encouraged by the success of the light and sound programme "Amritsar Sifti Da Ghar", it is proposed to purchase equipment for setting up a large light and sound unit with 2-3 sub-units. These units will stage shows not only in bigger cities but also in the rural areas. In order to ascertain the response of the audience to its varied programmes, the Department proposes to commission feed back studies.

17.23 The provision for the Plan programmes of the Department of Public Relations is

summarised below :

	(Rs. lakhs)
1. Appointment of 3 Middle level journalists at the Divisional Headquarters ..	20.00
2. Purchase and production of films	39.50
3. Additional sub-centres for field publicity ..	55.00
4. 5 additional audio-broadcasting centres ..	2.60
5. Purchase of community television sets and suitable films for television	11.00
6. Strengthening of song and drama services ..	20.60
7. Maintenance of community listening sets ..	0.50
8. Strengthening of the exhibition unit of the Department ..	15.00
9. Display advertisements ..	24.00
10. Purchase and production of publicity literature ..	16.80
11. Construction of buildings at the district level for use as information centre-cum-office ..	8.00
12. New teleprinter lines to connect districts with the State Headquarters	10.00
13. Display of hoardings ..	17.70
14. Strengthening of the Headquarters library ..	2.50
15. Creation of a light and sound unit	31.00
16. Feed back studies ..	0.80
17. Other programmes ..	6.00
Total	265.00

PUNJAB FILM AND NEWS CORPORATION

17.24 The Corporation proposes to set up a mobile shooting unit to provide a basic facility

for the production of films. This, it is hoped will encourage the local talent to produce Punjabi films. A provision of Rs.17.10 lakhs has been made for the purpose. The Children's film movement screens informative, motivational and educative films for the benefit of children. Films produced by the Children's Film Society or clean commercial pictures are selected for the purpose. It is proposed to extend the scheme to the villages for the benefit of the school going children. In the evening the mobile van could be used to provide entertainment to the general public in the village. It is proposed to buy 12 mobile cinema vans during the next four years at the rate of 3 vans each year. A provision of Rs. 12.70 lakhs has been made. A provision of Rs. one lakh has also been made for Youth Film Centres at the university campuses.

STATISTICS

17.25 Efficient planning requires comprehensive, relevant and timely statistics. The Economic and Statistical Organisation (ESO) has made good progress in the collection and presentation of data on the State economy. However, certain gaps in information have to be filled up and the Organisation has to enlarge its activities in several new directions to meet the growing data requirements of the planning and the implementing departments. The Sixth Plan programmes with regard to Statistics have been drawn up keeping in view these gaps and requirements.

17.26 In order to extend planning to the block level, it is necessary to collect adequate and reliable data at that level. To this end, under the Fifth Plan, field assistants were posted in 80 blocks, one in each block. They have prepared village directories with 41 entries. These are being published. The block data has been built up from the village data. The remaining 38 blocks are proposed to be covered in the Sixth Plan. In order to provide effective continued guidance and supervision to the field assistants, it is proposed to strengthen the District Statistical Offices by providing them with two statistical assistants each. The District Statistical Offices at Amritsar, Jullundur, Ludhiana and Patiala, have a heavy work load. It is proposed to strengthen these offices by putting each of them under the charge of a Senior District Statistical Officer (Class I). After the transfer from the A.G. Punjab of subjects like

the maintenance of service records, preparation of pay bills of gazetted officers, and the General Provident Fund Accounts of Class IV employees, the Headquarters staff is now over worked. It is, therefore, proposed to strengthen the Headquarters by providing additional ministerial staff.

17.27 Capital formation is a key element in economic development. So far no estimates of the size, composition and inter-sectoral distribution of capital formation in the State are available. It is proposed to eliminate this serious lacuna in the State accounts. A comprehensive study for capital formation in the State is a major Sixth Plan programme.

17.28 It is proposed to set up a Data Bank to maintain comprehensive and upto date information on all major areas of interest and make it available to the users in the required detail. The Planning Commission has suggested studies on wholesale and retail trade, consumer expenditure and employment, particularly in the IRDP/intensive development blocks. It has also suggested that the quality of social statistics should be improved. Provision has been made for these surveys and studies and the others that may be suggested by the State Government. The Evaluation Section of ESO will be strengthened to enable it to undertake the proposed all India co-ordinated evaluation studies on different subjects and the evaluation studies of State programmes of social development. It is intended to set up a training unit in the ESO to impart training to junior level professionals-technical assistants, statistical assistants, field assistants, computers, etc. of this Organisation and those working in the statistical units of other departments. Since the Organisation has no electronic computer, provision has been made for purchase of computer time.

INSTITUTE OF PUBLIC ADMINISTRATION

17.29 Institutional arrangements for the training of administrators have been so far limited to the Revenue Training School, Chandigarh. The trainees are mostly the IAS probationers, the PCS officers and the Tehsildars. The faculty consists of the principal, two kanungos and two patwaris. The training programme emphasises instruction on the various aspects of revenue law and administration. Library facilities are

non-existent and the residential and messing facilities very inadequate.

17.30 It has now been decided to set up a high level Punjab State Institute of Public Administration (PSIPA) for training and research in public administration. The Institute will take over the functions of the Revenue Training School. The Institute will impart training to the probationers of the IAS, the PCS and the allied general services.

It will organise mid-career training programmes for the middle and senior level officers of the Government and the public sector undertakings. In addition, the Institute will undertake study, research and consultancy in the field of public administration with emphasis on applied and action oriented projects. In the Sixth Plan a provision of Rs. 0.64 crore has been made for the Institute.

PART III
SCHEMES

SIXTH FIVE YEAR PLAN (1978-83)
OUTLAYS BY DEVELOPMENT HEADS

(Rs. in lakhs)

Sub-head of Development	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5
I—Agriculture and Allied Sectors	(8433.72)	(3663.04)	(18348.06)	(22011.10)
Agriculture	4673.08	1956.86	9130.57	11087.43
Minor Irrigation	1428.23	534.00	2560.80	3094.80
Soil Conservation	603.89	375.00	1936.00	2311.00
Food	30.71	—	19.36	19.36
Animal Husbandry	493.34	312.06	1393.52	1705.58
Dairying and Milk Supply	211.08	107.12	832.37	939.49
Fisheries	59.73	33.00	273.68	306.68
Forests	476.74	155.00	1364.00	1519.00
Community Development and Panchayats	456.92	190.00	837.76	1027.76
II—Co-operation	879.13	450.00	2307.03	2757.03
III—Irrigation and Power				
Irrigation	4956.57	2707.00	22599.28	25306.28
Anti-water logging, Drainage and Flood Control	1893.80	950.00	3960.00	4910.00
Power	30354.09	9130.00	47593.04	56723.04
IV—Industry and Minerals	(3756.12)	(1295.32)	(5081.57)	(6376.89)
Large and Medium Industries*	2935.15	844.00	3808.96	4652.96
Small Scale Industries	803.10	446.32	1263.61	1709.93
Mines and Minerals	17.87	5.00	9.00	14.00
V—Transport and Communications				
Civil Aviation	49.97	8.00	85.05	93.05
Roads and Bridges	3963.15	2000.00	6600.00	8600.00
Road Transport	2143.27	495.00	3599.20	4094.20
Tourism	170.65	50.00	235.84	285.84
VI—Social and Community Services				
General Education	3056.43	1541.98	4400.00	5941.98
Technical Education	74.33	35.30	352.00	387.30
Public Health and Sanitation	1129.08	702.30	5144.35	5846.65
Rural Water Supply	1713.63	450.00	3520.00	3970.00
Housing	2922.50	800.00	4962.32	5762.32
Urban Development	3975.53	1020.00	7357.60	8377.60
Information and Publicity	101.11	45.00	220.00	265.00
Labour and Labour Welfare	161.70	69.00	351.11	420.11
Welfare of Scheduled Castes and Backward Classes	1284.60	255.00	2114.53	2369.53
Social Welfare	211.84	71.00	424.78	495.78
Nutrition	28.72	20.00	184.80	204.80

*These figures do not correctly indicate the allocation to Large and Medium Industries because a portion of the financing shall in fact be for Small Scale Industries.

SIXTH FIVE YEAR PLAN (1978—83)
OUTLAYS BY DEVELOPMENT HEADS

(Rs. in lakhs)

Sub-head of Development	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5
VII—Economic Services				
Statistics ..	36.40	20.00	87.53	107.53
Planning Machinery ..	—	—	88.00	88.00
VIII—General Services				
Stationery and Printing ..	31.63	20.12	60.77	80.89
Film Corporation ..	76.50	—	30.80	30.80
Punjab State Civil Supplies Corporation ..	184.00	10.00	137.28	147.28
Public Works* ..	330.73	125.00	1946.56	2071.56
Administrative Training Institute ..	1.00	5.00	58.96	63.96
Employment Promotion Programmes** ..	—	61.94	—	61.94
Grand Total	71920.20	26000.00	141850.46	167850.46

*Divisional Offices, Tehsil Buildings, Courts, Patwar Khanas, Circuit Houses and Rest Houses.

** Employment promotion programmes have been included in the respective sectors, excluding an un-allocated amount of Rs. 61.94 lakhs under 1978-79 (outlay).

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
PUNJAB AGRICULTURAL UNIVERSITY					
1. Research					
A(P) 1.1	Chemical, physical and biological studies on waterlogged soils ..	7.11	2.41	—	2.41
A(P) 1.2	Facilities for research on soil water plant relationship ..	6.40	2.16	—	2.16
A(P) 1.3	Studies on the nutrition of oilseeds and pulses ..	3.63	1.30	—	1.30
A(P) 1.4	Cotton research ..	5.17	1.54	—	1.54
A(P) 1.5	Quality improvement in oilseeds crops ..	5.72	1.96	—	1.96
A(P) 1.6]	Facilities for quality breeding in cereals and pulses ..	6.51	1.48	—	1.48
A(P) 1.7	Facilities for off season growing of breeding material of various crops in Lahaul Valley and Southern India ..	8.51	1.83	—	1.83
A(P) 1.8	Improvement of forages and establishment of forage unit ..	19.34	6.58	—	6.58
A(P) 1.9	Strengthening of entomological research in oilseeds ..	1.13	0.59	—	0.59
A(P) 1.10	Scheme for strengthening the insect toxicology and pesticides residues ..	5.14	1.35	—	1.35
A(P) 1.11	Pests of minor crops—ishabgole, mentha, celery, chicory, ajwain, saunf, etc. ..	0.55	0.20	—	0.20
A(P) 1.12	Research and development studies on the malting of indigenous cereals ..	3.23	0.97	—	0.97
A(P) 1.13	Studies on the milling, perboiling and associated physio-chemical aspects of rice ..	1.41	0.58	—	0.58
A(P) 1.14	Studies on the development of fruit juices and beverages ..	1.70	0.63	—	0.63
A(P) 1.15	Studies on the quality of hen eggs on poultry farms, marketing channel in Punjab, and production, processing and preservation of poultry and poultry products ..	2.75	0.63	—	0.63
A(P) 1.16	Studies on milling, baking and related compositional and rheological properties of the Punjab and extra provincial wheats as influenced by variety, ecology, fertilizers and harvest conditions with a view to improving commercial and consumer utilisation ..	5.03	1.82	—	1.82
A(P) 1.17	Establishment of section of Ecology ..	6.32	2.10	—	2.10
A(P) 1.18	Development of research facilities in Nematology at P.A.U., Ludhiana ..	4.12	1.43	—	1.43
A(P) 1.19	Intensification of research on breeding of vegetable varieties and studies on the cultural and nutritional requirements for processing ..	6.38	2.35	—	2.35
A(P) 1.20	Analysis of income and expenditure patterns of Punjab farmers ..	4.71	1.98	—	1.98
A(P) 1.21	Higher education, research and training in foods and nutrition in Agricultural Universities and Colleges in India ..	0.45	—	—	—
A(P) 1.22	Research on tube-well design criteria and development of improved tube-well components ..	2.06	0.71	—	0.71
A(P) 1.23]	Engineering studies for utilisation of agricultural by-products ..	1.78	0.63	—	0.63

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
A(P) 1.24	Low temperature storage of perishable products ..	2.28	0.80	—	0.80
A(P) 1.25	Strengthening of farm machinery, development and research ..	7.45	1.35	—	1.35
A(P) 1.26	Strengthening of Testing Centre ..	6.34	1.40	—	1.40
A(P) 1.27	Design and development of structures and equipment for animal production system ..	6.66	1.22	—	1.22
A(P) 1.28	Utilisation of solar energy for creation of optimum environment for animal and plant production system ..	5.79	0.99	—	0.99
A(P) 1.29	Reproductive physiology of birds and mammals ..	6.80	1.95	—	1.95
A(P) 1.30	Harmonal regulation in crops and fruit-trees ..	7.17	2.35	—	2.35
A(P) 1.31	Setting up of laboratory for germplasm and fungicides evaluation against plant pathogens under artificial opiphytotics ..	8.56	2.69	—	2.69
A(P) 1.32	Utilisation of agricultural wastes microbiological conversion into food and feed protein ..	5.26	1.70	—	1.70
A(P) 1.33	Strengthening of agronomic research on weed control ..	0.70	—	—	—
A(P) 1.34	Biochemical evaluation of pulses and their products ..	3.19	0.97	—	0.97
A(P) 1.35	Chemistry of some natural products and their significance on agriculture ..	2.39	0.75	—	0.75
A(P) 1.36	Studies on potentials of new hetrocyclic compounds as systematic fungicides ..	1.96	0.55	—	0.55
A(P) 1.37	Strengthening of Physics Department—research solid State biophysics (Mossbauer effect) ..	6.55	1.17	—	1.17
A(P) 1.38	Micronutrients research—establishment of plant analysis laboratory in the Department of Soils ..	3.39	1.27	—	1.27
A(P) 1.39	Strengthening of soil testing facilities ..	3.45	1.21	—	1.21
A(P) 1.40	Supervised integrated control of cotton pests ..	3.61	1.17	—	1.17
A(P) 1.41	Scheme for research on production and storage of vegetable seeds ..	3.52	1.40	—	1.40
A(P) 1.42	Scheme on investigation of root nodulation bacterial of leguminous crops ..	1.72	0.54	—	0.54
A(P) 1.43	Studies on the agronomy of new crops in Punjab ..	2.72	1.12	—	1.12
A(P) 1.44	Construction of office-cum-laboratory building and grape training system at Fruit Research Station, Bhatinda ..	8.00	—	—	—
A(P) 1.45	25 per cent State share on account of ICAR co-ordinated projects ..	39.22	15.00	60.00	75.00
A(P) 1.46	Instrumentation Cell ..	0.80	0.80	—	0.80
A(P) 1.47	Fisheries research scheme ..	—	1.00	5.00	6.00
A(P) 1.48	Strengthening of irrigation facilities at PAU Farm, Ludhiana ..	—	1.60	10.00	11.60
A(P) 1.49	Investigation on the system of farming and irrigation management ..	—	2.00	—	2.00
A(P) 1.50	Development of Rice Research Substation, Rauni, Patiala ..	—	1.40	6.50	7.90
A(P) 1.51	Development of Cotton Substation Goniana, district Faridkot ..	—	1.20	6.50	7.70

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
A(P)1.52	Breeding of superfine quality (Basmati) rice varieties for Punjab ..	—	0.70	4.00	4.70
A(P)1.53	Breeding for resistance to Karnal Bunt disease in wheat ..	—	—	7.00	7.00
A(P)1.54	Development of improved varieties of pulses resistant to drought and diseases for dry tracts of south western districts of Punjab ..	—	—	4.00	4.00
A(P)1.55	Development of improved varieties of durum wheat ..	—	—	3.00	3.00
A(P)1.56	Strengthening of research facilities in soil microbiology ..	—	—	6.00	6.00
A(P)1.57	Development of facilities for research and training in soil survey, genesis and classification ..	—	—	6.50	6.50
A(P)1.58	Facilities to study the genesis and amelioration of alkali soils and use of brackish irrigation water ..	—	—	4.50	4.50
A(P)1.59	Surveillance of insect pests and plant diseases ..	—	—	4.00	4.00
A(P)1.60	Development of integrated control programme against fruit flies ..	—	—	3.50	3.50
A(P)1.61	Research on aerial spraying of crops for insect control ..	—	—	3.50	3.50
A(P)1.62	Surveillance of insect pests and plant diseases—Plant Pathology ..	—	—	5.00	5.00
A(P)1.63	Epidemiology and control of Karnal Bunt of wheat ..	—	—	3.00	3.00
A(P)1.64	Maintenance of races of fungal obligate parasites for their use in germplasm screening ..	—	—	2.00	2.00
A(P)1.65	Experimental Fruit Research Stations Gurdaspur, Gangian and Bahadurgarh ..	—	—	10.00	10.00
A(P)1.66	Tissue analysis scheme for determination of nitrogen status of fruit-trees in Punjab ..	—	—	5.00	5.00
A(P)1.67	Research on post-harvest handling of fruits—packing house operation ..	—	—	2.00	2.00
A(P)1.68	Scheme for production of foundation seed of fodders ..	—	—	7.50	7.50
A(P)1.69	Forage conservation and feeding value of silage and hay in milch cattle ..	—	—	2.50	2.50
A(P)1.70	Establishment of Regional Research Sub-stations in Fodder ..	—	—	8.00	8.00
A(P)1.71	Studies in tillage agronomy ..	—	—	3.50	3.50
A(P)1.72	Agronomic research in Agro-Ecological zone ..	—	—	5.00	5.00
A(P)1.73	Intensification of weed control ..	—	—	3.50	3.50
A(P)1.74	Crop association studies under multiple cropping ..	—	—	4.00	4.00
A(P)1.75	Studies in economics of production, management, marketing and processing of livestock and their products ..	—	—	6.00	6.00
A(P)1.76	Sociological analysis of impact of rural development programme ..	—	—	3.00	3.00
A(P)1.77	Study of demand for short, medium and long-term credit needs of the Punjab farmers ..	—	—	4.00	4.00
A(P)1.78	Diffusional studies and synthesis of pesticides/insecticides ..	—	—	2.50	2.50

