The partition in 1947, left the Punjab agriculture in quandry faced with the problem of rehabilitation of refugees, low fertility of land, inadequate irrigation facilities along with higher density of population, making the 'food-surplus' state to be 'food-deficit' one. It was imperative, therefore, that the food production should be stepped up and efforts should be made to exploit all possible resources. Fortunately, however, there was considerable potential for the development of irrigation and hence, for the improvement of its production base.\(^1\)

The displaced persons from Pakistan entered the Indian soil penniless in 1947. The foremost duty of the Government was to rehabilitate the refugees.\(^2\)

From September 1947 to March 1951, they were given loans worth Rs. 4.5 crores by the Punjab Government to purchase bullocks, agricultural implements, Persian wheels, water pumps and for the repair of existing wells.\(^3\) The Government being anxious to solve

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the problem of food scarcity and for that it devised various ways like the provision of essential inputs (like irrigation and power) at highly subsidized rates, the supply of cheap loans directly or through cooperatives, an assured supply of seeds, fertilizers and insecticides, organization of agricultural research and extension services, and stabilization of product prices. The rural loans provided stimulus in modernizing agriculture. "After the departure of Muslims, large areas in the riverain got covered with reeds and tall grasses on account of neglect of cultivation. Tractors were pressed in service not only for reclaiming such lands but also for keeping them under cultivation". Lot of barren land was also brought under cultivation.

Irrigation has very important role in the agricultural development. As most of the canal irrigated area was transferred to Pakistan, the Government was pressed to augment irrigation schemes to bring more land under irrigation. The Harike Project, the Bhakra Dam Project and others like Madhopur Beas Link, Sirhind Feeder Project were undertaken.

Without quality seed it was not possible to have bumper crops. The Government arranged and distributed improved seeds of various crops to the cultivators. With the support of Government, from 1948-50, the improved varieties of seeds started receiving good response from the farmers.

These improved varieties had the potential to give more production if timely doses of fertilizers and regular supply of water were maintained. The Governmental efforts to supply inputs in sufficient quantity and the determined will of the peasantry combined together and the production showed upward trend. The production chart given below indicates that the production and the area under cultivation both increased and there was an improvement in the supply of foodgrains from 1947-50.

increased. This was the point from where the political leadership of Punjab started its efforts in the direction of revival of Punjab agriculture.

Political Set up:

The partition of Punjab in 1947, brought changes not only in social and economic conditions but also in political configuration of the State. With the migration of the Muslims, the Muslim League ceased to be a political force and the Unionist Party — which was dominated by the big landlords of the combined Punjab, had the majority of the Muslims. The Unionist Party was the second largest and important political party of the joint Punjab. This too, was disrupted and the attempts to revive it later ended in failure. The Indian National Congress emerged as the strongest political party and assumed power in Punjab after the partition. Gopi Chand Bhargava was elected as the Chief Minister of the State 'it is believed on Sardar Patel's direction'. But Pandit Nehru and Maulana Azad were in favour of the Satya Pal Group. The State Congress was faction-ridden.

With the inclusion of legislators migrated from erstwhile Punjab in Pakistan, the Satya Pal group headed by Bhim Sen Sachar, posed a powerful threat to Bhargava and on 13 April, 1949, Bhargava Ministry was toppled and Sachar became the Chief Minister. Sachar

remained in power till 18 October, 1949. Only and Bhargava with the support of the Akalis took over as the Chief Minister of Punjab for the second time. Giani Kartar Singh - an Akali, was included in the Council of Ministers. In the meantime Partap Singh Kairon was appointed as the President of the Punjab Pradesh Congress Committee and the Central High Command wanted that Kairon be included in the Ministry. Bhargava was asked to reshuffle the Ministry and six names were suggested by the Central leadership for the inclusion in the new Ministry. The names of the Akalis were excluded. But Bhargava was very much dependent upon the Akalis and this frustrated him. Ultimately he was asked to resign as he was not willing to accept the orders of the Central High Command. Bhargava submitted his resignation on 16 June, 1951. The Sachar-Kairon faction was in minority and there was no possibility of the alternate government. Hence, the President's rule was imposed in Punjab on 20 June, 1951.10

The first general elections of free India held in January, 1952, on the basis of adult franchise and in the Punjab State, Congress party came into power with the majority of 98 members out of the total of 126.11 The Congress High Command favoured Bhim Sen Sachar and appointed him as the Chief Minister. Partap Singh was inducted in the Ministry to support Sachar,

because Sachar—belonging to the urban elite, had no contact with the rural masses whereas Kairon—being a ruralite to the core—had good rapport with the legislators from the rural areas. The Department of Development and Consolidation was given to Kairon. He took the task of agriculture development and the consolidation of holdings seriously and diverted all his energies in convincing the farmers to help the Government in the process of consolidation. In the meantime, the Akalis intensified their Punjabi Subha agitation throughout the State. In 1954, they defied the Government orders and continued their processions, demonstrations and issuing provocative statements against the Government. In Amritsar, situation became very serious and some Akali leaders took shelter in the Golden Temple. To flush out the activists, the police had to enter the temple. This enraged the people in general and the Akalis in particular. The Sikhs charged the Government of violating the sanctity of their shrine and hurting their sentiments. This led to state-wide protests and rallies were held almost in all parts of Punjab.

Sachar was very upset over the law and order situation in the State and on 12 July, 1955, he apologised from the Sikh masses on behalf of the Government. The State Congress was unhappy over the act of the Chief Minister and Kairon resigned from the Ministry.

The matter was reported to the Central High Command and the High Command asked Sachar to submit his resignation. Kairon came closer to Pandit Nehru and uprised him of the latest situation and the sentiments of the people. Nehru thought fit to appoint a strong Sikh Chief Minister to pacify the agitaitonists. The Congress found Kairon as the best-suited person in that situation, as he had roots in the Sikh dominated rural areas. He was an experienced political leader and was capable of handling the situation firmly. Being secular and anti-communalist, he ruthlessly crushed the agitations in the State after taking over as Chief Minister of the State on 21 January, 1956.

Partap Singh Kairon brought stability in the political structure of Punjab. The faction-ridden politics came to an end and the leadership in the State diverted all its energies in the development activities especially, agricultural development. Though the process of agricultural development had started during the Sachar period, but intensive cultivation period started only after 1956. Kairon being Development Minister in Sachar Ministry had initiated consolidation of holdings with the cooperation of the farmers and achieved some success. Legislative measures were taken during the first phase of agricultural transformation.


* During the first phase (1947-56) most of the Acts relating to agriculture, were passed.
because in Sachar Ministry there was an equal number of urban and rural members of the Council of Ministers.  

In Punjab, the Congress Party had the thumping majority in the Legislative Assembly to support its policies. As a result of the merger of Patiala and East Punjab States' Union (PEPSU) with Punjab on November 1, 1956, the strength of the Congress legislators became 122 out of the total strength of 186. The Congress started formulating its policies with the support of members of the council of ministers from rural areas and the MLAs in the State Assembly.

The Congress leaders in Punjab followed the policies determined by the Central Congress Government. Pandit Jawahar Lal Nehru was both the Prime Minister of India and the President of the Congress Party and it was he who brought 'harmony and coordination between the party and the governmental policies'. The Central leadership formulated new policies concerning land reforms, community development, grow more food etc. to enhance the supply of food products. Various resolutions were passed by the Congress from time to time which were later adopted as the decisions of the Government of India. Those policy decisions were communicated to the States for adoption and implementation. (For details of the resolutions see Appendix I.)

17. Out of twenty members, ten belonged to the rural areas and out of the ruralites five were from agriculturist community. Janak Dulari. 1980. The Council of Ministers in Punjab - A Sociological Analysis (M.Phil Dissertation unpublished) Chandigarh: Panjab University, p. 81.
Political leaders in Punjab were all out to carry out the programmes for reconstruction of agriculture in the State. They passed various legislations in this regard, but legislations become fruitless until and unless efficiently implemented by the administrative machinery.

Administrative Set-up:

Before independence, the British were solely dependent on the bureaucrats - The Indian Civil Service (ICS) people, who were selected after a thorough screening from the elite of the society. Their main job was to maintain law and order and collect revenue. But after the independence, the bureaucracy had to move from 'autocracy' to 'democracy' and from 'limited government' to 'big government'. The area of operation of bureaucracy consequently increased. The civil servants were called upon to work within the framework of democratic processes. At the same time, elected representatives of the people came to power whose notions sometimes conflicted with the ideas of "procedure-oriented" bureaucracy. The relations between the political chief and the higher civil servants remained uneasy for couple of years after independence. Congenial relations were established soon thereafter. "It is to the credit of both the political leaders and the senior members of the service that within a short period that we have worked our democracy we have been able to strike a balance".