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
A(P) 1.79	Screening and application of terpenoids as plant growth regulators ..	—	—	2.50	2.50
A(P) 1.80	Study of factors affecting the nature of ligno-cellulose complex in fodders and its influence on the utilisation of fodder by farm animals ..	—	—	5.00	5.00
A(P) 1.81	Study of the membranes of oilseeds in relation to their role in determining the quality and quantity of oil ..	—	—	4.00	4.00
A(P) 1.82	Research and development of mushroom cultivation ..	—	—	8.00	8.00
A(P) 1.83	Study of biology and control of bird pests ..	—	—	3.00	3.00
A(P) 1.84	Study of effect of farm drugs on farm growth and metabolism in plants ..	—	—	2.50	2.50
A(P) 1.85	Research programmes in Botany Department (physiology of seed viability, storability and quality changes as influenced by heavy rains and low/high temperature during crop maturation, harvesting, threshing and storage of wheat gram, massar and raya) ..	—	—	2.50	2.50
A(P) 1.86	Establishment of Regional Research and Multiplication Centre Usmah, district Amritsar ..	—	—	6.00	6.00
A(P) 1.87	Establishment of Regional Research and Seed Multiplication Centre, Rampura Phool ..	—	—	6.00	6.00
A(P) 1.88	Establishment of Vegetable Research Station, Jullundur ..	—	—	3.00	3.00
A(P) 1.89	Scheme for research in post-harvest handling of vegetables ..	—	—	2.00	2.00
A(P) 1.90	Study of effect of selected motivational techniques on the adoption rate of farm technology by farmers ..	—	—	3.00	3.00
A(P) 1.91	Research project for increasing effectiveness of extension workers ..	—	—	5.00	5.00
A(P) 1.92	Establishment of research unit in the Department of Home Management ..	—	—	5.00	5.00
A(P) 1.93	Establishment of research unit in the Department of Home Science Education and Extension ..	—	—	3.00	3.00
A(P) 1.94	Establishment of research unit in the Department of Foods and Nutrition ..	—	—	5.00	5.00
A(P) 1.95	Establishment of research unit in the Department of Child Development ..	—	—	4.00	4.00
A(P) 1.96	Strengthening of research facilities in measurement, control and instrumentation ..	—	—	5.00	5.00
A(P) 1.97	Utilisation of agricultural wastes as a renewable feedstock for the chemical process industry ..	—	—	4.00	4.00
A(P) 1.98	Solar energy at Punjab Agricultural University, Ludhiana ..	—	—	2.00	2.00
A(P) 1.99	Edible oil engineering research ..	—	—	4.00	4.00
A(P) 1.100	Food engineering research ..	—	—	5.00	5.00
A(P) 1.101	Drying, dehydration and preservation of food materials ..	—	—	5.00	5.00

SIXTH FIVE YEAR PLAN 1978-83 ; SCHEMES

HEAD ; AGRICULTURE

(Rs in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
A(P) 1.102	Establishment of Farm Machinery Research and Development Centre ..	—	—	6.50	6.50
A(P) 1.103	Additional facilities for Farm Machinery Testing Centre ..	—	—	5.50	5.50
A(P) 1.104	Development of farm machinery management data ..	—	—	4.00	4.00
A(P) 1.105	Establishment of Regional Centre in Soil and Water Management for south west Punjab ..	—	—	10.00	10.00
A(P) 1.106	Evolving design criteria for efficient and economic execution of land and water management works ..	—	—	5.00	5.00
A(P) 1.107	Field irrigation system design evaluation and improvement ..	—	—	3.00	3.00
A(P) 1.108	Utilisation of farm and industrial wastes with particular emphasis on gobar and fly ash ..	—	—	4.00	4.00
A(P) 1.109	Engineering properties of land resources and construction technology of rural housing ..	—	—	2.00	2.00
A(P) 1.110	Computer Centre ..	—	—	10.00	10.00
A(P) 1.111	Genetic evaluation of grain and fodder quality of pennistems ..	—	—	3.25	3.25
A(P) 1.112	Biochemical genetics of heterosis and related phenomenon for the development of economic traits ..	—	—	3.25	3.25
A(P) 1.113	Establishment of trisomic stocks and linkage groups in pennisetum typhoids ..	—	—	3.25	3.25
A(P) 1.114	Development of male sterility sources with disease resistance back-ground in pearl millet ..	—	—	2.25	2.25
A(P) 1.115	Scheme for developing suitable sampling and estimation procedures for determining total fodder production ..	—	—	3.00	3.00
A(P) 1.116	Application of solid state physics to agriculture (soils, plant and blood metabolism of animals) ..	—	—	2.00	2.00
A(P) 1.117	Establishment of Institute of Post Harvest Technology ..	—	—	8.00	8.00
A(P) 1.118	Construction of field store ..	—	—	17.00	17.00
A(P) 1.119	Strengthening of Regional Research Stations ..	—	—	16.38	16.38
A(P) 1.120	Setting up of research cell in the Department of Business Management ..	—	—	6.00	6.00
Total: Research ..		246.68	83.53	419.38	502.91

2. Agricultural Education, Extension and Farmers Training

A(P) 2.1	Introduction of course of Business Management in Agriculture ..	4.94	1.71	—	1.71
A(P) 2.2	Farm women's training programme—One Year Certificate Course in Home Science and Selected Agriculture Practices ..	4.93	1.75	—	1.75
A(P) 2.3	Expansion and improvement of library services ..	12.75	4.10	—	4.10

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Schemes		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
A(P) 2.4	University administration scheme ..	5.40	2.50	—	2.50
A(P) 2.5	Students welfare activities ..	9.35	3.50	—	3.50
A(P) 2.6	Residences and Campus development ..	25.00	8.55	50.00	58.55
A(P) 2.7	College of Agriculture ..	28.35	9.52	—	9.52
A(P) 2.8	College of Basic Sciences and Humanities ..	17.18	7.00	55.00	62.00
A(P) 2.9	College of Agricultural Engineering-under graduate , post-graduate programmes ..	22.05	6.73	—	6.73
A(P) 2.10	College of Home Science ..	6.05	2.36	18.00	20.36
A(P) 2.11	University Press ..	—	—	2.00	2.00
A(P) 2.12	College of Home Science at Faridkot Kaoni) ..	—	5.00	47.00	52.00
A(P) 2.13	Diversification of education in College of Agriculture ..	—	—	46.08	46.08
A(P) 2.14	Facilities for training of middle level technicians in agriculture ..	—	—	11.59	11.59
A(P) 2.15	Diploma course in crop protection ..	—	—	3.45	3.45
A(P) 2.16	Centre of advanced studies in agricultural engineering ..	—	—	26.00	26.00
A(P) 2.17	Practical training in agricultural engineering ..	—	—	20.00	20.00
A(P) 2.18	Institute of Diploma Course in Home Science—upgrading of 1 year certificate course in Home Science and selected agricultural practices ..	—	—	12.00	12.00
A(P) 2.19	Earn while you learn scheme ..	—	—	4.00	4.00
A(P) 2.20	Introduction of intensive work experience in home management residence laboratories representing various socio-economic groups in rural settings ..	—	—	1.00	1.00
A(P) 2.21	Hostel, sports, cultural activities and other student amenities ..	—	—	20.00	20.00
A(P) 2.22	Introduction of library teaching and strengthening of library services at research stations and library extension service ..	—	—	15.00	15.00
A(P) 2.23	Strengthening of University administration ..	—	—	15.50	15.50
A(P) 2.24	Farm advisory service scheme at district level—Faridkot district ..	—	1.60	6.50	8.10
A(P) 2.25	Facilities for extension /education in crop varieties ..	0.57	0.37	—	0.37
A(P) 2.26	Provision of one extension specialist in home management and three extension specialists in child care, food and nutrition and clothing and textiles ..	1.73	0.88	—	0.88
A(P) 2.27	Communication Centre ..	13.65	2.40	5.50	7.90
A(P) 2.28	Establishment of a centre for in-service training of extension personnel ..	—	—	10.00	10.00
A(P) 2.29	Establishment of training Unit in agricultural engineering ..	—	—	10.00	10.00
A(P) 2.30	Establishment of Extension Centres at Regional Research Stations ..	—	—	15.00	15.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme Title	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5	6
A(P) 2.31	Strengthening of farm advisory services (Plant Pathology, Vegetable)	—	—	10.00	10.00
A(P) 2.32	Establishment of Plant disease clinic at PAU	—	—	1.00	1.00
A(P) 2.33	Establishment of Integrated Home Science [Extension Training Centre	—	—	8.00	8.00
A(P) 2.34	Strengthening of farm management extension wing in the Department of Economics and Sociology	—	—	2.00	2.00
A(P) 2.35	Establishment of extension service in agri-business management	—	—	2.00	2.00
Total; Education and Extension		151.95	57.97	416.62	474.59
Grand Total ;P.A.U.		398.63	141.50	836.00	977.50

AGRICULTURE DEPARTMENT

3. Extension and Farmers Training

A(P) 3.1	Higher training of selected village level workers	} 5.27	1.45	5.50	6.95
A(P) 3.2	Deputation of village level workers				
A(P) 3.3	Agricultural Information Service	9.21	3.25	*1.00	4.25
A(P) 3.4	Foreign -in-service training	3.06	0.60	6.00	6.60
A(P) 3.5	Training of farmers	2.65	1.80	8.00	9.80
A(P) 3.6	Grant-in-aid to Young Farmers Association	0.61	—	—	—
A(P) 3.7	Higher training, and condensed course for in-service ASIs/CIs/GSe	4.62	1.80	7.50	9.30
A(P) 3.8	Setting up of composite training centre in the State	—	—	150.00	150.00
Total		25.42	8.90	178.00	186.90

4. Direction and Administration

A(P) 4.1	Staff [for implementing the plan schemes of agriculture department	33.32	17.00	*1.00	18.00
A(P) 4.2	Re-organisation of agricultural extension/ administration	—	20.00	40.00	[60.00
A(P) 4.3	Strengthening of planning machinery at headquarter level	—	—	2.50	2.50
Total		33.32	37.00	43.50	80.50

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme Title	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5	6
5. Land Reclamation					
A(P) 5.1	Reclamation of alkaline/saline lands including culturable waste land ..	19.43	10.03	49.97	60.00
A(P) 5.2	Soil conditioner and distribution of gypsum on subsidized basis ..	34.95	—	—	—
A(P) 5.3	Amendment of alkali soils (sharing basis) ..	39.13	215.00	1346.00	1561.00
A(P) 5.4	Setting up of Land Reclamation Cell ..	—	11.42	124.58	136.00
	Total ..	93.51	236.45	1520.55	1757.00
6. Multiplication and Distribution of Seeds					
A(P) 6.1	Seed Certification Authority ..	5.56	1.50	—	1.50
A(P) 6.2	Seed production and distribution ..	29.81	22.00	105.00	127.00
A(P) 6.3	Contribution to Land Development and Reclamation Corporation ..	64.41	25.00	35.00	60.00
A(P) 6.4	World Bank Seed Project/establishment of Punjab State Seed Corporation ..	41.18	—	31.00	31.00
A(P) 6.5	Expansion of seed testing laboratory (State's Share) ..	—	1.04	3.06	4.10
	Total ..	140.96	49.54	174.06	223.60
7. Manure and Fertilizers					
A(P) 7.1	Establishment of Soil Testing Laboratories including Mobile Testing Laboratory ..	14.20	13.25	100.00	113.25
A(P) 7.2	Fertilizer, demonstration and training on cultivators fields ..	3.24	1.00	5.00	6.00
A(P) 7.3	Subsidy for the off-time storage of fertilizer for timely availability ..	1243.27	200.00	100.00	300.00
	Total ..	1260.71	214.25	205.00	419.25
8. High Yielding Varieties Programme					
A(P) 8.1	IADP (Ferozepur, Sangrur, Gurdaspur, Faridkot and Amritsar) ..	18.23	6.70	—	6.70
A(P) 8.2	Integrated rural development programme ..	—	110.00	329.00	439.00
	Total ..	18.23	116.70	329.00	445.70

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
9. Plant Protection						
A(P) 9.1	Ground spraying of crops	..	208.38	74.96	550.09	625.05
A(P) 9.2	Loans for aerial spraying of crops	..	505.66	225.00	1020.00	1245.00
A(P) 9.3	Intensification of plant protection work	..	20.29	6.20	40.00	46.20
A(P) 9.4	Control of white grubs disease on bajra and jowar in endemic areas	..	—	1.35	—	1.35
A(P) 9.5	Fertilizers quality control laboratories	..	—	1.00	2.00	3.00
A(P) 9.6	Control of weeds and loose smut	..	17.22	50.00	150.00	200.00
A(P) 9.7	Development of quality control of agricultural inputs— insecticides testing laboratory	..	0.82	6.00	17.90	23.90
A(P) 9.8	Plant protection work at block level	..	—	—	150.00	150.00
A(P) 9.9	Construction of halipads for aerial spray of cotton	..	—	—	100.00	100.00
	Total	..	752.37	364.51	2029.99	2394.50
10. Commercial Crops						
A(P) 10.1	Development of sugarcane around sugar factory areas	..	23.70	15.30	50.00	65.30
A(P) 10.2	Scheme for maximising groundnut production	..	24.22	7.60	30.00	37.60
A(P) 10.3	Scheme for working out index on cost of cultivation of sugarcane	..	0.02	—	—	—
A(P) 10.4	Integrated Cotton Development Project	..	19.52	8.10	5.00	13.10
A(P) 10.5	Intensification of cotton	..	—	5.50	*1.00	6.50
A(P) 10.6	Development of sugarcane in Zira and Gurdaspur area for the Public Sector Sugar Mills	..	—	9.00	25.00	34.00
A(P) 10.7	Implementation of Cotton Ginning and Pressing Factory Act	..	—	0.50	*1.00	1.50
	Total	..	67.46	46.00	112.00	158.00
11. Small Farmers and Agricultural Labourers						
A(P) 11.1	Scheme for small farmers and agricultural labourers	..	234.00	110.00	264.00	374.00
	Total	..	234.00	110.00	264.00	374.00
12. Agricultural Engineering						
A(P) 12.1	Establishment of testing, maintenance and standard certification of agricultural machinery	..	—	—	40.00	40.00
A(P) 12.2	Agro-Industries Corporation	..	32.00	10.00	12.00	22.00
A(P) 12.3	Strengthening of Engineering Section	..	2.15	11.60	*1.00	12.60
	Total	..	34.15	21.60	53.00	74.60

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
13. Agriculture Economics and Statistics					
A(P) 13.1	Co-ordination scheme of sample survey for methodological investigation into HYVP	0.67	0.30	*1.00	1.30
A(P) 13.2	Agricultural census (State's Share)	0.18	—	—	—
A(P) 13.3	Field staff of statistical wing of Agriculture Department	—	—	5.00	5.00
	Total	0.85	0.30	6.00	6.30
14. Warehousing					
A(P) 14.1	Construction and operation of warehouses	40.84	30.00	95.00	125.00
A(P) 14.2	Small size storage facilities at farm level	0.42	2.00	6.00	8.00
	Total	41.26	32.00	101.00	133.00
15. Agricultural Marketing and Quality Control					
A.P. 15.1	Strengthening of marketing section	4.45	1.62	*1.00	2.62
A.P. 15.2	Grading of foodgrains and oil-seeds in regulated markets	8.61	2.78	*1.00	3.78
A.P. 15.3	Development of mandis	894.56	275.00	440.00	715.00
	Total	907.62	279.40	442.00	721.40
16. Horticulture					
A(P) 16.1	Establishment of grape nursery-cum-demonstration centres and strengthening of grape vine cultivation	4.87	2.32	*1.08	3.40
A(P) 16.2	Creation of separate horticulture wing and marketing of fruits	—	8.00	*1.00	9.00
A(P) 16.3	Development of horticulture	26.77	13.38	300.14	313.52
A(P) 16.4	Development of horticulture in Shivalik hills	1.20	4.15	15.00	19.15
A(P) 16.5	Intensification of nursery production in the existing Government gardens and nurseries	2.98	—	—	—
A(P) 16.6	Package programme on citrus including high density planting	—	0.05	0.25	0.30
A(P) 16.7	Demonstration-cum-fruit preservation unit	—	—	10.00	10.00
	Total	35.82	27.90	327.47	355.37

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : AGRICULTURE

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
17. Agricultural Credit						
A(P) 17.1	Support to ordinary and special debentures of L.M.B.	..	272.52	175.50	700.00	875.50
A(P) 17.2	Purchase of debenture of S.C.L.M.B. for the purchase of tractors and agricultural implements	..	260.80	—	200.00	200.00
A(P) 17.3	A.R.C. scheme for the reclamation of saline and alkaline soils	..	7.95	10.00	1200.00	1210.00
A(P) 17.4	Grant of loans for grape cultivation and construction of bowers under A.R.C. scheme, debenture support for horticulture	..	—	5.00	32.00	37.00
A(P) 17.5	Gobar gas plant—debenture support	..	—	5.00	26.00	31.00
A(P) 17.6	Dairy development	..	—	5.00	40.00	45.00
A(P) 17.7	Poultry, piggery, sheep-breeding, cattle feed processing unit, etc.	..	—	—	102.00	102.00
	Total	..	541.27	200.50	2300.00	2500.50
18. Vegetables						
A(P) 18.1	Production and multiplication of seed potato	..	47.07	20.00	100.00	120.00
A(P) 18.2	Crop competition	..	0.31	—	—	—
A(P) 18.3	Pre-harvest forecasting of crops yields	..	0.12	—	—	—
A(P) 18.4	Intensification of vegetable production	..	—	1.45	*1.00	2.45
A(P) 18.5	Development of vegetables in rural areas	..	—	—	8.00	8.00
	Total	..	47.50	21.45	109.00	130.45
19. Employment Promotion Programme						
A(P) 19.1	Setting up of 300-Agro Service Centres—payment of interest subsidy to the entrepreneurs	..	40.00	43.61	100.00	148.86
A(P) 19.2	Seed/margin money assistance to entrepreneurs for setting up of agro service centres (for persons under centrally-sponsored schemes)	..	—	5.25		
	Total	..	40.00	48.86	100.00	148.86
	Total : Agriculture Department	..	4274.45	1815.36	8294.57	10109.93
	Grand Total	..	4673.08	1956.86	9130.57	11087.43

*Token provision provided in case outlay are not treated as committed expenditure.