References:
Meanwhile, great political and social changes were taking place in India. In 1950, the new Constitution was promulgated, establishing a federal, democratic republic embodying the establishment of a welfare state, gave a new purpose and new role to the administration. Next year, came the First Five Year Plan. With the planned programme of economic and social regeneration and reconstruction the need of administrative reorganisation became urgent. "Without the readjustment of the machinery of the Government and the reorganisation of the civil services to foster the growth of the feeling that all officers were co-partners in a common nation building enterprise, it would have been difficult to secure the fulfilment of the purpose of the State".23

After the independence there was a shift in the attitude of bureaucracy i.e., from 'bureaucratic method' to 'extending' 'willing' and 'active cooperation' in carrying out the policies of the government. "The bureaucrats were persuaded to join hands and they became action-oriented".(.) The administrators started educating the people, sought their cooperation and stimulated their willing participation in governmental activities.

Thus, the emergence of the service and developmental activities resulted not only in the establishment of the Public


(.) Harcharan Singh Brar who was a Minister in Kairon Ministry (1958-64) and Giani Gurmukh Singh Masafir Ministry (November, 1966 to March, 1967), later, he was appointed as Governor of Haryana, told the researcher during his personal interview.
Relations Department but more than that it turned every administrator into a Public Relations Officer. The seat of the administrator shifted from the office to the field and the nature of his work from ordering to prompting, persuading, suggesting, stimulating and inspiring.\(^{24}\)

The developmental atmosphere led to the creation of new scientific methods which played very significant role in creating specialized technical services of high calibre like Punjab Agriculture Service (PAS), Economic and Statistical Organisation etc., in the administration.

The administrative organisation in the Punjab was divided into two parts viz. the policy formulating agencies and the executive organs.\(^{25}\) The former were called 'Departments' which were located at headquarters and were housed in one building - Secretariat. The Secretariat staff was headed by the Chief Secretary - a senior officer of the Indian Administrative Service (IAS), who was under the control of the Chief Minister. The Chief Secretary controlled the organisation and working of the Secretariat. The other members of the Council of Ministers controlled the Departments allocated to them through Secretaries. They were known as 'Secretary to the Government of Punjab, Department of ......' etc.

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24. ibid., p. 99.
25. ibid., p. 100.
The executive organs of the departments were known as the Directorates, which were headed by the senior-most officers of their own technical services e.g., the Directorate of Agriculture was headed by the senior-most Punjab Agriculture Service (PAS) Officer. These executive organs had two types of organisations - Headquarter and the Field. It was commendable feature of the State administration that the line of authority was kept intact and every officer was tied in a single chain of command that was controlled by the Chief Secretary and the Chief Minister through the Departmental heads. Even today, this administrative organisational model exists in Punjab.

For the proper implementation of the programme of 'Grow More Food' and 'Community Development and National Extension Services,' the necessity to reorganise the administrative machinery was felt. Consequently, there were changes in the organisational set up in Punjab. The Punjab Government appointed one senior administrative officer as the Development Commissioner with the charge of the Panchayat, Agriculture, Soil Conservation, Cooperatives and Animal Husbandry Departments. Besides, he also coordinated the rural development work of such State Departments as Public Works (B&R), P.W.D. (Canals) Industries, Education and Health, which operated under the control of other administrative secretaries. The Development Commissioner operated at the Headquarters, the Divisional Commissioner at the Divisional level and the Deputy Commissioner at the District

* Refer Appendix II.
level. Thus, the Community Development and the Agricultural Development Programmes had a powerful influence in transforming the administration into a "welfare administration". Its officers were trained in the principles of extension work where the chief method of learning was not traditional class-room teaching but was that of seminars, conferences and discussions. The District Officers of the PWD (B&R), PWD (Canals), Industries, Agriculture, Soil Conservation, Cooperative Societies and Animal Husbandry were made operationally answerable to the Deputy Commissioners.

At the field level the whole state was divided into 116 units viz. 'Development Blocks'. These Blocks were under the charge of Block Development and Panchayat Officers, who were operationally answerable to the Deputy Commissioner of the District. His function was to co-ordinate the activities of the officials of the various departments involved in the rural development work at Block level. BDO was very important functionary from the point of view of agricultural development, as Pritam Singh has put, "The administrative set-up contributed its bit to green revolution through the B.D.Os, who acted as the effective link between villagers and high officials".

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27. Tyagi, op. cit., p. 188.