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD: MINOR IRRIGATION

(Rs. in lakhs)

Number	Scheme	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title				
1	2	3	4	5	6
I. Agriculture Department					
(a) Investigation and Development of Ground Water Resources					
MI(A) 1.1	Strengthening of Boring Section Ground-Water Survey and Investigation	6.81	3.50	14.10	17.60
MI(A) 1.2	Setting up of Ground Water Cell	5.89	2.20	7.00	9.20
MI(A) 1.3	Ground Water Cell (Strengthening of Ground Water and Surface Water Organisation)	—	13.00	30.00	43.00
	Total	12.70	18.70	51.10	69.80
(b) Construction and Deepening of Wells and Tanks					
MI(A) 1.4	Grant of subsidy for sinking/repair of wells	0.35	0.50	0.50	1.00
MI(A) 1.5	Grant of subsidy for sinking/repair of tubewells/pumping sets	2.08	0.80	1.20	2.00
	Total	2.43	1.30	1.70	3.00
	Total : Minor Irrigation—Agriculture Department	15.13	20.00	52.80	72.80
2. Irrigation Department					
MI(I) 2.1	Integrated utilisation of water resources	83.77	25.00	92.00	117.00
MI(I) 2.2	Sinking of tubewells in different blocks	173.94	13.00	23.00	36.00
MI(I) 2.3	Conversion of exploratory bores into production tubewells for irrigation	—	10.00	21.00	31.00
MI(I) 2.4	Lift and flow irrigation schemes	33.68	15.00	68.00	83.00
MI(I) 2.5	Construction of Ghats on canals	36.21	2.00	8.00	10.00
MI(I) 2.6	Sprinkler irrigation schemes	—	5.00	48.00	53.00
MI(I) 2.7	Underground systems for Government tubewells	—	—	48.00	48.00
	Total : Minor Irrigation—Irrigation Department	327.60	70.00	308.00	378.00
3. Punjab State Tubewell Corporation					
MI(I) 3.1	Punjab State Tubewell Corporation	1085.50	444.00	2200.00	2644.00
	Grand Total	1428.23	534.00	2560.80	3094.80

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : SOIL CONSERVATION

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
I. Soil Conservation and Engineering Department					
1. Direction and Administration					
SC(A) 1.1	Strengthening of Soil Conservation Organisation	14.72	7.00	—	7.00
	Total	14.72	7.00	—	7.00
2. Soil Survey and Testing					
SC(A) 2.1	Detailed soil survey for command and problem areas	11.68	6.00	17.00	23.00
SC(A) 2.2	Strengthening of State Soil Survey Organisation	0.03	4.00	19.00	23.00
	Total	11.71	10.00	36.00	46.00
3. Education and Training					
SC(A) 3.1	Training, research and demonstration	3.33	3.00	30.00	33.00
SC(A) 3.2	Conservation irrigation techniques	—	—	42.00	42.00
SC(A) 3.3	Applied research on soil conservation practices and methods	—	—	20.00	20.00
	Total	3.33	3.00	92.00	95.00
4. Soil Conservation Schemes					
SC(A) 4.1	Soil and Water conservation on watershed basis	241.03	100.00	400.00	500.00
SC(A) 4.2	Pilot project on development of kandi area with World Bank assistance	—	—	249.00	249.00
SC(A) 4.3	Soil conservation works in border areas	63.07	24.00	100.00	124.00
SC(A) 4.4	Land development work in command areas	178.00	90.00	645.00	735.00
SC(A) 4.5	Soil conservation works in central districts on IRD pattern	51.64	126.00	290.00	416.00
SC(A) 4.6	Development of bet area	—	—	40.00	40.00
SC(A) 4.7	Scheme for ravine reclamation	—	—	40.00	40.00
SC(A) 4.8	Setting up of Soil Conservation Corporation	—	—	4.00	4.00
	Total	533.74	340.00	1768.00	2108.00
Total : Soil Conservation and Engineering Department		563.50	360.00	1896.00	2256.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : SOIL CONSERVATION

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actual)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
II. Forest Department-Soil Conservation Scheme					
SC(F) 1	Soil and water conservation on watershed basis	22.50	10.00	40.00	50.00
	Total	22.50	10.00	40.00	50.00
III. Irrigation Department-Soil Conservation Scheme					
SC(I) 1	Reclamation of rakkar and thur areas	17.89	5.00	—	5.00
	Total	17.89	5.00	—	5.00
	Grand Total	603.89	375.00	1936.00	2311.00

SIXTH-FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : FOOD

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
Food					
FD-1	Acquisition of land for open storage/complexes	.. 30.10	*	13.36	13.36
FD-2	Construction of storage godowns	.. 0.61	*	6.00	6.00
	Total	.. 30.71	—	19.36	19.36

*A provision of Rs. 19.90 lakhs has been made during the course of the year ; Rs. 9.90 lakhs for construction of godowns/repairs and Rs. 10.00 lakhs for open Storage/complexes.

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : ANIMAL HUSBANDRY

(Rs. in lakhs)

Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
Number	Title				
1	2	3	4	5	6
1. Direction and Administration					
AH 1.1	Directorate of Animal Husbandry—creation of Planning Cell	0.46	0.60	3.00	3.60
AH 1.2	Directorate of Animal Husbandry—creation of information and Publicity Cell	—	0.50	5.00	5.50
AH 1.3	Intensive Cattle Development Projects—Strengthening of offices of District Animal Husbandry Officers and Project Officers	—	—	5.00	5.00
AH 1.4	Directorate of Animal Husbandry—Project for Institutional Finance	—	—	2.00	2.00
AH 1.5	Establishment of Animal Husbandry & Dairy Development Board	—	—	10.00	10.00
	Total	0.46	1.10	25.00	26.10
2. Veterinary Services & Animal Health					
AH 2.1	State Livestock Sanitary Laboratory	2.82	—	—	—
AH 2.2	Opening of new Veterinary Dispensaries	69.33	23.40	—	23.40
AH 2.3	Strengthening and upgrading of existing Veterinary Dispensaries	39.75	13.10	—	13.10
AH 2.4	Establishment of Mobile Veterinary Units	26.09	9.00	—	9.00
AH 2.5	Punjab Veterinary Vaccine Institute, Ludhiana	9.44	4.00	10.00	14.00
AH 2.6	Prophylactic vaccination against Foot & Mouth Disease	10.98	1.00	—	1.00
AH 2.7	Expansion of State Livestock Sanitary Lab.	1.19	0.40	—	0.40
AH 2.8	Expansion of State Veterinary Medical Store	2.74	3.00	5.00	8.00
AH 2.9	Modernization of slaughter houses	4.00	—	—	—
AH 2.10	All India Coordination Research Project for Epidemiological Studies on Foot & Mouth	0.29	0.10	—	0.10
AH 2.11	Foot & Mouth Disease Control Programme—vaccination of cattle & buffaloes in selected areas	1.48	2.50	15.00	17.50
AH 2.12	Setting up of 3 Polyclinics	—	—	20.00	20.00
AH 2.13	Setting up of a State Veterinary Council (State's share)	—	—	0.50	0.50
AH 2.14	Setting up of Punjab Meat Processing & Marketing Corporation	—	—	10.00	10.00
	Total	168.11	56.50	60.50	117.00
3. Veterinary Education & Research					
AH 3.1	Grant-in-aid to Punjab Agricultural University, Ludhiana	115.23	40.00	200.00	240.00
	Total	115.23	40.00	200.00	240.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : ANIMAL HUSBANDRY

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
4. Investigation and Statistics					
AH 4.1	Integrated survey in livestock (State's share)	1.92	0.80	4.50	5.30
AH 4.2	Creation of Statistical Units at the existing Cattle Breeding Farms	0.45	0.25	—	0.25
AH 4.3	Pilot studies for estimation of death and birth rates in bovines	0.04	—	—	—
AH 4.4	Estimation of structure and indices of cost of production of livestock production (State's share)	—	—	2.25	2.25
AH 4.5	Estimation of production, assessment of livestock and development programme of cultivated fodder (State's share)	—	—	2.25	2.25
	Total	2.41	1.05	9.00	10.05
5. Cattle Development					
AH 5.1	Jersey Cattle Breeding Farm, Ropar	3.98	0.50	—	0.50
AH 5.2	Holstein Friesian Cattle Breeding Farm, Mattewara	10.91	—	—	—
AH 5.3	ICDP scheme for Semen Banks, Ropar /Kapurthala and Fodder Bank, Mattewara	4.46	0.25	—	0.25
AH 5.4	Indo-Swiss Project, Patiala	3.40	—	—	—
AH 5.5	Indo-Swiss Project (2nd Phase), Patiala	83.05	36.00	—	36.00
AH 5.6	Establishment of Semen Bank, Ropar/Kapurthala	7.97	17.00	9.60	26.60
AH 5.7	Intensive cross-breeding of indigenous cattle with imported frozen semen —Frozen Semen Station, Amritsar	6.52	1.00	—	1.00
AH 5.8	Training of farmers in rearing, feeding, breeding and management of exotic/cross-bred cattle	5.29	1.50	5.00	6.50
AH 5.9	Establishment of Intensive Cattle Development Projects	3.78	3.00	—	3.00
AH 5.10	Assistance to Small/Marginal Farmers and Agricultural Labourers for rearing of cross-bred heifers (State's share)	12.33	10.50	90.50	101.00
AH 5.11	Rounding up of wild and stray cattle	0.25	0.75	—	0.75
AH 5.12	Setting up of a Sahiwal Cattle Breeding Farm for production of cross-bred bulls	—	3.12	16.50	19.62
AH 5.13	Government Holstein Friesian Cattle Breeding Farm, Mattewara (expansion)	4.42	3.50	5.00	8.50
AH 5.14	Frozen Semen Station, Amritsar (expansion)	—	15.50	7.60	23.10
AH 5.15	Setting up of Bull Station-cum-Semen Banks and L. N. Plants	—	—	30.00	30.00
AH 5.16	Opening of 200 Livestock Welfare Centres	—	—	100.00	100.00
AH 5.17	Setting up of Small Cattle Breeding Units of 10 cows	—	—	18.50	18.50
AH 5.18	Financial support for the development of Gaushalas in the State	—	—	5.00	5.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : ANIMAL HUSBANDRY

(Rs in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
AH 5.19	Kule Majra Co-operative Farm ..	—	—	44.50	44.50
AH 5.20	Training of farmers in artificial insemination technique ..	—	—	7.50	7.50
	Total ..	146.36	92.62	339.70	432.32
6. Poultry Development					
AH 6.1	Intensive Egg and Poultry Production-cum-Marketing Centre, Kot Kapura ..	2.21	—	—	—
AH 6.2	Additional production of day old pullets at State poultry farms ..	3.15	1.50	10.00	11.50
AH 6.3	Strengthening of poultry extension services ..	—	—	10.00	10.00
AH 6.4	Establishment of Poultry Estates in selected localities for providing employment to educated unemployed ..	—	—	15.00	15.00
AH 6.5	Grant-in-aid to Punjab Poultry Corporation (for the marketing of eggs, egg tray project, expansion of feed compounding activities, storage of eggs and risk Insurance charges) ..	—	—	35.00	35.00
AH 6.6	Purchase of special development debentures for poultry Programme ..	—	—	25.00	25.00
	Total ..	5.36	1.50	95.00	96.50
7. Sheep and Wool Development					
AH 7.1	Sheep Breeding Farm, Dhar ..	1.07	—	—	—
AH 7.2	Expansion and strengthening of Wool Grading-cum-Marketing Centre, Ludhiana ..	2.17	0.30	—	0.30
AH 7.3	Sheep Breeding Farm, Dhar (expansion) ..	3.94	0.70	—	0.70
AH 7.4	Strengthening of Intensive Sheep and Wool Development Centres ..	6.24	0.70	—	0.70
AH 7.5	Setting up of a Sheep and Wool Development Corporation ..	—	0.90	15.00	15.90
AH 7.6	Supply of exotic/cross-bred rams to the bonafide sheep breeders ..	—	—	3.00	3.00
AH 7.7	Supply of shearing and spraying equipment at the Sheep and Wool Extension Centres ..	—	—	14.00	14.00
	Total ..	13.42	2.60	32.00	34.60
8. Piggery Development					
AH 8.1	Expansion of Pig Breeding Farms/Units ..	3.21	1.10	10.00	11.10
AH 8.2	Establishment of new Pig Breeding Farm ..	5.99	5.30	6.80	12.10
AH 8.3	Strengthening and expansion of pig marketing facilities ..	—	—	1.00	1.00
AH 8.4	Aid to Punjab Poultry Corporation for transport of pigs (State's share) ..	—	—	0.50	0.50
	Total ..	9.20	6.40	18.30	24.70
9. Other Livestock Development					
AH 9.1	Evaluation of performance of buffalo bulls in field conditions ..	—	—	12.50	12.50
AH 9.2	Rearing of buffalo calves ..	0.51	—	6.00	6.00
AH 9.3	Integrated buffalo breeding and sire evaluation programme ..	—	2.80	—	2.80

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : ANIMAL HUSBANDRY

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
AH 9-4	Conservation of high yielding buffaloes—maintenance of herd books of Murrah and Nili buffaloes	—	—	20.00	20.00
AH 9-5	Kandi Water Shed and Area Development Project	—	—	227.20	227.20
AH 9-6	Setting up of Polytechnics for Animal Husbandry and Agricultural Training	—	—	10.00	10.00
AH 9-7	Integrated rural development programme	15.20	89.43	282.50	371.93
AH 9-8	Training for self employment—training in poultry, piggery and dairying	0.65	0.76	—	0.76
AH 9-9	Training to Matriculates as Pashu Rakshaks, margin money and assistance to trained persons for the purchase of veterinary kits	7.12	4.30	—	4.30
	Total	23.48	97.29	558.20	655.49
10. Feed and Fodder Development					
AH 10-1	Establishment of Forage Planting Material Production Farm, Mattewara	8.36	2.00	—	2.00
AH 10-2	Intensification of existing Forage Planting Material Production Farm	0.28	1.50	9.74	11.24
AH 10-3	Fodder seed production through registered growers	0.67	1.50	—	1.50
AH 10-4	Creation of Cell for Feed and Fodder at State level	—	1.00	1.00	2.00
AH 10-5	Production and distribution of fodder seeds	—	5.00	—	5.00
AH 10-6	Development of feed and fodder resources	—	2.00	—	2.00
AH 10-7	Production and popularisation of newly evolved fodder varieties	—	—	45.08	45.08
	Total	9.31	13.00	55.82	68.82
	Grand Total	493.34	312.06	1393.52	1705.58

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : DAIRYING AND MILK SUPPLY

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
		Title				
1		2	3	4	5	6
1. Direction and Administration						
DM 1.1		Strengthening of head quarters staff ..	2.81	1.25	5.00	6.25
		Total ..	2.81	1.25	5.00	6.25
2. Dairy Development						
DM 2.1		Cattle Feed Factories ..	—	15.00	380.00	395.00
DM 2.2		Dairy Extension Units for intensification of milk production ..	18.46	11.34	55.00	66.34
DM 2.3		Punjab Dairy Development Corporation ..	67.45	2.00	20.00	22.00
DM 2.4		Operation Flood Phase II ..	—	—	15.00	15.00
DM 2.5		Special employment programme—introduction of scientific and commercial milk production ..	1.32	29.12	102.10	131.22
		Total ..	87.23	57.46	572.10	629.56
3. Education and Training						
DM 3.1		Training of technical personnel | ..	0.81	0.73	4.27	5.00
		Total ..	0.81	0.73	4.27	5.00
4. Milk Supply Scheme						
DM 4.1		Establishment of rural distribution centres ..	7.53	—	20.00	20.00
DM 4.2		Establishment of Composite Milk Plant, Gurdaspur ..	5.61	—	—	—
DM 4.3		Establishment of Composite Milk Plant, Mohali ..	30.00	—	—	—
DM 4.4		Establishment of Milk Chilling-cum-Demonstration Centres in border, sub-montane, bet and other backward areas ..	34.54	37.40	90.00	127.40
DM 4.5		Milk Plant, Ludhiana—completion ..	2.38	—	—	—
DM 4.6		Milk Plant, Bhatinda—completion ..	5.01	—	—	—
		Total ..	85.07	37.40	110.00	147.40
5. Other Expenditure						
DM 5.1		Assistance to Dairy Cooperatives ..	20.16	5.28	16.00	21.28
DM 5.2		Supply of subsidized milk to weaker section ..	15.00	5.00	20.00	25.00
DM 5.3		Integrated rural development programme ..	—	—	73.00	73.00
DM 5.4		Subsidy for Milk Chilling -cum-Demonstration Centres in border, sub-montane, bet and backward areas ..	—	—	32.00	32.00
		Total ..	35.16	10.28	141.00	151.28
		Grand Total ..	211.08	107.12	832.37	939.49