* Pritam Singh was an I.A.S. Officer in Punjab, who has contributed a lot in the agricultural development.
** Personal interview with the researcher.
various departments involved in rural development were - Agriculture, Cooperation, Public Health, Panchayats, Social Education, Rural Engineering* and Industries. These officials were designated as Extension Officers of the department concerned. At the bottom, there were 'Village Level Workers' who were multipurpose functionaries. The administrative structure was designed to save the farmer from having to move from one official to other and from one department to the other, seeking help, guidance and advice in the various facets of his life and business. The fundamental idea in this organisation was that the Village Level Worker should work with the local people and popularise the use of selected farm inputs such as improved seeds, green manures, fertilizers and pesticides for the development of agriculture.29

For the smooth functioning of the developmental activities of the administration, the Planning Commission had suggested various proposals. Accordingly, the Punjab Government constituted an advisory committee of senior officers under the Chairmanship of Shri A.L. Fletcher in 1953. The Committee submitted its report in 1956, which has come to be known as Administrative Decentralization Report. According to the report:30

*Rural Engineering was mainly concerned with the indigenous implements used for cultivation.

29. Tyagi, op. cit., p. 98.
30. ibid.
the need is to have a strong executive with a well defined role not only in spheres that especially its own but vis-a-vis other departments, particularly those concerned with welfare and development. At the same time, the bureaucracy must not be allowed to be bureaucratic and insensitive to the needs of the people. But a strong executive with a larger role to play does not mean, further concentration of power and authority. The objective can be achieved by decentralization and more delegation of authority than at present. The Tehsil should be the administrative and development unit and the Sub-Divisional Officer would coordinate all development work at the sub-division level, subject to the control and direction of the Deputy Commissioner and in conformity with the district development plan.

The Committee recommended the establishment of the Development Boards at the Secretariat, District and Sub-division levels.

The Central Government had constituted the Planning Commission to plan for the development of the country as a whole. To achieve the objectives set by the Planning Commission, the reorganisation of the District administration was absolutely necessary. The suggestions of Fletcher Committee proved to be of immense benefit in tuning up the administrative set up in Punjab to boost the agricultural production.

The Government of India had already started "Grow More Food" campaign in 1942 and it continued till 1946. Its term was extended by five years. Punjab Government extended the

scope of this campaign to six other departments viz. Cooperative, Forest, Veterinary, Irrigation, Electricity and Public Relations to seek their cooperation in agricultural development. Further, under the Chairmanship of Governor of the state, a sub-committee was set up in 1949, which was given powers to take decisions on matters of policy to cut short red-tapism, issue directions to various heads of the Departments and to watch day-to-day progress. The Deputy Commissioners were made the incharge of the campaign in their respective districts. To encourage the agricultural development, a number of laws on various aspects of land reforms were passed by the State legislature.

**Land Reforms:**

In Punjab, the agrarian system was highly defective, it was in favour of intermediaries; tenure was insecure; rents were unregulated and high and the holdings were fragmented.  


* The titles of the laws passed were as follows:  
As a result the yield level was low and the State was urgently in need of certain strong measures towards this sector. To bring desired reforms in the agriculture, the Punjab Government followed the instructions of the Centre keeping in view the needs of the State and passed a number of Acts during the period 1952-56. In other words, the period from 1952-56 is considered as the first phase of land reforms, which had great impact on the development of agriculture in the State in later years.

The ground had already been kept ready for the proper environment for land reforms in the State. The Land Reforms Committee was constituted by the Punjab Government with the main purpose to bring revolution in the agricultural development. The Committee's recommendations were accepted by the Government and later, after the general elections, these recommendations were converted into the legislative Acts of the State. Of course, agricultural lobby in the Assembly played a very important role in getting the Acts through without any hitch.

The history of land reforms goes back in 1938, when the Floud Commission was appointed to report on the working of zamindari system. According to the Commission "the zamindari system is an incumbrance on the existing agricultural society which finds no justification in the performance of any material service". Nehru too, was of the opinion that:

35. In 1949, it was constituted to assess the conditions in the States concerning agricultural development and recommendations for improvement like removal of intermediaries, tenancy reforms; proprietary laws; ceilings etc. were presented.

What has he (Zamindar) done to get his share or deserve it? Nothing at all or practically nothing. He just takes a big share in the produce - the rent without helping in any way the work of production. He, thus, become a fifth wheel in the Coach - not only unnecessary but an annual encumbrance and a burden on the land.37

Intermediaries were doing nothing and getting 50 percent share of the produce. To tackle such problems the Congress party had passed various resolutions on agrarian reforms from time to time, but in 1947, an Agrarian Reforms Committee was appointed by Dr. Rajendra Prasad - then the President of the Congress.38 The Committee's recommendations were accepted by the party. Later, the Government of India, formed a committee consisting of the Minister of Food and Agriculture, the Minister of Home Affairs and States, the Chairman and other members of the Planning Commission.39 This Committee considered the land reforms in the State of Punjab, PEPSU, Himachal Pradesh, Delhi, Mysore etc. and advised the states at various stages of reform activities.

In 1952, the Punjab Abolition of Ala Malkiyat and Talukdari Rights Act was passed and got assent of the President of India on August, 1953.40 The Act was passed "to abolish the

37. ibid., p. 7.
rights of superior proprietors, to confer full proprietary rights on inferior proprietors in land held by them and to provide for payment of compensation to the superior proprietors whose rights are extinguished and for certain consequential and incidental matters. 41

The Punjab Occupancy Tenants (Vesting of Proprietary Rights) Act, 1953, 42 was a step towards vesting proprietary rights in occupancy tenants and to provide for payment of compensation to the landlords whose rights were extinguished and for certain consequential and incidental matters.

The Punjab Security of Land Tenures Act, 1953, 43 provided for the security of the land tenure and other incidental matters and the minimum period of tenancy was fixed for ten years. A tenancy for a period of its duration, was heritable in accordance with the law of succession applicable to the tenant. The maximum rent was fixed. According to the Act, ",...... The maximum rent payable by a tenant for any land held by him as such shall not exceed one third of the crop of such land or the value thereof as determined in the prescribed manner\". Under this Act no land owner could own or a tenant could hold more than thirty standard

acres. The area in excess of the permissible limit was to be utilized for resettlement of tenants ejected or to be ejected as a consequence of the landlord reserving land for himself equal to permissible area. But this resulted in the ejection of tenants by owners on the ground of land resumption for self-cultivation. This act was amended in 1955 and by that time, the number of tenants had decreased. By March 30, 1955, there were 5,83,000 tenants, but by 1964, the Government declared that the total number of tenants who were holding land at the commencement of the Act, was 80,250 only. Why such a large difference in these figures? Actually, there were out and out ejections "voluntary surrenders" or the transfer of tenants to the status of share croppers or agricultural labourers.\(^4\)

Out of the surplus land, a tenant could be allotted at the most 5 standard acres. Such tenants were given protection against ejectment.\(^4\) That means a tenant could not be ejected "unless the tenant was guilty of certain lapses such as failure to cultivate the holding or to pay rent".\(^4\)
After the amendment in the Act in 1955, the Government was empowered to utilise the 'surplus' areas of both land owners and tenants for resettlement of landless and ejected tenants. These reforms made available with the Government 34 percent of surplus land for distribution, comparative to 25 percent in India as a whole. By this process new landowners who were once tenants and later purchased the land, put all efforts to improve their lands for more production. "With these steps it is hoped that the landless element will also have an opportunity to contribute its prosperity and stability in a self-respecting way and at par with others". The tillers turned owners were now open to the new improved methods of cultivation.

The East Punjab Reclamation of Lands Act, 1949, gave powers to the Director of Agriculture to take necessary steps for the reclamation and cultivation of reclaimed areas. The Banjar (barren) land which had no production, came under cultivation and the net cultivable area increased. With the increase in sown area, the production increased.

Again in 1949, an Act was passed - The East Punjab Tractor Cultivation (Recovery of Charges) Act. According to this Act, the areas where cultivation was possible only through

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tractors, were cultivated by the Department of Agriculture by using tractors and the charges of the cultivation were recovered from the occupier of the land. This way, the Government helped the occupier in bringing more area under cultivation.

For the reclamation of land, tractors were purchased by the Government of Punjab. This process of reclamation could increase the area of cultivation. But the schemes for reclamation of land, were brought into operation during the Second Plan. Any how, by the year 1956, there were 3809 tractors in the State. In 1951-52,51 out of 6.98 lakh hectares, 4.64 lakh hectares area was affected with alkalinity and salinity. The state government gave subsidy at the rate of 75 percent to small farmers and 50 percent to other farmers so as to bring fertility of the soil within easy reach of the farmers. Further loans at the rate of Rs.4000 per hectare were also given.

In Punjab the commitment of the Government to bring land reforms, was strengthened with the support of the policies of the Centre. The East Punjab Holdings (Consolidation and Prevention of Fragmentation) Act, 1948, had already been passed and as a result of this, a separate Department of Consolidation of Holdings was created in 1949,52 to provide all assistance required to the field staff and to educate the farmers for their

cooperation in the process of consolidation. Kairon - the minister incharge, virtually toured almost all the villages of the State to convince the farmers about the benefits of consolidation.

The pressure on land reduced the unit of cultivation to very small proportions. Not only the holdings were small but they were scattered in fragments. These small scattered holdings created hurdles in the way of boosting agricultural production. Because in fragmented fields time was wasted and extra expense was involved in moving workers, animals, seeds, fertilizers, and implements to and from farmstead or from one field to another. "Supervision is made more difficult; expenses increase; comprehensive irrigation and drainage facilities or other measures of improvement become extremely difficult". Land was wasted in embankments. The answer to these problems was the consolidation of (holdings) fragmented plots and prevention of further fragmentation.