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : FISHERIES

(Rs in lakhs)

Number	Scheme	1974-78 (Actuals)	1978-79 (Outlay)]	1979-83 (Provision)	1978-83 (Provision)
	Title				
1	2	3	4	5	6
1. Direction and Administration					
FH 1·1	Strengthening of staff at headquarters and in sub-offices	—	—	14·00	14·00
	Total	—	—	14·00	14·00
2. Fish Farms					
FH 2·1	Completion of Fish Seed Nurseries/Farms and construction of Fish Seed Farms in the remaining districts	43·82	6·14	86·00	92·14
FH 2·2	Fish seed collection from bundhs and natural sources	—	—	10·00	10·00
FH 2·3	Establishment of Aquarium-cum-Museum	0·90	1·00	25·00	26·00
FH 2·4	Fish culture in Shah Nahar Reservoir	1·86	5·00	8·00	13·00
	Total	46·58	12·14	129·00	141·14
3. Research, Education and Training					
FH 3·1	Establishment of Hydrobiological Research Station, Cage Culture & Mobile Fisheries Field Laboratory	1·62	0·26	9·50	9·76
FH 3·2	Fisheries information, extension & training	4·37	3·40	10·60	14·00
FH 3·3	Creation of conservation division for riverine fisheries and head works	3·31	1·20	—	1·20
	Total	9·30	4·86	20·10	24·96
4. Others					
FH 4·1	Development of fisheries in Kandi Area, Water Shed and Area Development Project (World Bank Assisted)	—	—	31·50	31·50
FH 4·2	Promotion of intensive fish culture by providing assistance to private/cooperative sectors (IRDP)	0·71	5·00	56·33	61·33
FH 4·3	Exploitation and marketing of fish from stocked ponds	—	—	7·75	7·75
FH 4·4	Creation of Economic and Statistical Wing in the Fisheries Department	—	1·00	9·00	10·00
FH 4·5	Survey of fisheries potential in the State	—	1·00	6·00	7·00
FH 4·6	Opening of fish snack counters	3·14	—	—	—
FH 4·7	Punjab Fisheries Development Corporation	—	7·00	—	7·00
FH 4·8	Demonstration of fish culture	—	2·00	—	2·00
	Total	3·85	16·00	110·58	126·58
	Grand Total	59·73	33·00	273·68	306·68

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : FORESTS

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
1. Forest Research					
FT 1.1	Forest Research	3.10	1.10	4.90	6.00
	Total	3.10	1.10	4.90	6.00
2. Education and Training					
FT 2.1	Training of staff	1.95	0.90	4.10	5.00
	Total	1.95	0.90	4.10	5.00
3. Forest Conservation and Development					
FT 3.1	Development of grass land and pastures	0.17	—	5.00	5.00
FT 3.2	Development of forests on private lands	3.77	1.00	20.00	21.00
FT 3.3	Planting along link roads on private lands	—	—	16.00	16.00
	Total	3.94	1.00	41.00	42.00
4. Plantation Schemes					
FT 4.1	Plantation of Sissoo, Babul, Eucalyptus, Chil, Poplar etc.	218.26	65.00	220.00	285.00
FT 4.2	Pilot project of mixed plantations on waste lands/Panchayat lands	3.00	3.00	30.00	33.00
FT 4.3	Development of Social Forestry-Reforestation of degraded forests	12.68	8.70	40.00	48.70
	Total	233.94	76.70	290.00	366.70
5. Farm Forestry					
FT 5.1	Farm Forestry	74.21	22.00	150.00	172.00
	Total	74.21	22.00	150.00	172.00
6. Communication and Buildings					
FT 6.1	Construction of buildings	4.32	5.00	20.00	25.00
	Total	4.32	5.00	20.00	25.00
7. Preservation of Wild Life					
FT 7.1	Preservation of Wild Life	8.14	6.00	32.00	38.00
FT 7.2	Establishment of Zoological Park	147.14	40.00	172.00	212.00
	Total	155.28	46.00	204.00	250.00
8. Other Expenditure					
FT 8.1	Share capital contribution to Forest Corporation	—	1.00	75.00	76.00
FT 8.2	Environmental forestry	—	1.00	12.00	13.00
FT 8.3	Kandi Water Shed Area Development Project	—	—	300.00	300.00
FT 8.4	Acquisition of land in Shiwaliks	—	—	250.00	250.00
FT 8.5	Demarcation of forests	—	—	12.00	12.00
	Total	—	2.00	649.00	651.00
9. Survey of Forest Resources					
FT 9.1	Establishment of Planning and Statistical Cell	—	0.30	1.00	1.30
	Total	—	0.30	1.00	1.30
	Grand Total	476.74	155.00	1364.00	1519.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES
HEAD : COMMUNITY DEVELOPMENT AND PANCHAYATS

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)	
	Title						
1	2		3	4	5	6	
CD 1	Grant-in-aid to Panchayat Samitis for employment of Panchayat Secretaries recruited under 'Half-a-Million Jobs Programme'	..	123.15	41.00	—	41.00	
CD 2	Strengthening of headquarters staff	..	0.80	1.00	—	1.00	
CD 3	Training of panches and sarpanches	..	8.10	3.00	—	3.00	
CD 4	Financial assistance to Panchayats, Panchayat Samitis and Zila Parishads for expenditure on revenue earning schemes	..	73.59	63.00	226.00	289.00	
CD 5	Study tours of non-officials	..	0.52	0.20	1.00	1.20	
CD 6	Incentive grants to Panchayats for stepping up tax efforts	..	7.63	—	—	—	
CD 7	Disposal of sullage water and sanitation	..	23.35	8.00	—*	8.00	
CD 8	Composite programme for women and pre-school children-strengthening of craft centres	..	2.57	4.80	15.76	20.56	
CD 9	Pavement of streets and construction of drains	..	161.74	40.00	500.00	540.00	
CD 10	Assistance to Panchayats for expenditure on Panchayat works	..	24.00	11.00	60.00	71.00	
CD 11	Development of Model Villages	..	30.87	10.00	20.00	30.00	
CD 12	Staff for imlementation of Integrated Rural Development Programme	..	0.60	8.00	—	8.00	
CD 13	Underground water sewerage	..	—	—	15.00	15.00	
Grand Total			..	456.92	190.00	837.76	1027.76

*Provision for 1979-83 included in scheme No. CD 9

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : COOPERATION

(Rs. in lakhs)

Number	Scheme	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title				
1	2	3	4	5	6
1. Direction and Administration					
CN 1.1	Additional departmental staff ..	8.02	27.00	88.00	115.00
	Total ..	8.02	27.00	88.00	115.00
2. Credit Cooperatives					
CN 2.1	Assistance to Cooperative Banks for technical cell ..	2.55	—	—	—
CN 2.2	Assistance to Central Cooperative Banks for opening new branches ..	6.85	4.80	30.56	35.36
CN 2.3	Assistance to Central Cooperative Banks in border areas for Special Stabilisation Fund ..	21.60	—	—	—
CN 2.4	Assistance to Primary Cooperative Land Mortgage Banks as managerial subsidy ..	0.66	—	—	—
CN 2.5	Assistance to Primary Cooperative Land Mortgage Banks for construction of office buildings ..	6.00	—	—	—
CN 2.6	Assistance to Cooperative Primary Agricultural Service Societies for construction of godowns ..	30.86	13.20	316.47	329.67
CN 2.7	Share capital contribution to : ..	(134.46)	(170.00)	(450.00)	(620.00)
	(i) Punjab State Cooperative Land Mortgage Bank ..	2.00	1.00	} 100.00	} 140.00
	(ii) Central Cooperative Banks ..	41.50	15.00		
	(iii) Urban Cooperative Banks ..	—	—		
	(iv) Punjab State Cooperative Bank ..	5.00	1.00		
	(v) Primary Cooperative Land Mortgage Banks ..	28.05	23.00		
	(vi) Primary Agri. Service Societies ..	57.91	130.00			350.00	480.00
CN 2.8	Reorganisation and revitalisation of Central Cooperative Banks ..	119.67	1.00	150.00	151.00
CN 2.9	Assistance to reorganised Primary Agricultural Service Societies as managerial subsidy ..	—	65.20	177.90	243.10
CN 2.10	Subsidy for building premises of new branches of Central Cooperative Banks at focal points under IRDP ..	—	—	53.20	53.20
	Total ..	322.65	254.20	1178.13	1432.33
3. Housing Cooperatives					
CN 3.1	Share capital contribution to Housing Societies/ Housing Federation as margin money ..	59.00	—	—	—
CN 3.2	Assistance to Housing Societies/Federation as managerial subsidy ..	3.25	—	2.15	2.15
CN 3.3	Subsidy to Housefed for differential rate of interest ..	6.14	—	—	—
	Total ..	68.39	—	2.15	2.15
4. Labour Cooperatives					
CN 4.1	Assistance for technical cell in district Cooperative Labour Unions and State level federation ..	0.83	0.50	—	0.50
	Total ..	0.83	0.50	—	0.50

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES
HEAD : COOPERATION

(Rs. in lakhs)

Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
Number	Title				
1	2	3	4	5	6
5. Farming Cooperatives					
CN 5.1	Assistance to Cooperative Farming Societies ..	0.36	—	—	—
CN 5.2	Assistance to Cooperative Tubewell Irrigation Societies ..	1.00	—	—	—
	Total ..	1.36	—	—	—
6. Ware-housing and Marketing					
CN 6.1	Assistance to new marketing societies as managerial subsidy ..	1.01	—	—	—
CN 6.2	Share capital contribution to Cooperative Marketing Societies ..	19.58	1.00	25.00	26.00
CN 6.3	Assistance to Cooperative Marketing Societies for setting up grading units ..	1.35	—	—	—
CN 6.4	Assistance to Co-operative Marketing Societies for construction of godowns ..	4.00	—	—	—
CN 6.5	Assistance for development of export of vegetables, fruits and other products by Markfed :	(—)	(—)	(24.00)	(24.00)
	(i) Share capital as margin money ..	—	—	8.00	8.00
	(ii) Cold Storages				
	(a) Loan ..	—	—	12.00	12.00
	(b) Share capital ..	—	—	3.00	3.00
	(iii) Subsidy for technical and marketing cell ..	—	—	1.00	1.00
	Total ..	25.94	1.00	49.00	50.00
7. Processing Cooperatives					
CN 7.1	Assistance to agriculture processing units (other than Sugar Mills) ..	188.06	5.00	55.75	60.75
	Total ..	188.06	5.00	55.75	60.75
8. Dairy Cooperatives					
CN 8.1	Share capital contribution to Primary Cooperative Milk Societies, Unions and Milk Federation ..	68.85	8.50	58.00	66.50
CN 8.2	Managerial subsidy to Primary Co-operative Milk Societies and Unions ..	37.41	—	—	—
CN 8.3	Assistance to Federation of Milk Unions for technical cell ..	2.42	2.00	4.00	6.00
CN 8.4	Subsidy to Milk Unions for :	(—)	(48.60)	(83.00)	(131.60)
	(i) Managerial cost ..	—	6.00	14.00	20.00
	(ii) Purchase of chemicals for testing milk ..	—	3.00	13.00	16.00
	(iii) Transport charges ..	—	3.00	16.00	19.00
	(iv) Purchase of diesel jeeps ..	—	3.60	6.00	9.60
	(v) Farmers Induction Programme (Study tours) ..	—	3.00	—	3.00
	(vi) Extension Programme-audio visual aids ..	—	6.00	10.00	16.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES
HEAD : COOPERATION

(Rs. in lakhs)

Number	Scheme Title	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5	6
	(vii) Procurement and inputs wing	—	12.00	12.00	24.00
	(viii) Spearhead team expenses	—	12.00	12.00	24.00
CN 8.5	Assistance to Milk Producers' Societies for :	(—)	(52.90)	(89.00)	(141.90)
	(i) Managerial cost	—	18.80	53.00	71.80
	(ii) Milk testing equipment	—	17.05	18.00	35.05
	(iii) First aid and artificial insemination boxes and cattle crates	—	17.05	18.00	35.05
CN 8.6	Subsidy to Milk Federation for training of audit/inspection staff	—	0.55	2.00	2.55
CN 8.7	Share capital contribution to Milk Unions/Federation for setting up dairy processing and allied units	—	—	58.00	58.00
	Total	108.68	112.55	294.00	406.55
9. Co-operative Sugar Mills					
CN 9.1	Share capital contribution for installation of new Co-operative Sugar Mills	—	10.00	220.00	230.00
CN 9.2	Share capital contribution for expansion of existing Co-operative Sugar Mills	—	—	110.00	110.00
CN 9.3	Share capital contribution for setting up of Cooperative Khandasari Units	—	—	18.00	18.00
CN 9.4	Subsidy for technical cell with Sugar Mills Federation	—	—	6.00	6.00
	Total	—	10.00	354.00	364.00
10. Industrial Cooperatives					
CN 10.1	Participation in the share capital of Industrial Co-operatives including federation/unions and projects in co-operative sector and ICB's	9.00	0.50	40.00	49.50
CN 10.2	Subsidy to CCB's/SBI for advancing loans to Industrial Co-operatives at 2½% rate of interest	2.00	1.50	5.00	6.50
CN 10.3	Assistance to Handloom Weavers Co-operatives-interest concession	0.25	0.50	4.00	4.50
CN 10.4	Assistance to Handloom Weavers Co-operatives for rebate on cloth sale	1.00	1.00	5.00	6.00
CN 10.5	Development of handloom industry—supply of improved appliances	4.00	2.00	4.00	6.00
CN 10.6	Share capital contribution to Punjab Handloom Weavers Apex Co-operative Society	5.00	2.50	5.00	7.50
CN 10.7	Managerial subsidy to the Punjab Handloom Weavers Apex Co-operative Society	0.50	0.50	2.00	2.50
CN 10.8	Contribution to share capital of Primary Model Handloom Weaver's Co-operative Societies	12.50	5.00	4.00	9.00
CN 10.9	Managerial subsidy to Model Handloom Weavers' Co-operative Societies	1.90	1.50	—	1.50
CN 10.10	Subsidy to Model Handloom Weavers' Co-operative Societies for construction of sheds	6.25	2.50	—	2.50
CN 10.11	Managerial subsidy to Industrial Co-operatives including Handloom Weavers' Co-operatives	—	3.75	15.00	18.75
CN 10.12	Subsidy to Industrial Co-operatives for employing craft teachers	—	—	5.00	5.00
	Total	42.40	30.25	89.00	119.25

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : COOPERATION

(Rs in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
		Title				
1		2	3	4	5	6
11. Consumers Co-operatives						
CN 11.1	Assistance to Co-operative Consumer Stores as working capital	..	8.24	—	—	—
CN 11.2	Contribution to share capital of Central Consumers Stores	..	15.20	—	16.00	16.00
CN 11.3	Share capital contribution to Primary Co-operative Stores	..	0.72	—	4.00	4.00
CN 11.4	Share capital contribution to State Co-operative Consumer Federation	..	20.81	4.00	10.00	14.00
CN 11.5	Loan assistance for construction of regional godowns of Consumer Federation	..	6.12	—	—	—
CN 11.6	Subsidy to Primary Co-operative Agriculture Service Societies for employment of Secretaries-cum-Salesmen in rural areas	..	16.50	—	—	—
CN 11.7	Assistance for construction of godowns for rural distribution programme	..	1.76	—	—	—
CN 11.8	Assistance to nucleus Co-operative Agricultural Service Societies for marketing, procurement and supply shops	..	5.00	—	—	—
CN 11.9	Subsidy to State Cooperative Consumer Federation for business and financial management cell	..	—	—	2.00	2.00
CN 11.10	Subsidy for rehabilitation of weak Central Stores/Federation	..	—	—	34.00	34.00
	Total	..	74.35	4.00	66.00	70.00
12. Education						
CN 12.1	Member education and leadership training of non-officials through Punjab Cooperative Union	..	10.25	2.50	5.00	7.50
	Total	..	10.25	2.50	5.00	7.50
13. Research and Training						
CN 13.1	Training of cooperative subordinate personnel	..	2.74	2.00	4.00	6.00
CN 13.2	Study tours	..	0.12	—	2.00	2.00
CN 13.3	Subsidy for research and case studies through Punjab Cooperative Union	..	—	—	2.00	2.00
	Total	..	2.86	2.00	8.00	10.00
14. Information and Publicity						
CN 14.1	Publicity through Punjab Cooperative Union	..	3.60	1.00	4.00	5.00
	Total	..	3.60	1.00	4.00	5.00
15. Other Cooperatives						
CN 15.1	Assistance to cooperatives for manufacture of inputs for supply to farmers	..	10.38	—	—	—
CN 15.2	Share capital contribution to Cooperative Cold Storage in sub-montane and border areas	..	10.00	—	—	—
CN 15.3	Assistance to Cooperative Poultry Marketing Societies	..	1.36	—	—	—
	Total	..	21.74	—	—	—
	Total : Cooperative Deptt.	..	879.13	450.00	2193.03	2643.03
16. Cooperative Audit						
CN 16.1	Staff for audit of Credit Cooperatives	..	—	—	77.30	77.30
CN 16.2	Staff for audit of societies other than Credit Cooperatives	..	—	—	17.70	17.70
CN 16.3	Training and education of Audit staff	..	—	—	0.60	0.60
CN 16.4	Direction and administration of Cooperative Audit	..	—	—	18.40	18.40
	Total : Audit	..	—	—	114.00	114.00
	Grand Total	..	879.13	450.00	2307.03	2757.03

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : IRRIGATION

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
I. Multipurpose Projects						
MP 1.1	Beas Project Unit-I	..	521.85	51.00	68.00	119.00
MP 1.2	Beas Project Unit-I (Extension)	..	—	10.00	88.00	98.00
MP 1.3	Beas Project Unit-II	..	1109.57	120.00	185.00	305.00
MP 1.4	Beas Project Unit -II (Extension)	..	—	50.00	488.00	538.00
MP 1.5	Thein Dam	..	569.61	600.00	9195.00	9795.00
MP 1.6	Diversion Weir of Shahnehar Canal	..	1234.38	550.00	335.00	885.00
MP 1.7	Dholbaha Dam	..	24.73	50.00	320.00	370.00
MP 1.8	Shahpur Kandi Project	..	0.50	1.00	500.00	501.00
MP 1.9	Low Dams in Kandi area	..	—	—	500.00	500.00
	Total	..	3460.64	1432.00	11679.00	13111.00
2. Major and Medium Irrigation Schemes						
IR 2.1	Extension of non-perennial irrigation to areas in UBDC tract	..	205.96	20.00	94.00	114.00
IR 2.2	Utilisation of surplus Ravi Beas waters	..	166.45	20.00	246.00	266.00
IR 2.3	Extension and Improvement of Shahnehar Canal	..	168.52	150.00	400.00	550.00
IR 2.4	Lining of Channels	..	875.95	950.00	9600.00	10550.00
IR 2.5	Construction of New Distributories, Minors and Bridges	..	—	80.00	330.28	410.28
IR 2.6	Sirhind Feeder Lift Scheme	..	—	5.00	—	5.00
IR 2.7	Modernisation of existing canals	..	—	—	50.00	50.00
IR 2.8	Improvement of channels in Banur canal system	..	3.60	—	—	—
IR 2.9	Garhshankar Lift Irrigation scheme	..	0.50	—	—	—
	Total	..	1420.98	1225.00	10720.28	11945.28
3. Water Development						
WD 3.1	Investigation of schemes	..	68.79	46.00	180.00	226.00
WD 3.2	Research	..	6.16	4.00	20.00	24.00
	Total	..	74.95	50.00	200.00	250.00
	Grand Total	..	4956.57	2707.00	22599.28	25306.28

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES
HEAD : ANTI-WATER LOGGING, DRAINAGE AND FLOOD CONTROL

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
Anti-water logging, Drainage and Flood Control			1893.80	950.00	3960.00	4910.00

SIXTH FIVE YEAR PLAN 1978-83 ; SCHEMES

HEAD : POWER

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
1. Generation					
(a) Multipurpose Projects					
MP 1.1	Beas Project Unit-I	8143.01	740.00	1015.00	1755.00
MP 1.2	Beas Project Unit-I(Extension)	34.74	145.00	1298.00	1443.00
MP 1.3	Beas Project Unit-II	334.59	37.00	57.00	94.00
MP 1.4	Beas Project Unit-II (Extension)	6.26	16.00	149.00	165.00
MP 1.5	Thein Dam	—	400.00	100.00	500.00
MP 1.6	Shahpur Kandi Project	0.31	1.00	5.00	6.00
Total(a)		8518.91	1339.00	2624.00	3963.00
(b) Power Projects					
PP 1.1	Shanan Renovation Project	289.69	206.00	196.00	402.00
PP 1.2	Shanan Extension Project	916.46	398.00	196.00	594.00
PP 1.3	Guru Nanak Dev Thermal Plant, Bhatinda Units I and II	516.26	—	—	—
PP 1.4	Guru Nanak Dev Thermal Plant Extension, Bhatinda Units III & IV	4732.21	670.00	700.00	1370.00
PP 1.5	Anandpur Sahib Hydel Project	1789.35	1600.00	5210.00	6810.00
PP 1.6	Mukerian Hydel Project	330.54	200.00	6482.00	6682.00
PP 1.7	UBDC Project Stage-I	(-) 81.72	—	65.00	65.00
PP 1.8	Participation in Hydro Projects of H.P. & J&K	1.12	4.00	16.00	20.00
PP 1.9	Guru Nanak Dev Thermal Plant Extension Stage-II Units V & VI	0.07	15.00	6985.00	7000.00
PP 1.10	Ropar Thermal Project	0.51	200.00	4515.00	4715.00
PP 1.11	Bhakra Right and Left Bank Projects	16.96	—	—	—
Total(b)		8511.45	3293.00	24365.00	27658.00
Total		17030.36	4632.00	26989.00	31621.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : POWER

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
2. Transmission					
PP 2.1	Beas Transmission				
	(i) B.C.B.	807.65	170.00	68.00	238.00
	(ii) P.S.E.B.	2661.59	392.00	550.00	942.00
PP 2.2	UBDC Project	369.37	43.00	20.00	63.00
PP 2.3	Bhakra Right Bank				
	(i) B.M.B.	39.56	—	—	—
	(ii) P.S.E.B.	63.92	14.00	—	14.00
PP 2.4	Bhakra Left Bank				
	(i) B.M.B.	0.98	—	—	—
	(ii) P.S.E.B.	1.16	—	—	—
PP 2.5	Guru Nanak Dev Thermal Plant, Bhatinda	709.76	55.00	296.00	351.00
PP 2.6	Guru Nanak Dev Thermal Extension Plant, Bhatinda	196.11	73.00	418.00	491.00
PP 2.7	Shanan Extension Project	83.14	130.00	178.00	308.00
PP 2.8	220 KV, 132 KV & 66 KV Transmission works for the 5th Plan connected with new projects	207.97	607.00	3503.00	4110.00
PP 2.9	220 KV, 132 KV & 66KV Transmission works for 6th Plan connected with new projects	—	—	2865.00	2865.00
PP 2.10	Transmission Lines for Dehar Extension Project	—	—	470.00	470.00
PP 2.11	Improvement of Transmission System and Reduction of Transmission Losses	320.91	180.00	1760.00	1940.00
PP 2.12	Sub-Transmission Works	633.89	334.00	940.00	1274.00
PP 2.13	P.L.C. Equipment	—	—	153.00	153.00
	Total	6096.01	1998.00	11221.00	13219.00
3. Normal Development & Distribution					
PP 3.1	Normal Development & Distribution	2647.90	750.00	3900.00	4650.00
4. Rural Electrification					
PP 4.1	Rural Electrification				
	(i) R.E.C.	2425.19	440.00	2480.00	2920.00
	(ii) Plan	2076.52	1280.00	2900.00	4180.00
	Total	4501.71	1720.00	5380.00	7100.00
5. Power Development					
PD 5.1	Survey & Investigation	27.10	20.00	15.04	35.04
PD 5.2	Research, Testing Laboratory and Load Despatch Centre	51.01	10.00	88.00	98.00
	Total	78.11	30.00	103.04	133.04
	Grand Total	30354.09	9130.00	47593.04	56723.04

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : INDUSTRY AND MINERALS

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
1. Industrial and Financial Institutions					
IN 1.1	Punjab Financial Corporation	112.50	50.00	40.00	90.00
IN 1.2	Industrial Financial Corporation of India	4.95	—	15.00	15.00
	Total	117.45	50.00	55.00	105.00
2. Investment in Public Undertakings					
IN 2.1	Punjab State Industrial Development Corporation	1398.40	500.00	1950.00	2450.00
IN 2.2	Punjab State Small Industries Corporation	36.00	50.00	92.00	142.00
IN 2.3	Punjab State Electronics Development and Production Corporation	50.00	35.00	75.00	110.00
IN 2.4	Punjab State Handloom and Textile Development Corporation	47.20	10.00	45.00	55.00
IN 2.5	Punjab State Hosiery and Knitwear Development Corporation	32.28	30.00	50.00	80.00
IN 2.6	Punjab Export Corporation	16.00	5.00	—	5.00
	Total	1579.88	630.00	2212.00	2842.00
3. Direction and Administration					
IN 3.1	Cell for Non-resident Indians	0.43	0.40	4.00	4.40
IN 3.2	Development of Agro-based Industries and provision for specific studies, feasibility reports, survey, research and development	3.09	1.00	5.00	6.00
IN 3.3	Marketing Intelligence Cell	2.85	1.20	—	1.20
IN 3.4	Strengthening of industrial development wing at the Directorate	—	1.00	—	1.00
IN 3.5	Liaison offices at Bombay and Calcutta	6.51	1.50	—	1.50
IN 3.6	Schemes completed/discontinued during 1974-78	0.50	—	—	—
	Total	13.38	5.10	9.00	14.10
4. Small Scale Industries					
IN 4.1	Credit facilities for the development of small scale industries	144.95	42.00	60.00	102.00
IN 4.2	Subsidy	4.13	2.00	4.00	6.00
IN 4.3	Grant of 1 percent subsidy to PFC for concessional finances in selected backward districts	1.87	0.70	3.20	3.90
IN 4.4	Grant of 2 percent subsidy in the rate of interest on loans by PFC for purchase of generating sets	2.57	0.60	1.00	1.60
IN 4.5	Out-right subsidy	—	4.00	81.00	85.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : INDUSTRY AND MINERALS

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
IN 4.6	Seven new Industrial Development -cum-Service Centres	53.15	42.59	23.87	66.46
IN 4.7	Five new Quality Marking Centres	29.43	9.00	20.00	29.00
IN 4.8	Tool Room, Ludhiana	6.07	25.00	26.60	51.60
IN 4.9	Sewing Machine Development Centre, Ludhiana	2.03	1.00	17.00	18.00
IN 4.10	Hanatool Designs Institute, Jullundur	5.35	5.00	26.00	31.00
IN 4.11	Punjab Test House, Ludhiana	15.58	7.00	20.00	27.00
IN 4.12	Machine Tool and Design Development Centre, Batala	2.40	5.00	65.00	70.00
IN 4.13	Training of Technical staff by participation in special training programme and visit to industries in other States	0.84	0.15	0.85	1.00
IN 4.14	Modernisation of small scale industries	11.80	10.00	37.70	47.70
IN 4.15	Resarch and Development Centre for Bicycles, Ludhiana	1.90	1.00	9.00	10.00
IN 4.16	Electronic Development and Testing Laboratory, S. A. S. Nagar	55.93	20.00	40.00	60.00
IN 4.17	Development of leather industries	24.96	25.00	53.70	78.70
IN 4.18	Consultancy-technical services and testing facility centres for chemical industries	—	—	10.00	10.00
IN 4.19	Export awards	—	—	1.20	1.20
IN 4.20	District Industries Centres	—	—	87.75	87.75
IN 4.21	Shoe and Leather Goods Training Centre, Longowal	—	—	1.60	1.60
IN 4.22	Interest subsidy	—	—	25.00	25.00
IN 4.23	Loans to Punjab State Small Industries Corporation	—	—	15.00	15.00
IN 4.24	Extension of existing building of CFTRI at Ludhiana	0.51	1.00	10.00	11.00
IN 4.25	Training for self-employment	5.01	3.00	12.00	15.00
IN 4.26	Promotion of self-employment through seed/capital/margin money assistance	60.26	25.00	80.00	105.00
IN 4.27	Establishment of Industrial/Commercial Estates	55.00	—	15.00	15.00
IN 4.28	Supply of machinery on hire-purchase basis	25.00	—	40.00	40.00
IN 4.29	Training for Guranteed Employment	13.41	9.00	36.00	45.00
IN 4.30	Participation in International Fairs	12.02	3.00	12.00	15.00
IN 4.31	Publicity	0.94	1.00	9.00	10.00
IN 4.32	Sports Goods Complex	—	8.50	30.00	38.50
IN 4.33	Surgical Instruments Complex	0.62	1.00	25.00	26.00
IN 4.34	Regional Centre of I.S.I. at S.A.S. Nagar	8.38	5.00	2.50	7.50
IN 4.35	Augmentation of Regional Centre of SASMIRA at Amritsar	6.41	2.00	1.00	3.00
IN 4.36	Export promotion programme	1.65	0.60	—	0.60
IN 4.37	Subsidy for purchase of generating sets	72.60	2.50	—	2.50
IN 4.38	Trade Centre	12.39	6.00	—	6.00
IN 4.39	Modernisation of workshops	1.65	0.40	—	0.40

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : INDUSTRY AND MINERALS

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
IN 4.40	Unit for manufacture of blanks for cut glass wares ..		5.00	5.00	—	5.00
IN 4.41	Extension Centre, Jullundur ..		3.04	2.00	—	2.00
IN 4.42	Pilot production of Bag Tanning of Hides at Government Tanning Centres at Banga, Kotkapura and Malerkotla ..		7.08	5.60	—	5.60
IN 4.43	Strengthening of organisation dealing with schemes ..		5.34	1.50	—	1.50
IN 4.44	Punjab Khadi & Village Industries Board ..		1.84	2.82	—	2.82
IN 4.45	State Export Development Fund ..		—	2.00	—	2.00
IN 4.46	Warehouse at Bombay ..		10.00	5.00	—	5.00
IN 4.47	Schemes completed/discontinued during 1974—78 ..		12.34	—	—	—
	Total ..		683.45	291.96	901.97	1193.93
5. Industrial Estates						
IN 5.1	Industrial Estates/Incentives to new Industries—					
	(i) Acquisition of Land ..		802.78	105.00	500.00	605.00
	(ii) Loan to PSSIC ..		226.06	—	153.40	153.40
	(iii) Interest free loan ..		192.63	103.00	770.00	873.00
	(iv) Maintenance charges ..		15.36	10.00	10.00	20.00
	(v) Feasibility report ..		0.49	1.00	—	1.00
	(vi) Electricity charges of street light at focal points ..		1.59	2.00	4.40	6.40
	(vii) Large and medium industries staff ..		0.10	1.00	—	1.00
	(viii) Land acquisition staff ..		4.77	3.00	—	3.00
	(ix) Land subsidy ..		—	—	120.00	120.00
	(x) Investment loans ..		—	—	80.00	80.00
	(xi) Schemes completed/discontinued during 1974—78 ..		11.55	—	—	—
	Total ..		1255.33	225.00	1637.80	1862.80
6. Handloom/Textile Industries						
IN 6.1	Installation of Jacquard machines ..		10.50	5.10	10.50	15.60
IN 6.2	Interest free loans for margin money ..		4.26	3.36	8.00	11.36
IN 6.3	Training of weavers ..		1.54	0.50	2.00	2.50
IN 6.4	Rebate on sale of cotton handloom cloth ..		—	—	5.00	5.00
IN 6.5	Development of handloom industries in sub-montane areas (Training-cum-production Centre) ..		—	—	10.00	10.00
IN 6.6	Construction of workshed for weavers ..		—	—	10.00	10.00
IN 6.7	Development of weaving industry ..		0.87	0.60	—	0.60
IN 6.8	Additional staff for handloom development ..		0.25	1.00	—	1.00
IN 6.9	Export processing zone of hosiery goods at Ludhiana ..		22.00	5.00	—	5.00
IN 6.10	Assistance for conversion of pitlooms into framelooms ..		10.30	5.00	—	5.00
IN 6.11	Schemes completed/discontinued during 1974—78 ..		1.63	—	—	—
	Total ..		51.35	20.56	45.50	66.06

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : INDUSTRY AND MINERALS

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)	
	Title						
1	2		3	4	5	6	
7. Village Industries							
IN 7.1	Integrated Rural Development Programme	..	18.03	50.00	175.00	225.00	
8. Handicrafts							
IN 8.1	Development of handicraft industries	..	3.82	7.50	14.14	21.64	
9. Sericulture							
IN 9.1	Development of sericulture industries	..	2.71	5.00	14.00	19.00	
10. Statistics							
IN 10.1	Statistical cell	..	2.01	1.20	2.00	3.20	
11. Mines and Minerals							
IN 11.1	Development of mines and minerals	..	17.87	5.00	9.00	14.00	
12. Weights and Measures							
IN 12.1	Implementation of Weights and Measures Act	..	10.84	4.00	6.16	10.16	
Grand Total			..	3756.12	1295.32	5081.57	6376.89

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : CIVIL AVIATION

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
1. Training and Education					
AV 1·1	(i) Grant-in-aid and subvention to clubs	16·61	5·50	—	5·50
	(ii) Establishment of Aircraft Maintenance Engineering School	—	—	1·50	1·50
2. Aerodromes and Air Route Service					
AV 2·1	Construction/development of aerodromes and extension of existing runways	26·79	2·50	23·05	25·55
3. Machinery and equipment					
AV 3·1	Advanced training of pilots	6·57	—	60·50	60·50
Grand Total		49·97	8·00	85·05	93·05

SIXTH FIVE YEAR PLAN 1978—83 : SCHEMES

HEAD : ROADS AND BRIDGES

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
1. State Highways, District and Other Roads					
RD 1·1	Main roads and missing links ..	145·07	38·00	162·00	200·00
RD 1·2	Improvement, widening and providing additional crust on the existing roads ..	311·20	85·00	2415·00	2500·00
2. Machinery and equipment					
RD 2·1	Machinery ..	45·03	20·00	480·00	500·00
3. Minimum needs programme					
RD 3·1	Village roads—				
	(i) Link roads ..	2926·13	1550·00	1250·00	2800·00
	(ii) Provincialisation of Zila Parishad Roads ..	35·91	20·00	180·00	200·00
4. Planning and Research					
RD 4·1	Research ..	3·00	—	—	—
5. Safety works including bridges					
RD 5·1	Bridges ..	156·88	100·00	1100·00	1200·00
6. Other expenditure					
RD 6·1	Central Road Fund ..	169·24	100·00	200·00	300·00
RD 6·2	Improvement of roads within municipal limits ..	161·84	75·00	325·00	400·00
RD 6·3	Bye-passes ..	6·65	10·00	390·00	400·00
RD 6·4	Research and development, field training, labs. and purchase of equipment ..	2·20	2·00	98·00	100·00
Grand Total ..		3963·15	2000·00	6600·00	8600·00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : ROAD TRANSPORT

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
RT 1	PEPSU Road Transport Corporaion	483.85	105.00	733.92	838.92
RT 2	Punjab Roadways	1659.42	390.00	2865.28	3255.28
	Grand Total	2143.27	495.00	3599.20	4094.20

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : TOURISM

Note:—The individual schemes proposed by the Tourism Development Corporation have been listed below, but these were not considered as this was premature. However, lumpsum provision of Rs 285.84 lakhs for the period 1978-83 has been made for the development of Tourism. The amount will be supplemented by the proposed Corporation's own resources and institutional finance.