The process of consolidation started in Punjab, in 1920-21 under the auspices of the Cooperative Department. Hubert Calvert, then Registrar of Cooperative Societies, Punjab introduced the idea of consolidation of plots for the first time. But the idea somehow could not attract the farmers. It was only after 1947, when realising the difficulties of scattered plots, the Punjab Government decided to consolidate


the scattered plots into equal size compact blocks and land could be spared for amenities in the village. In 1948, the East Punjab Holdings (Consolidation and Prevention of Fragmentation) Act, was passed to make the consolidation compulsory. From 1920-51, only 7 lakh acres of land was consolidated. After the Act of 1948, the work was taken up by Revenue and Consolidation Departments. During the First Plan period, the target was fixed to consolidate 85 lakh acres, but somehow the target could not be achieved and upto 31 March, 1956, repartitioned area was 48,12,680 acres.


According to the East Punjab Holdings (Consolidation and Prevention of Fragmentation) Act, 1948:
(i) the preliminary work of the staff was the correction of and updating the record of peasants rights and the preparation of a preliminary statement; (ii) village advisory committees were formed to advise the staff on all matters concerning consolidation and in particular on the classification and valuation of fields and later the preparation of village consolidation schemes; (iii) the evaluation of the plots was done on the basis of the quality of the soil, the source of irrigation, the productivity of land and distance from village abadi; (iv) irregular fields were to be consolidated into the rectangular blocks of one acre size; (v) opportunity was available to replan the country side, including planning the location of schools, roads and hospitals, land earmarked for community buildings, play-grounds, places of worship, a road running around the village, roads linking one village to another and then on the main roads.

The scheme of consolidation benefitted both the farmers and the State. The individual farmers could install tubewells in their fields and there was increase in cultivated area which was before consolidation, lost in embankments. Besides, the consolidated plots could enjoy the canal irrigation better. Increase in agricultural production due to consolidation alone without change in techniques was reported to be about 25 percent. The other benefits of consolidation included the work on land improvement, new road system, and other common amenities.

In 1949, the East Punjab Agricultural Pests Diseases and Noxious Weeds Act, was passed "for the prevention of the introduction spread or reappearance of pests, plant diseases and noxious weeds injurious to crops, plants or trees in the State of Punjab". According to the Act, the duties of the land occupier were defined as "every occupier is bound to carry out the preventive and remedial measures in such notification... In case of failure to comply with the orders of the Inspector, the Inspector may carry out at the expense of the occupier". This act had great impact on the agricultural production.

58. Randhawa M.S., 1974, op. cit., p. 43.
As a result of these legislative measures, the cultivators came in direct contact with the State. Intermediaries were removed and "the area under self-cultivation increased from 51.4 percent (of the total) in 1947 to 66.4 percent in 1957....... Area cultivated by tenants, on the land decreased from 47.2 percent in 1947 to 34.6 percent in 1957. This means that the number of owner-cultivators increased, and when the tenant becomes the owner, he puts maximum efforts to get maximum output. Thus, the efforts of the Punjab Government, with the support of Central policies brought reforms in the agrarian system in the State. A stable and reconstructed rural base with an equitable tenurial system paved the way for 'Green Revolution'.

Irrigation and Power:

The paucity of irrigation compelled the Punjab Government to explore the immediate engineering possibilities of harnessing the untapped water resources and speeding up of the projects already undertaken. As a large number of prosperous peasants had migrated to the State, the allotments of land made to them besides being deficient of rainfall, were devoid of irrigation facilities. In the State where nearly three-fourth of people depended upon agriculture, reorganisation of agriculture and irrigation, therefore, occupied an important place in the economy of the State and the growing need for food added to its importance.

Investigations revealed that about 20 percent of the canal water is wasted by way of absorption, and a further 15 percent in the process of distribution. This could be compensated by increasing the supply of water to the canals. Ultimately, the Planners decided in favour of multi-purpose, one of the largest in fact, project at Bhakra to be strengthened through engineering side of conservation and expansion of water supplies i.e. remodelling, repairs and extension of existing irrigation works.

The Bhakra Nangal Project was started in 1946 in anticipation of the preparation of Project estimate, and its canal system followed later. The Bhakra canal system is a biggest landmark in canal irrigation development which included the Bhakra Canal and the Bist-Doab Canal. By 1954, this system was completed.