(Rs. in lakhs)

Number	Scheme Title	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Proposal)	1978-83 (Proposal)
1	2	3	4	5	6
1. Direction and Administration					
TM-1.1	Administrative & other staff ..	17.39	13.00	63.22	76.22
2. Tourist Transport Services					
TM 2.1	Purchase of luxury car/buses ..	3.22	1.22	18.78	20.00
3. Tourist Accommodation					
TM 3.1	Expansion of Tourist Bungalow, Nangal—construction of 3-Star Hotel and expansion of existing complex ..	0.35	—	80.00	80.00
TM 3.2	Expansion of Tourist Bungalow, Ludhiana ..	7.01	1.20	2.00	3.20
TM 3.3	Expansion of Tourist Bungalow, Ropar ..	7.01	1.00	17.00	18.00
TM 3.4	Staff quarters/garrages in Tourist Huts, Anandpur Sahib ..	—	0.80	1.20	2.00
TM 3.5	Tourist Hotel, Amritsar ..	49.34	—	—	—
TM 3.6	Expansion of Tourist Bungalow, Shahpurkandi ..	—	—	5.00	5.00
TM 3.7	Setting up of Tourist Information Centres at various Railway Stations/Airports and Bus Stands ..	0.09	—	20.00	20.00
TM 3.8	Development of Aam Khas Bagh, Sirhind—construction of Tourist Bungalow ..	11.19	2.00	23.00	25.00
TM 3.9	Tourist Resort, Doraha ..	0.50	—	—	—
TM 3.10	Tourist Complex, Madhopur ..	—	1.20	28.80	30.00
TM 3.11	Tourist Complex, Shambhu ..	—	1.20	8.80	10.00
TM 3.12	Chhat Bir Complex—Mahendra Choudhry Zoological Park ..	—	—	25.00	25.00
TM 3.13	Development of Sangrur as a Tourist Town ..	—	—	20.00	20.00
TM 3.14	Tourist Complex, Talwara ..	—	—	10.00	10.00
4. Tourist Information and Publicity					
TM 4.1	Publicity and marketing ..	20.60	5.00	30.00	35.00
TM 4.2	Preparation of Hoardings ..	—	—	10.00	10.00
TM 4.3	Creation of Audo-visual Cell ..	—	—	20.00	20.00
TM 4.4	Celebrations of Melas and Festivals ..	—	—	20.00	20.00
TM 4.5	Development of Ethnic Tourism including hospitality to travel writers/travel agents, etc. ..	—	—	20.00	20.00
5. Tourist Centres					
TM 5.1	Expansion of Tourist Complex, Neelon ..	10.42	1.50	2.00	3.50
TM 5.2	Setting up of Tourist Information-cum-rest Centre at Wagha ..	0.85	1.20	21.80	23.00
TM 5.3	Expansion of Tourist Complex, Sirhind—Floating Restaurant ..	9.10	3.00	9.00	12.00
TM 5.4	Tourist Complex, Kanjli ..	—	2.00	18.00	20.00
TM 5.5	Development of Dharkalan into Tourist Spot ..	—	—	5.00	5.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : TOURISM

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Proposal)	1978-83 (Proposal)
		Title				
1		2	3	4	5	6
TM 5-6	..	Renovation of Tourist Bungalow, Pathankot	0.05	2.00	8.00	10.00
TM 5-7	..	Restaurant on Jullundur-Pathankot road	—	—	10.00	10.00
TM 5-8	..	Development of Pandori Mahantan, District Gurdaspur	—	—	5.00	5.00
TM 5-9	..	Restaurant at Ram Bagh, Amritsar	—	—	5.00	5.00
TM 5-10	..	Restaurant at Harike Pattan	—	—	10.00	10.00
TM 5-11	..	Restaurant at Sultanpur Lodhi	—	—	5.00	5.00
TM 5-12	..	Restaurant at Nakodar	—	—	5.00	5.00
6. Other Expenditure						
TM 6-1	..	Snack Bar facilities on G.T. Road/National Highways : Phagwara and Khanauri and Oasis type complexes at Ludhiana, Ferozeshah Memorial and Delhi-Fazilka road	6.83	0.60	29.40	30.00
TM 6-2	..	Development of Patiala as a Tourist Town	8.39	2.50	27.50	30.00
TM 6-3	..	Furnishing of Tourist Bungalows	15.45	9.00	41.00	50.00
TM 6-4	..	Tourist Bungalow, Chandigarh	2.70	—	10.00	10.00
TM 6-5	..	Maintenance of Youth Hostel, Amritsar	0.16	0.08	—	0.08
TM 6-6	..	Development of Tourist facilities at the Kartarpur, Nidampur and Mubarakpur Rest Houses	—	—	15.00	15.00
7. Other Schemes						
TM 7-1	..	Provision of tourist facilities at Bhatinda	—	0.50	19.50	20.00
TM 7-2	..	Purchase of boats for Tourist Resort, Neelon, Ropar and Kanjli etc.	—	1.00	—	1.00
TM 7-3	..	Janta Hotel at Hoshiarpur	—	—	30.00	30.00
TM 7-4	..	Conversion of Kapurthala House, New Delhi into a 4-Star Tourist Hotel	—	—	50.00	50.00
TM 7-5	..	Setting up of Institution for training of staff in the field of Tourism and Catering	—	—	15.00	15.00
Grand Total			170.65	50.00	764.00	814.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES
HEAD : GENERAL EDUCATION

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
School Education—						
1. Elementary Education (Classes I to V)						
ED 1.1	Expansion of facilities for full-time schools	..	(618.59)	(256.88)	(361.80)	(618.68)
	(a) Opening of single teacher Primary Schools	..	618.59	246.88	5.87	252.75
	(b) Furniture for Government Primary Schools	..	—	10.00	40.00	50.00
	(c) Improvement of Primary Schools	..	—	—	273.93	273.93
	(d) Lavatories and drinking water facilities	..	—	—	42.00	42.00
ED 1.2	Construction of class rooms/school buildings	..	3.14	9.00	30.00	39.00
ED 1.3	Strengthening of Science Education	..	(20.19)	(4.20)	(—)	(4.20)
	(a) Replenishment of Science Kits	..	—	4.20	—	4.20
	(b) Provision of Science Kits for Primary Schools	..	20.19	—	—	—
ED 1.4	Administration and supervision-additional staff	..	—	—	48.83	48.83
	Total	..	641.92	270.08	440.63	710.71
2. Middle School Education (Classes VI to VIII)						
BD 2.1	Expansion of facilities for full-time schools	..	(789.65)	(459.36)	(1042.91)	(1502.27)
	(a) Furniture for Govt. Middle Schools and Middle Departments of High and Higher Secondary Schools	..	—	14.50	58.00	72.50
	(b) Upgrading of Primary Schools to Middle Standard	..	789.65	444.86	—	444.86
	(c) Posts of PTI for Government Middle Schools and Middle Departments of High/Higher Secondary Schools	..	—	—	116.86	116.86
	(d) Additional posts of masters/mistresses on account of additional enrolment	..	—	—	868.05	868.05
BD 2.2	Non-Formal Education	..	0.78	5.00	6.00	11.00
ED 2.3	Incentives	..	(2.80)	—	(10.85)	(10.85)
	(i) Children Book Trusts	..	2.80	—	10.85	10.85
	(ii) Children Theatre Group	..	—	—	10.85	10.85
ED 2.4	Construction of buildings	..	(3.31)	(1.00)	(189.50)	(190.50)
	(i) Class room/school buildings	..	—	—	15.00	15.00
	(ii) Science rooms for Government Middle Schools	..	3.31	1.00	174.50	175.50
ED 2.5	Qualitative improvements	..	(393.42)	(131.16)	(450.64)	(581.80)
	(i) Work experience (vocationalisation of education)	..	94.61	30.10	358.00	388.10
	(ii) Strengthening of Science Education—					
	(a) Additional posts of Science Masters/Mistresses	..	292.34	93.83	74.80	168.63
	(b) Supply of Science Kits for Government Middle Schools	..	—	5.00	5.00	10.00
	(c) Replenishment of Science Kits for Government Middle Schools	..	—	—	6.00	6.00
	(iii) Introduction of Domestic Science in Government Middle Schools and Middle Departments of High/Higher Secondary Schools	..	6.47	2.23	6.84	9.07
ED 2.6	Additional staff for supervision	..	—	—	68.11	68.11
	Total	..	1189.96	596.52	1768.01	2364.53

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : GENERAL EDUCATION

(Rs. in lakhs)

Number	Scheme	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title				
1	2	3	4	5	6
3. Secondary Education (High/Higher Secondary Schools)					
ED 3·1	Upgradation of Government Middle Schools to High Standard	425·17	337·16	285·07	622·23
ED 3·2	Implementation of 10 + 2 pattern of Education				
	Appointment of Teachers/Supervisory Staff	—	2·82	—	2·82
ED 3·3	Scholarships for poor but brilliant students	12·26	6·75	26·24	32·99
ED 3·4	Construction of buildings	(66·54)	(22·00)	(110·00)	(132·00)
	(i) Class rooms	6·76	2·00	—	2·00
	(ii) Laboratories	—	—	32·00	32·00
	(iii) Extension of existing buildings/Construction of new buildings	59·78	20·00	78·00	98·00
ED 3·5	Improvement Programmes—	(97·07)	(33·00)	(277·22)	(310·22)
	(i) Strengthening of Science Education—				
	(a) Holding of Science Talent Search Exam.	—	0·20	0·80	1·00
	(b) Creation of posts of Lab. Attendants	—	—	117·85	117·85
	(ii) Work Experience	64·11	19·77	—	19·77
	(iii) Other Improvements in Schools—				
	(a) Introduction of Library Service in Government High/Hr. Sec. Schools	18·68	7·46	57·29	64·75
	(b) Improvement of High Schools	—	—	68·00	68·00
	(iv) Diversification of Courses—				
	(a) Introduction of Home Science in Government High/Hr. Sec. Schools	14·28	5·57	11·07	16·64
	(b) Introduction of Music in High/Hr. Sec. Schools	—	—	12·21	12·21
	(v) Lavatory and Drinking Water Facilities for Girl students	—	—	10·00	10·00
	Total	601·04	401·73	698·53	1100·26
4. Teachers Education					
ED 4·1	Secondary stage—				
	(i) Inservice Training of Teachers	44·33	17·89	40·00	57·89
	(ii) State Institute of Education/Science Education	—	—	15·00	15·00
	Total	44·33	17·89	55·00	72·89
5. Adult Education					
ED 5·1	Literacy in rural areas (Non-formal Education 15—35 age-group)	7·50	10·90	53·02	63·92
ED 5·2	Production of Literature and follow up material	—	—	3·20	3·20
ED 5·3	Libraries (Follow up programme)	—	—	10·82	10·82
ED 5·4	Administration and Supervision	—	0·66	—	0·66
	Total	7·50	11·56	67·04	78·60

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : GENERAL EDUCATION

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	1	Title					3	4	5	6
6. Physical Education, Games and Sports and Youth Services						
ED 6·1		Holding of Coaching Camps and Competitions	—	1·00	6·00	7·00
ED 6·2		Creation of posts of D.P.Es.	59·69	38·10	139·27	177·37
ED 6·3		Starting of Sports Wings	—	4·12	51·88	56·00
		Total	59·69	43·22	197·15	240·37
7. Additional Staff for Direction, Administration and Supervision						
ED 7·1		Additional Inspection Staff	—	—	14·27	14·27
		Total	—	—	14·27	14·27
8. Employment promotion programme						
ED 8·1		Training to 500 Scheduled Castes Graduates as B.EDs.	4·95	—	—	—
ED 8·2		Training to 1500 Scheduled Castes Matriculates as J.B.Ts.	14·66	8·44	—	8·44
		Total	19·61	8·44	—	8·44
		Total School Education	2564·05	1349·44	3240·63	4590·07
II. College and University Education						
9. Direction, Administration and Supervision						
ED 9·1		Strengthening of Educational Administration	—	2·00	10·00	12·00
ED 9·2		Strengthening of Planning Machinery in the Directorate	—	—	2·37	2·37
		Total	—	2·00	12·37	14·37
10. Assistance to Universities for Non-technical Courses						
ED 10·1		Grant-in-aid to Universities	43·67	12·34	300·00	312·34
		Total	43·67	12·34	300·00	312·34
11. Government Colleges						
ED 11·1		Expansion of facilities	125·08	41·75	141·36	183·11
ED 11·2		Improvement of Existing Colleges	40·24	39·00	139·51	178·51
ED 11·3		Development of College Education under U.G.C. sharing scheme	4·89	7·00	32·00	39·00
ED 11·4		Strengthening of College Administration	—	1·00	4·60	5·60
		Total	170·21	88·75	317·47	406·22
12. Assistance to Non-Government Colleges						
ED 12·1		Grant-in-aid to Non-Government Colleges	36·62	—	37·66	37·66
		Total	36·62	—	37·66	37·66
13. Students Welfare						
ED 13·1		Hostels for Government Colleges	7·44	0·82	15·00	15·82
		Total	7·44	0·82	15·00	15·82

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : GENERAL EDUCATION

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
		Title				
1		2	3	4	5	6
14. Scholarships						
ED 14.1		Scholarships	35.81	14.17	65.00	79.17
		Total	35.81	14.17	65.00	79.17
15. Other Programmes						
ED 15.1		Seminars and Refresher Courses	0.14	—	—	—
		Total	0.14	—	—	—
		Total University Education	293.89	118.08	747.50	865.58
III. Other Programmes						
16. Art And Culture						
ED 16.1		Establishment and Strengthening of District Libraries	10.46	1.92	2.50	4.42
		Total	10.46	1.92	2.50	4.42
17. Languages						
ED 17.1		Development of Languages—Hindi, Punjabi & Urdu	12.89	4.25	35.00	39.25
		Total	12.89	4.25	35.00	39.25
18. Youth Services and N.S.S.						
ED 18.1		Youth Services	16.17	6.75	42.50	49.25
ED 18.2		N.S.S.	18.28	7.50	34.87	42.37
ED 18.3		Self Employment Promotion Programme	4.70	4.54	—	4.54
		Total	39.15	18.79	77.37	96.16
19. Sports and Games						
ED 19.1		Sports & Games	103.81	35.00	195.00	230.00
		Total	103.81	35.00	195.00	230.00
20. Archives						
ED 20.1		Archives	0.52	0.25	30.00	30.25
		Total	0.52	0.25	30.00	30.25
21. Revision of District Gazetteers						
ED 21.1		Revision of District Gazetteers	0.65	0.25	2.00	2.25
		Total	0.65	0.25	2.00	2.25
22. Archaeology and Museum						
ED 22.1		Archaeology & Museum	22.10	10.00	50.00	60.00
		Total	22.10	10.00	50.00	60.00
23. Promotion of Art and Culture						
ED 23.1		Promotion of Art & Culture	8.91	4.00	20.00	24.00
		Total	8.91	4.00	20.00	24.00
		Grand Total	3056.43	1541.98	4400.00	5941.98

SIXTH FIVE YEAR PLAN 1978-83 SCHEMES

HEAD : TECHNICAL EDUCATION

(Rs. in lakhs)

Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
Number	Title	3	4	5	6
1. Direction and Administration					
TE 1.1	Strengthening of Directorate	—	0.80	4.50	5.30
	Total	—	0.80	4.50	5.30
2. Engineering Colleges (Private)					
TE 2.1	Diversification of courses at Thapar Institute of Engg. & Technology, Patiala (TIET)	—	—	15.00	15.00
TE 2.2	Sandwich Degree Course in Textile Technology (TIET)	—	—	10.00	10.00
TE 2.3	Diversified Degree Course in Electronics and Electrical communication at Guru Nanak Engg. College, Ludhiana (GNEC)	—	—	8.00	8.00
TE 2.4	Diversified Sandwich Degree Course in Production Engineering at GNEC	—	—	7.00	7.00
TE 2.5	Production/Service-cum-Training Centres at Engineering Colleges	—	—	4.00	4.00
TE 2.6	Part-time Degree course in Engineering Colleges	—	—	4.00	4.00
TE 2.7	Revision of staff structure in Engg. Colleges	—	—	4.00	4.00
TE 2.8	Faculty exchange programme and visiting professors	—	—	2.00	2.00
TE 2.9	Consultancy Service in Engg. Colleges	—	—	2.00	2.00
TE 2.10	Implementation of 'Credit System' in Engineering Colleges	—	—	2.00	2.00
TE 2.11	Modernisation of Equipment	—	1.00	10.00	11.00
TE 2.12	Replacement of Obsolete equipment	—	—	6.00	6.00
TE 2.13	Diversified Degree Course in electronics & electrical communication TIET	—	2.80	2.00	4.80
TE 2.14	Creation of post of Training-cum-Placement Officer at Engg. Colleges	—	0.52	—	0.52
	Total	—	4.32	76.00	80.32
3. Government Polytechnics					
TE 3.1	One year post-diploma course in Dairy Engineering at Govt. Polytechnic, Amritsar	—	—	7.30	7.30
TE 3.2	One year Post-Diploma Course in television technology at Govt. Polytechnic, Hoshiarpur	—	—	5.00	5.00
TE 3.3	One year Post-Diploma Course in heat treatment at Govt. Polytechnic, Batala	—	—	6.50	6.50
TE 3.4	Diversified Diploma Course in Electronics & Electrical communication at Govt. Polytechnic, Hoshiarpur	—	2.08	3.00	5.08
TE 3.5	Diploma Course in commercial practice at Govt. Polytechnic, Hoshiarpur	—	1.25	1.40	2.65
TE 3.6	Diversified Post-Diploma Course in refrigeration & air-conditioning at Govt. Polytechnic, Amritsar	—	0.85	2.60	3.45

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : TECHNICAL EDUCATION

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
TE 3.7	Production-cum-Training Centre at Govt. Polytechnic, Amritsar	..	—	—	10.00	10.00
TE 3.8	Service-cum-Training Centre at Govt. Polytechnic, Batala	..	—	—	4.00	4.00
TE 3.9	Setting-up of Govt. Polytechnic at Bhatinda	..	—	—	16.00	16.00
TE 3.10	Part-time electrical and mechanical Engineers Diploma Courses at :	..	—	(0.58)	(8.00)	(8.58)
	(a) Govt. Polytechnic, Hoshiarpur	..	—	—	2.00	2.00
	(b) Govt. Polytechnic, Amritsar	..	—	—	4.00	4.00
	(c) Govt. Polytechnic, Batala	..	—	0.58	2.00	2.58
TE 3.11	Revision of staff structure	..	—	—	2.00	2.00
TE 3.12	Modernisation of equipment	..	—	1.60	8.00	9.60
TE 3.13	Replacement of obsolete equipment	..	—	—	4.00	4.00
	Total	..	—	6.36	77.80	84.16
4. Private Polytechnics						
TE 4.1	Advance Level Diploma Course in Printing Technology at Thapar Polytechnic, Patiala	..	—	—	20.00	20.00
TE 4.2	Three year Architectural Assistantship Course at Thapar Polytechnic, Patiala	..	—	—	7.00	7.00
TE 4.3	Diversified three year Diploma Course in Plastic & rubber technology at Guru-Nanak Engg. College, (Poly-Wing) Ludhiana	..	—	—	6.00	6.00
TE 4.4	Diversified three-year Diploma Course in tool and dye making technology at Guru Nanak Engg. College (Poly. Wing), Ludhiana	..	—	—	10.00	10.00
TE 4.5	One-year Post-Diploma Course in electronics at Mehar Chand Polytechnic, Jullundur	..	—	—	2.50	2.50
TE 4.6	One-year Post Diploma Course in Hospital Engg. at Thapar Polytechnic, Patiala	..	—	—	2.00	2.00
TE 4.7	A.M.I.E. Course at Guru Nanak Engg. College (Poly.Wing) Ludhiana	..	—	—	1.50	1.50
TE 4.8	Part-time Diploma Course in Civil Engg. at Mehar Chand Polytechnic, Jullundur	..	—	—	1.00	1.00
TE 4.9	Revision of staff structure	..	—	—	2.00	2.00
TE 4.10	Modernisation of equipment	..	—	1.20	6.00	7.20
TE 4.11	Replacement of obsolete equipment	..	—	—	3.00	3.00
TE 4.12	Part-time Diploma Courses :					
	(a) Electrical & Civil Engg. at Thapar Polytechnic, Patiala	..	—	0.80	—	0.80
	(b) Mechanical Engg. at Guru Nanak Engg. College (Poly. Wing), Ludhiana	..	—	0.42	—	0.42
TE 4.13	A.M.I.E. Course at Thapar Polytechnic, Patiala	..	—	0.45	—	0.45
	Total	..	—	2.87	61.00	63.87

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : TECHNICAL EDUCATION

(Rs. in lakhs)

Number	Scheme Title	1974-78	1978-79	1979-83	1978-83
		(Actuals)	(Outlay)	(Provision)	(Provision)
I	2	3	4	5	6
5. Industrial Training Schemes					
TE 5-1	(a) Introduction of new courses at Govt. Polytechnic for Women, Jullundur ..	—	4.00	8.00	12.00
	(b) Starting of evening classes in Govt. Polytechnic for Woman, Jullundur ..	—	—	3.00	3.00
TE 5-2	(a) Modernisation of building/machinery/equipment and library at Govt. Institute of Garment Technology, Amritsar ..	—	2.00	7.00	9.00
	(b) Starting of second shift at Govt. Institute of Garment Technology, Amritsar ..	—	—	3.00	3.00
TE 5-3	(a) Modernisation of old machinery/equipment and for Library at Punjab Institute of Textile Tech. Amritsar ..	—	2.00	8.00	10.00
	(b) Starting of second shift at Punjab Institute of Textile Technology, Ludhiana ..	—	—	3.00	3.00
TE 5-4	Modernisation of building, machinery/equipment/Library at Govt. Institute of Textile Chemistry and knitting Technology Ludhiana ..	—	—	25.00	25.00
TE 5-5	Modernisation of building, machinery, equipment and library at Govt. Tanning Institute, Jullundur ..	—	2.00	25.00	27.00
	Total ..	—	10.00	82.00	92.00
6. Scholarships					
TE 6-1	Degree students of Engineering Colleges ..	—	0.43	1.00	1.43
TE 6-2	Diploma students of Government Polys. ..	—	0.60	1.00	1.60
TE 6-3	Diploma students of Private Polys. ..	—	0.97	1.00	1.97
	Total ..	—	2.00	3.00	5.00
7. Faculty Development					
TE 7-1	Training Reserve :				
	(a) Engineering Colleges ..	—	—	2.00	2.00
	(b) Government Polytechnics ..	—	—	3.00	3.00
	(c) Private Polytechnics ..	—	—	2.00	2.00
TE 7-2	Purchase of teaching aides :				
	(a) Government Polytechnics ..	—	1.00	2.00	3.00
	(b) Private Polytechnics ..	—	0.75	2.60	3.35
TE 7-3	Quality Improvement Programme ..	—	2.00	—	2.00
TE 7-4	Training in T.T.T.I. :				
	(a) Government Polytechnics ..	—	0.30	—	0.30
	(b) Private Polytechnics ..	—	0.30	—	0.30
	Total ..	—	4.35	11.60	15.95

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : TECHNICAL EDUCATION

(Rs. in lakhs)

Scheme		1977-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
8. Other Programme					
TE 8.1	Students Amenities :				
	(a) Engineering Colleges	..	—	4.00	4.00
	(b) Government Polytechnics	..	—	0.40	4.40
	(c) Private Polytechnics	..	—	0.10	4.10
TE 8.2	Development of Libraries :				
	(a) Engineering Colleges	..	—	0.20	2.20
	(b) Government Polytechnics	..	—	0.40	2.40
	(c) Private Polytechnics	..	—	0.40	2.40
TE 8.3	Book Bank for Poor Students :				
	(a) Engineering Colleges	..	—	0.20	2.20
	(b) Government Polytechnics	..	—	0.40	2.40
	(c) Private Polytechnics	..	—	0.20	2.20
TE 8.4	Development of Campus :				
	(a) Engineering Colleges	..	—	4.00	4.00
	(b) Government Polytechnics	..	—	4.00	4.00
	(c) Private Polytechnics	..	—	4.00	4.00
	(d) Staff quarters	..	—	2.00	2.00
	Total	..	—	4.30	36.00
9. Employment Promotion Programme					
TE 9.1	Training to Scheduled Castes in Diploma Course in Engineering	..	0.53	0.30	0.40
	Total	..	0.53	0.30	0.40
	Grand Total	..	74.33	35.30	352.00
					387.30

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : PUBLIC HEALTH AND SANITATION

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
I. MEDICAL EDUCATION AND RESEARCH					
1. Direction and Administration					
MD 1.1	Strengthening of office of D.R.M.E. Punjab ..	0.88	0.40	2.00	2.40
	Total ..	0.88	0.40	2.00	2.40
2. Medical Relief					
MD 2.1	Expansion and Improvement of S.G.T.B. Hospital, Amritsar	174.73	65.30	225.00	290.30
MD 2.2	Expansion and Improvement of Rajindra Hospital, Patiala ..	81.89	30.00	150.00	180.00
MD 2.3	Expansion and Improvement of T.B. Hospital, Amritsar ..	6.09	2.50	40.70	43.20
MD 2.4	Expansion and Improvement of T.B. Hospital, Patiala ..	4.61	2.50	8.00	10.50
	Total ..	267.32	100.30	423.70	524.00
3. Education					
MD 3.1	Expansion and Improvement of Medical College, Amritsar	36.78	53.50	40.00	93.50
MD 3.2	Expansion and Improvement of Medical College, Patiala ..	43.03	42.50	15.00	57.50
MD 3.3	Expansion and Improvement of Dental College, Amritsar ..	4.90	2.00	4.65	6.65
MD 3.4	Expansion and Improvement of Dental Wing of Medical College, Patiala ..	—	—	10.50	10.50
MD 3.5	Extra Coaching to Scheduled Castes M.B.B.S. students in Medical Colleges ..	—	0.30	1.50	1.80
MD 3.6	Taking over of Guru Gobind Singh Medical College, Faridkot	—	2.00	675.00	677.00
MD 3.7	Grants to Private Medical Colleges ..	5.00	—	40.00	40.00
	Total ..	89.71	100.30	786.65	886.95
4. Research					
MD 4.1	Grant for applied Research ..	2.60	1.00	5.00	6.00
	Total ..	2.60	1.00	5.00	6.00
5. Training					
MD 5.1	Augmentation of training facilities for Para-Medical Staff ..	—	—	60.00	60.00
MD 5.2	State Share of Centrally-sponsored Schemes ..	—	—	5.00	5.00
	Total ..	—	—	65.00	65.00
Total : Medical Education and Research ..		360.51	202.00	1282.35	1484.35

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : PUBLIC HEALTH AND SANITATION

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
II. PUBLIC HEALTH					
1. Minimum Needs Programme					
PH 1.1	Completion and Improvement of Primary Health Centres ..	119.50	37.00	100.00	137.00
PH 1.2	Completion and Improvement of Sub-Centres ..	83.41	36.00	—	36.00
PH 1.3	Establishment of 25-bedded block level Rural Hospitals ..	21.07	24.00	1057.00	1081.00
PH 1.4	Opening of Subsidiary Health Centres in Rural Areas ..	156.15	205.00	1389.35	1594.35
PH 1.5	Improvement of Subsidiary Health Centres ..	14.08	6.50	33.00	39.50
PH 1.6	Establishment of Dental Clinics in each block ..	11.90	14.00	20.00	34.00
Total ..		406.11	322.50	2599.35	2921.85
2. Hospitals and Dispensaries					
PH 2.1	Completion and Improvement of existing Distt. Hospitals ..	63.96	35.00	—	35.00
PH 2.2	Completion and Improvement of Tehsil and Other Hospitals ..	99.98	28.00	—	28.00
PH 2.3	Opening of new dispensaries in Urban Slum Areas /suitable Urban places ..	15.73	10.50	36.00	46.50
PH 2.4	Establishment of Common Medical facilities in Rural areas one in each District (Pilot Project) ..	4.14	2.00	—	2.00
PH 2.5	Improvement of Lady Dufferin Hospital, Patiala ..	3.65	2.50	—	2.50
PH 2.6	Improvement of Punjab Mental Hospital, Amritsar ..	6.68	4.30	1.00	5.30
PH 2.7	Provincialisation of Local Bodies Hospitals/Dispensaries ..	4.89	1.75	25.00	26.75
PH 2.8	Upgradation of existing Hospitals (including Establishment of Hospital at S.A.S. Nagar) ..	—	—	415.00	415.00
PH 2.9	Providing specialist's Services in existing Hospitals ..	—	—	100.00	100.00
PH 2.10	Establishment of Intensive Care Units in District level Hospitals ..	—	—	75.00	75.00
Total ..		199.03	84.05	652.00	736.05
3. Training Programme					
PH 3.1	Strengthening of Health & Family Welfare Training Centre at Jullundur (Estt. of Rural Medical Institute) ..	—	1.00	—	1.00
Total ..		—	1.00	—	1.00
4. Control/Eradication of Communicable Diseases					
PH 4.1	Operational Cost of Centrally-sponsored Schemes (State's share)—				
	(i) T.B. ..	3.74	1.50	21.80	23.30
	(ii) S.T.D. (V.D.) ..	0.19	—	2.00	2.00
	(iii) National Programme for the Control of visual Impairment and Blindness including Trachoma ..	11.04	14.50	10.95	25.45
	(iv) Malaria (Urban Spray) ..	9.02	35.00	15.00	50.00
Total ..		23.99	51.00	49.75	100.75

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES
HEAD : PUBLIC HEALTH AND SANITATION

(Rs. in lakhs)

Number	Scheme Title	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5	6
5. Other Programmes					
PH 5.1	Administrative Re-organisation of the Punjab Health Department ..	6.47	9.70	8.00	17.70
PH 5.2	Immunisation against Polio ..	1.68	1.00	—	1.00
PH 5.3	Strengthening of State Health and Distt. Laboratories ..	3.16	3.00	8.00	11.00
PH 5.4	Strengthening of Drug and Food Standard Control Organisation ..	—	—	10.00	10.00
PH 5.5	Strengthening of Health Statistical Organisation ..	0.25	0.50	2.00	2.50
PH 5.6	Organisation of Mass Sterilisation camps for Scheduled Castes Couples offering of higher incentives ..	85.87	—	—	—
PH 5.7	Multipurpose Workers Scheme ..	7.88	8.00	90.00	98.00
PH 5.8	Establishment of Central Medical Store Depot, Punjab ..	—	0.80	19.20	20.00
PH 5.9	Replacement of vehicles of Health Department ..	—	—	20.00	20.00
PH 5.10	Establishment of Health Equipment maintenance and Repair Unit ..	—	—	50.00	50.00
PH 5.11	Expansion of Immunisation Programme ..	—	—	4.00	4.00
PH 5.12	Training to Scheduled Castes as Multipurpose Health Workers ..	0.47	0.30	—	0.30
	Total ..	105.78	23.30	211.20	234.50
6. Employees State Insurance Corporation					
PH 6.1	E. S. I. Schemes ..	3.88	6.50	85.70	92.20
	Total ..	3.88	6.50	85.70	92.20
	Total : Public Health ..	738.79	488.35	3598.00	4086.35
III. I. S. M. and Homoeopathy					
AY 1.1	Strengthening of existing I. S. M. and Homoeopathic Dispensaries ..	—	—	76.00	76.00
AY 1.2	Opening of I. S. M. and Homoeopathic Dispensaries ..	23.28	11.95	88.00	99.95
AY 1.3	Improvement and Expansion of Govt. Ayurvedic College, Patiala ..	—	—	14.00	14.00
AY 1.4	Improvement and Expansion of Govt. Ayurvedic Hospital Patiala ..	6.50	—	25.00	25.00
AY 1.5	Improvement and Expansion of Govt. Ayurvedic Pharmacy, Patiala ..	—	—	23.00	23.00
AY 1.6	Strengthening of Headquarter Staff ..	—	—	7.80	7.80
AY 1.7	Strengthening of District Headquarter Staff ..	—	—	30.20	30.20
	Total ..	29.78	11.95	264.00	275.95
	Grand Total ..	1129.08	702.30	5144.35	5846.65

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : RURAL WATER SUPPLY

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
W.S.1	Rural Water Supply	.. 1713.63	450.00	3520.00	3970.00
	Grand Total	.. 1713.63	450.00	3520.00	3970.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : HOUSING

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
HOUSING						
1. Govt. Residential Buildings						
HIG 1.1	At district/tehsil headquarters	..	85.06	80.00	1280.00	1360.00
HIG 1.2	At places other than district/tehsil headquarters	..	26.35	20.00	20.00	40.00
HIG 1.3	At focal points	..	—	—	250.00	250.00
HIG 1.4	For govt. employees at Chandigarh	..	—	50.00	440.00	490.00
	Total	..	111.41	150.00	1990.00	2140.00
2. Other Housing Schemes						
HIG 2.1	Subsidized industrial housing	..	305.04	—	160.00	160.00
HIG 2.2	Harijan houses	..	150.00	100.00	350.00	450.00
HIG 2.3	Loans for Low Income Group houses	..	271.42	70.00	280.00	350.00
HIG 2.4	Loans to govt. servants	..	516.25	175.00	704.00	879.00
HIG 2.5	Loans for building houses in urban estates	..	211.65	—	238.32	238.32
HIG 2.6	House-sites for landless workers	..	298.69	—	—	—
HIG 2.7	Development of villages under Habitat programme	..	10.05	—	—	—
	Total	..	1763.10	345.00	1732.32	2077.32
3. Other Programmes						
HIG 3.1	Contribution to Housing Board	..	727.50	225.00	360.00	585.00
	Total	..	727.50	225.00	360.00	585.00
4. Police Housing and Jail Buildings						
HIG 4.1	Houses for police	..	320.49	80.00	880.00	960.00
	Total	..	320.49	80.00	880.00	960.00
	Grand Total	..	2922.50	800.00	4962.32	5762.32

SIXTH FIVE YEAR PLAN 1978-83 ; SCHEMES

HEAD : URBAN DEVELOPMENT

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
Urban Development					
UD 1	Urban Estates ..	2269.46	500.00	2112.00	2612.00
UD 2	Loans to Municipal Committees—				
	(a) Urban water supply and Sewerage ..	597.13	150.00	3760.00	3910.00
	(b) Other development works ..	204.40	—	—	—
UD 3	Assistance to Improvement Trusts—				
	(a) General activities ..	152.00	50.00	91.00	141.00
	(b) Allotment of plots to urban harijans ..	—	—	100.00	100.00
UD 4	Town and Regional Planning				
	(a) Rural sector area planning ..	58.54	20.00	50.00	70.00
	(b) Urban sector area planning—New towns ..	—	—	38.80	38.80*
UD 5	Integrated Urban Development Programme ..	300.00	100.00	1000.00	1100.00
UD 6	Slum clearance/improvements ..	219.00	—	5.80	5.80
UD 7	Water Supply and Sewerage Board ..	175.00	200.00	200.00	400.00
Grand Total ..		3975.53	1020.00	7357.60	8377.60

*This provision is subject to review depending upon the total volume of work that may be finally agreed to.