The Harike Project was conceived because of the risk of depleted river supplies to the canals drawn from the Ferozepur Head works consequent to Pakistan having dug a channel from the Sutlej river at a point above Ferozepur. It involved the construction of a barrage at Harike to feed 4 canals namely, the

63. Ibid., p. 96.
Ferozepur Feeder for the Eastern and Bikaner Canals, the Makhu Canals to feed the Gray Canal system, the Rajasthan canal and the Sirhind Feeder.

Various other schemes were started during the First Plan period, on remodelling, repairing and extension of existing irrigation works, i.e., on the expansion of water supplies. The chief schemes were the remodelling of the Western Jamuna Canal, construction of the flood irrigation channels, the extension of non-perennial irrigation in the Upper Bari Doab Canal, the extension of the irrigation on the Eastern Canal and the Tubewell schemes. As a result of all these schemes and the projects, about 14 lakh acres of additional area was brought under irrigation and the additional irrigation helped the state to produce about 2 lakh tons of foodgrains per annum more.66

In 1950-51, Punjab had 239 lakh acres out of which 161 lakh acres were culturable. Of this 39 lakh acres, representing 24.22 percent were irrigated. By the end of the First Five Year Plan this figure rose to over 51 lakh acres per annum, representing 31.68 percent of the culturable area and increasing the irrigated area by 30.8 percent.67

Power:

Power in the form of electricity plays a vital role in agricultural development. It facilitates lift irrigation in

67. ibid., p. 99.
areas where flow irrigation is difficult or impossible, operates tubewells and also can enhance industrialisation. During the First Plan period, it was decided to generate more power through various projects. As per the report, Punjab was much behind other states in India in the matter of per capita consumption of electric power. In 1956, per capita consumption of electric power in Punjab was 9.7 against 77.9 in Delhi and 55.6 in Mysore.  

The Punjab Government, with all its efforts to improve the generation of electricity, for the use in rural sector during the Plan period could not improve the situation much. Only ten percent of the rural areas could be electrified despite all efforts and loans given to the private companies to generate more power. The allocated funds were used for the completion of giant power generating station - The Bhakra Dam. The tubewells installed to augment the supplies of the Western Jamuna Canal were energised. A scheme was passed to supply power for irrigation purposes. Thermal sets were installed for providing supply to tubewells under Jagadhari Tubewell Scheme. The generation cost was much more than the rate of supply and hence, there were heavy losses. The Uhl River Scheme electrified 31 towns and 479 villages. The supply to the tubewells used for irrigation was increased. According to the records, 3000 tubewells were energised by the Department during the plan years - 1951-56.

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68. ibid., p. 109.
70. ibid., p. 110.
72. ibid., p. 112.
Upto 1956, the irrigation and power to some extent improved the production of foodgrains but much was left. The loans, and subsidies given to the cultivators for sinking wells, tubewells, kuhls, pumping sets etc. had started the pace for future development. The tubewells installed by the Government for the benefit of small farmers did contribute in increasing the irrigated area. In all 45973 tubewells owned by the Government were put in operation. Power was made available to the farmers at subsidized rates and loans were given to purchase diesel engines.74

Research, Development and Extension Services:

The expenditure incurred on agricultural development by the State was primarily for Extension and Development, Agricultural Research and Agricultural Education. Since the policy of the Government was clear to boost agricultural production, the administration of the State was also giving good support for the implementation of the policies. The Department of Agriculture was trained to leave no stone unturned in providing necessary infrastructure, that the farmers need from time to time.

In the beginning, the Department of Agriculture was engaged in teaching, research and extension activities. The Government Agricultural College was established in 1955, at Ludhiana, to impart generalised teaching and training. The extension wing of

74. Ibid., p. 25.
the College started functioning in April, 1955. Initially, the intake capacity of the College was 40 in 1955-56, which was raised to 100 in 1959-60 and 250 admissions in 1960. But the research activity was carried out in a complex of ill-equipped regional research stations scattered all over the State. The research activity did not contribute much for the increase in production of foodgrains. The extension wing of the department was concerned with the extension services supplemented with supplies and technical advice to the farmer. At the headquarters there was one Director of Agriculture, Deputy Director at the Divisional level, District Agricultural Officers at the District level and Agricultural Inspectors, Sub-Inspectors and Fieldsmen (Beldars) at Tehsil level. The Departments of Cooperation and the Animal Husbandry were independent in their functioning.