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : INFORMATION AND PUBLICITY

(Rs. in lakhs)

Number	Scheme	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title				
1	2	3	4	5	6
1. Direction and Administration					
IP 1.1	Strengthening of the Department of Public Relations	3.22	3.00	17.00	20.00
	Total	3.22	3.00	17.00	20.00
2. Public Exhibition of Films					
IP 2.1	Purchase and production of films	13.13	6.50	33.00	39.50
	Total	13.13	6.50	33.00	39.50
3. Field Publicity					
IP 3.1	Field publicity	20.83	9.00	46.00	55.00
IP 3.2	Audio-broadcasting	0.10	0.40	2.20	2.60
IP 3.3	Television scheme	6.33	3.00	8.00	11.00
	Total	27.26	12.40	56.20	68.60
4. Song and Drama Services and Photo Services					
IP 4.1	Song and drama services	2.84	4.00	16.60	20.60
IP 4.2	Setting up of State Cultural Troupe	5.40	6.00	—	6.00
	Total	8.24	10.00	16.60	26.60
5. Advertising and Visual Publicity					
IP 5.1	Community Listening	0.27	0.10	0.40	0.50
IP 5.2	Exhibitions	27.96	3.00	12.00	15.00
IP 5.3	Display Advertisements	12.97	4.00	20.00	24.00
	Total	41.20	7.10	32.40	39.50
6. Publications					
IP 6.1	Purchase and Production of literature	5.05	3.00	13.80	16.80
	Total	5.05	3.00	13.80	16.80
7. Information Centres					
IP 7.1	Information Centres	0.88	—	8.00	8.00
IP 7.2	Teleprinter lines	2.11	2.00	8.00	10.00
	Total	2.99	2.00	16.00	18.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : INFORMATION AND PUBLICITY

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
8. Others						
IP 8.1	Wall Paintings	..	0.02	0.50	1.20	1.70
IP 8.2	Purchase of Books for the library at headquarter	..	—	0.50	2.00	2.50
	Total	..	0.02	1.00	3.20	4.20
9. New Programmes						
IP 9.1	Light and Sound	..	—	—	31.00	31.00
IP 9.2	Feed Back Studies	..	—	—	0.80	0.80
	Total	..	—	—	31.80	31.80
	Grand Total	..	101.11	45.00	220.00	265.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : LABOUR AND LABOUR WELFARE

(Rs. in lakhs)

Number	Scheme Title	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
1	2	3	4	5	6
I. LABOUR WELFARE					
1. Industrial Relations					
LW 1.1	Strengthening of machinery for industrial relations and enforcement of labour laws	10.23	6.00	—	6.00
LW 1.2	Strengthening of arbitration machinery	—	—	1.76	1.76
	Total	10.23	6.00	1.76	7.76
2. Working Conditions and Safety					
LW 2.1	Strengthening of enforcement machinery for Minimum Wage Act, 1948	—	—	11.00	11.00
LW 2.2	Strengthening of Factory Inspectorate	—	—	2.64	2.64
LW 2.3	Setting up of a Safety Cell	—	—	3.57	3.57
	Total	—	—	17.21	17.21
3. General Labour Welfare					
LW 3.1	Labour Welfare Centres	—	2.00	—	2.00
LW 3.2	Setting up of a mobile medical laboratory for examination of industrial workers	—	—	7.39	7.39
	Total	—	2.00	7.39	9.39
4. Research and Statistics					
LW 4.1	Strengthening of Statistical Section	—	—	0.88	0.88
	Total	—	—	0.88	0.88
	Total I Labour Welfare	10.23	8.00	27.24	35.24
II. EMPLOYMENT SERVICE					
1. Employment Exchanges					
EE 1.1	Expansion of Employment Services	11.04	5.50	10.15	15.65
EE 1.2	Collection of Employment Market Information	1.17	1.00	3.08	4.08
EE 1.3	Vocational Guidance	1.01	0.50	—	0.50
	Total : Employment Service	13.22	7.00	13.23	20.23
III. INDUSTRIAL TRAINING					
1. Craftsmen Training					
IT(C) 1.1	Conversion of unpopular trades into popular ones	24.11	5.00	20.00	25.00
IT(C) 1.2	Addition to and replacement of tools and equipment	20.47	5.00	20.00	25.00
IT(C) 1.3	Training, seminars & study tours of staff	4.69	1.00	4.00	5.00

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : LABOUR AND LABOUR WELFARE

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
IT(C) 1.4	Completion of I.T.I. buildings & construction of ITI building at Nabha	..	25.55	10.00	30.00	40.00
IT(C) 1.5	Training-cum-Placement Cell	..	1.16	0.60	3.40	4.00
IT(C) 1.6	Apprenticeship Training Wing	..	0.60	1.50	2.00	3.50
IT(C) 1.7	Mobile training centres in rural areas	..	8.74	2.50	7.60	10.10
IT(C) 1.8	Consolidation and expansion of Industrial Training Institute, Lalru	..	4.02	3.00	—	3.00
IT(C) 1.9	Consolidation and expansion of Industrial Training Institute, Baba Bakala	..	4.86	3.00	—	3.00
IT(C) 1.10	Instructional Centre at Chandigarh	..	—	0.40	2.00	2.40
IT(C) 1.11	Modernisation of I.T.I., Patiala under UNDP/ILO Programme	..	3.24	2.00	13.00	15.00
IT(C) 1.12	Conversion of RATC./J.T.S./G.I.S. into ITIs and opening of new ITIs in non-represented areas	..	—	—	100.00	100.00
IT(C) 1.13	New Apprenticeship Scheme outside the Apprenticeship Act, 1961	..	5.55	3.00	—	3.00
IT(C) 1.14	Intensive training to ITI trained persons	..	0.75	—	—	—
IT(C) 1.15	Intensive training in T.V. technology	..	0.60	—	—	—
IT(C) 1.16	Production of utility articles at I.T.I. Gurdaspur and Ludhiana	..	0.20	—	—	—
Total			104.54	37.00	202.00	239.00
2. Industrial Schools for Girls						
IT(S) 2.1	Completion of building of Government Industrial Teachers Training Institute, Jullundur	..	1.21	0.50	4.00	4.50
IT(S) 2.2	Construction of new buildings for Schools	..	1.53	2.50	30.00	32.50
IT(S) 2.3	Opening of new Industrial Schools and introduction of additional seats in existing Schools	..	21.70	8.14	25.00	33.14
IT(S) 2.4	Opening of new teachers training classes	..	2.02	0.90	7.64	8.54
IT(S) 2.5	Opening of training-cum-production centres	..	2.14	0.97	5.00	5.97
IT(S) 2.6	Study tours, training and re-training, educational study tours and seminars and conferences	..	1.08	0.50	2.00	2.50
IT(S) 2.7	Modernisation and replacement of equipment and machinery in schools	..	—	—	5.00	5.00
Total			29.68	13.51	78.64	92.15

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : LABOUR AND LABOUR WELFARE

(Rs. in lakhs)

Number	Scheme	1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title				
1	2	3	4	5	6
3. Professional Training					
IT(P) 3-1	Construction of building of Arts and Crafts Teachers Training Institute at Amritsar ..	—	—	30.00	30.00
IT(P) 3-2	Starting of Arts and Crafts Teachers Training Institute ..	2.80	2.00	—	2.00
IT(P) 3-3	Training of skilled workers in footwear at Tanning Institute, Jullundur ..	0.44	0.32	—	0.32
IT(P) 3-4	Training of skilled workers for sports industry ..	0.79	0.42	—	0.42
IT(P) 3-5	Private Arts & Crafts Teachers Training Institute ..	—	0.75	—	0.75
	Total ..	4.03	3.49	30.00	33.49
	Total : Industrial Training ..	138.25	54.00	310.64	364.64
	Grand Total ..	161.70	69.00	351.11	420.11

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : WELFARE OF SCHEDULED CASTES AND BACKWARD CLASSES

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
1. Education Programmes						
SC 1-1	Pre-matric coaching to students	..	73.50	29.00	136.40	165.40
SC 1-2	Grant for the purchase of stationery & books (6th to 8th Class students)	..	19.95	20.00	123.20	143.20
SC 1-3	Grant for the purchase of law, medical and engg. books	..	3.14	0.90	5.28	6.18
SC 1-4	Training in Stenography	..	—	3.00	10.56	13.56
Total			96.59	52.90	275.44	328.34
2. Economic Up-lift						
SC 2-1	Subsidy for the purchase of—					
	(a) Agricultural Inad	..	32.00	8.00	70.40	78.40
	(b) House/wells on land	..	6.41	1.60	14.08	15.68
	(c) Stamp duty	..	1.14	0.29	2.53	2.82
SC 2-2	Technical training in industrial trades	..	24.73	8.00	35.20	43.20
SC 2-3	Punjab Backward Classes Land Development and Finance Corporation	..	74.00	30.00	348.48	378.48
SC 2-4	Punjab Scheduled Castes Land Development and Finance Corporation	..	188.00	—	—	—
SC 2-5	Interest-free loans/subsidy to scheduled castes going abroad for employment	..	—	—	22.00	22.00
Total			326.28	47.89	492.69	540.58
3. Health, Housing and other Programmes						
SC 3-1	Legal Aid	..	0.10	0.05	1.76	1.81
SC 3-2	Construction of Dharamshalas/Chapals	..	404.23	30.00	256.96	286.96
SC 3-3	Environmental improvement of Harijan Basties including drinking water wells	..	359.86	75.00	647.68	722.68
SC 3-4	Construction of houses for sweepers/scavengers, flayers and tanners	..	63.25	30.16	352.00	382.16
SC 3-5	Opening of creches for the children of working sweeper/scavenger mothers	..	2.29	4.00	—	4.00
Total			829.73	139.21	1258.40	1397.61
4. Welfare of Vimukt Jaties						
SC 4-1	Construction of houses for Vimukt Jaties	..	32.00	15.00	88.00	103.00
Total			32.00	15.00	88.00	103.00
Grand Total			1284.60	255.00	2114.53	2369.53

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : SOCIAL WELFARE

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
1. I Direction and Administration						
SWV 1.1	Research, Training and administration	..	0.50	0.80	1.76	2.56
	Total	..	0.50	0.80	1.76	2.56
2. I Family and Child Welfare						
SW 2.1	Assistance to dependent children	..	24.62	18.00	88.00	106.00
SW 2.2	Construction of certified schools	..	0.60	—	8.80	8.80
SW 2.3	Reception-cum-observation Homes	..	2.38	2.00	—	2.00
	Total	..	27.60	20.00	96.80	116.80
3. Women Welfare						
SWV 3.1	Assistance to widows and destitutes	..	160.42	40.50	132.00	172.50
SWV 3.2	Home for widows and destitutes	..	1.63	1.20	2.38	3.58
	Total	..	162.05	41.70	134.38	176.08
4. Welfare of Handicapped						
SWV 4.1	Scholarships to the handicapped	..	0.85	0.50	0.88	1.38
SWV 4.2	Supply of prosthetic aid to the handicapped	..	0.60	0.50	1.76	2.26
SWV 4.3	Home for the mentally retard children	..	4.00	1.50	—	1.50
SWV 4.4	Assistance to victims of chronic diseases	..	2.80	1.50	—	1.50
SWV 4.5	School for Blinds	..	6.71	—	—	—
	Total	..	14.96	4.00	2.64	6.64
5. Eradication of Beggary						
SWW 5.1	Eradication of Beggary	..	2.76	3.50	—	.50
	Total	..	2.76	3.50	—	3.50
6. Other Programmes						
SWW 6.1	Grant-in-aid to voluntary organisations	..	3.97	1.00	6.16	7.16
SWW 6.2	Grant to P.G.I. for the blinds	..	—	—	7.04	7.04
	Total	..	3.97	1.00	13.20	14.20
7. Punjab State Women and Child Welfare Corporation						
SWW 7.1	Share capital contribution to Punjab State Women and Child Welfare Corporation	..	—	—	176.00	176.00
	Total	..	—	—	176.00	176.00
	Grand Total	..	211.84	71.00	424.78	495.78

SIXTH FIVE YEAR PLAN 1978—83 : SCHEMES

HEAD : NUTRITION

(Rs. in lakhs)

Scheme		1974-78	1978-79	1979-83	1978-83
Number	Title	(Actuals)	(Outlay)	(Provision)	(Provision)
1	2	3	4	5	6
N 1	Programme for pre-school children ..	25.85	18.00	166.30	184.30
N 2	Programme for pregnant and lactating mothers ..	2.87	2.00	18.50	20.50
Grand Total ..		28.72	20.00	184.80	204.80

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : OTHER GENERAL ECONOMIC SERVICES—ECONOMIC ADVICE AND STATISTICS

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)	
	Title						
1	2		3	4	5	6	
I. Statistics							
ST 1.1	Economics of various means of lift irrigation	..	0.28	—	—	—	
ST 1.2	Strengthening of statistical machinery at different levels	..	30.06	17.30	—	17.30	
ST 1.3	Preparation of indices of industrial production and collection of statistics of small scale industries	..	4.42	1.90	—	1.90	
ST 1.4	Study of impact on employment in command areas of power projects and their spread effects on employment in adjoining areas	.	0.76	0.60	—	0.60	
ST 1.5	Additional staff for machine tabulation unit	..	—	0.20	—	0.20	
ST 1.6	Estimation of capital formation	..	—	—	14.52	14.52	
ST 1.7	Strengthening of district statistical offices and headquarters	..	—	—	28.69	28.69	
ST 1.8	Editing section at headquarters	..	—	—	2.83	2.83	
ST 1.9	Setting up of data bank	..	—	—	10.88	10.88	
ST 1.10	Purchase of computer timings	..	—	—	1.50	1.50	
ST 1.11	Surveys and studies	..	0.88	—	11.19	11.19	
ST 1.12	Strengthening of Evaluation section	..	—	—	7.94	7.94	
ST 1.13	Training of statistical personnel	..	—	—	9.98	9.98	
Total			..	36.40	20.00	87.53	107.53
2. Planning Machinery (State's share)							
PM 2.1	Additional staff at headquarters, accommodation and other facilities for them	}	—	—	88.00	88.00	
PM 2.2	Planning machinery at the district and block levels						
PM 2.3	Data processing, maintenance and retrieval equipment						
PM 2.4	In-service training in planning techniques & procedures						
PM 2.5	Strengthening & improvement of Planning Board Library						
PM 2.6	Surveys & studies relating to planning						
PM 2.7	Seminars & workshops on State Planning and participation in conferences on planning						
PM 2.8	Miscellaneous programmes						
Total			..	—	—	88.00	88.00
Grand Total			..	36.40	20.00	175.53	195.53

SIXTH FIVE YEAR PLAN 1978-83 : SCHEMES

HEAD : GENERAL SERVICES

(Rs. in lakhs)

Number	Scheme		1974-78 (Actuals)	1978-79 (Outlay)	1979-83 (Provision)	1978-83 (Provision)
	Title					
1	2		3	4	5	6
1. Stationery and Printing						
PT 1.1	(a) Opening of type-writer workshop and text book depots at Amritsar, Ferozepur, Hoshiarpur and Sangrur	..	5.24	2.80	—	2.80
	(b) Opening of type-writer workshop at Ropar, Faridkot and Kapurthala	..	—	—	5.00	5.00
PT 1.2	Strengthening of Central Workshop and Hqs. at Chandigarh	..	1.15	0.55	1.47	2.02
PT 1.3	(a) Extension in press building at Patiala	..	12.37	5.00	1.00	6.00
	(b) Additional machinery and equipment for Government Press and Ticket Printing Unit, Patiala	..	0.15	6.65	27.00	33.65
	(c) Construction of staff quarters at Patiala	..	11.77	—	2.99	2.99
PT 1.4	(a) Construction of Government Press at S.A.S. Nagar	..	0.68	5.00	9.35	14.35
	(b) Machinery and equipment for Government Press at S.A.S. Nagar	..	—	—	11.15	11.15
PT 1.5	Additional staff for Government Press Patiala (Ticket Printing Unit) & Government Press at S.A.S. Nagar	..	—	—	2.33	2.33
PT 1.6	Apprenticeship scheme for type-writer mechanics	..	0.27	0.12	0.48	0.60
	Total	..	31.63	20.12	60.77	80.89
2. Film Corporation :						
2.1	Share capital contribution to Punjab Films and News Corporation	..	76.50	—	30.80	30.80
	Total	..	76.50	—	30.80	30.80
3. Punjab State Civil Supplies Corporation						
3.1	Share capital contribution to PUNSUP	..	184.00	10.00	137.28	147.28
	Total	..	184.00	10.00	137.28	147.28
4. Public Works						
PW 4.1	Divisional offices & tehsil buildings	..	209.89	21.75	836.00	857.75
PW 4.2	Courts	..	10.20	5.25	44.00	49.25
PW 4.3	Patwar khana	..	—	—	176.00	176.00
PW 4.4	Police stations	..	—	—	176.00	176.00
PW 4.5	Jails	..	63.56	63.00	638.00	701.00
PW 4.6	Circuit houses & rest houses	..	47.08	35.00	76.56	111.56
	Total	..	330.73	125.00	1946.56	2071.56
5. Administrative Training Institute						
5.1	Establishment of Administrative Training Institute	..	1.00	5.00	58.96	63.96
	Total	..	1.00	5.00	58.96	63.96

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