The Department of Agriculture carried out developmental activities in the form of practical demonstrations through demonstration plots and supplied chemical fertilizers and seeds. These improved seeds needed pesticides also to destroy pests and to control diseases. The cultivators and the departmental officials would sit together and the problems concerning the use of fertilizers - their quantity per acre, the use of

pesticides - precautions taken thereof for safety, were sorted out. The Extension Staff of the department concentrated their attention in securing more wide spread practical adoption by the cultivators of all recommendations which the department was in a position to make. During the period 1951-56, 1608038 mds of improved seeds and 48865 tons of fertilizers were distributed to the farmers. The Department laid out 14249 demonstration plots for imparting knowledge to the cultivators. The other means they used was film shows - in all 523 shows were held from 1951-1956, in different parts of the State and through these film shows, the farmers got interested in new techniques of farming.79

Research on different new varieties of seeds played an important role in the development of agriculture. There were scientists and experts in the Department, who were actively engaged in bringing out new and less prone to diseases varieties of wheat with more yield. The major achievement was the release of five new improved varieties of wheat* suitable for different agro-climatic conditions of different areas of the State. Similarly, the new varieties of other food crops and cotton were introduced.80


* Names of improved varieties of wheat - C-281, C-273, C-286, C-285 and C-217.
The Research wing concerning agricultural implements developed certain new implements, besides improving the old ones. New pedal driven winnowing fan, disc threshers, power wheat thresher and winnowing Rice Weeder, Rice Puddler, Wheat Hand Hoe, Care Plough, Hindustan Plough, Mustan Plough, Ridger and Automatic Rabi Seed Drill, brought the farmer closer to the Department, and with the use of these implements, the process of mechanization and modernisation of Punjab agriculture started. The easy operation of the implements and machines suited the ruralites and by using them they could save time and energy and at the same time have more production.

As the Agriculture College and Research Institute was left in Lyallpur (Pakistan), Punjab was without any Agriculture College. During the First Plan the Government established Agriculture College and Research Institute at Ludhiana to train the rural youth theoretically as well as practically. An Agriculture School was opened at Sirsa to cater to the needs of sons of farmers who needed training in improved agricultural practices. The boys studying agriculture in school used to transmit their knowledge to their parents. This transmission of knowledge had great impact on the agriculture practices used by the farmers.

The sound directions given by the political leadership and implementation by the administration had great impact on the agricultural production. The output of the efforts was encouraging, but still in the minds of leaders there was need of more vigorous exercise. They used all possible methods to involve more and more cultivators in the process of developmental activities. The printing material in the form of leaflets, brochures, posters etc. were made available to the farmer. All India Radio, Delhi had started broadcasting programmes on agriculture giving details about the seasonal crops, use of fertilizers, pesticides and methods of harvesting etc. The Department of Agriculture was to some extent relieved from the research activities with the establishment of Research Institute at Ludhiana. The Extension Staff acted as a link between the farmers and the researchers. Now, the department could spend more time and energy on new developmental policies for the future.

The Department of Agriculture had developed some new varieties of crops and improved seeds, to increase the production. For compulsory and fair distribution and use of these seeds, the department had made all arrangements. To strengthen their will the East Punjab Improved Seeds and Seedlings Act, 1949 was passed. This Act was to "provide for the use of pure and certified seeds and seedlings of the improved varieties of crops recommended by the Department of Agriculture.

The Department of Agriculture and the Research Institute at Ludhiana recommended improved seeds for more production. The supply of seeds to the farmers was however continued throughout the Plan period. In all 1608038 maunds of new improved seeds were distributed.85

The improved seeds became popular with the farmers because they were capable of giving more production. Gradually, the indigenous varieties started vanishing and new improved high yielding varieties touched the soil of the State. The response of the farmers in accepting these varieties is judged from the table:

**TABLE II(2)**

Area Under Improved Varieties in Punjab

<table>
<thead>
<tr>
<th>Crops</th>
<th>Total Area (acres) 1955-56</th>
<th>Area under Improved Varieties (acres)</th>
<th>Percentage of Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>3616094</td>
<td>3138570</td>
<td>86.79</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>368763</td>
<td>346655</td>
<td>94.00</td>
</tr>
<tr>
<td>Cotton</td>
<td>836764</td>
<td>799669</td>
<td>95.94</td>
</tr>
<tr>
<td>Bajra</td>
<td>1750576</td>
<td>296279</td>
<td>17.04</td>
</tr>
</tbody>
</table>

**Source:** Department of Agriculture Punjab, Annual Report 1955-56, p. 47.

The above figures show that the policies of the Government to improve agricultural production did not go waste, and the Department of Agriculture was always thinking to supply new improved certified seeds to the farmers. But for the full exploitation of these seeds, water and fertilizers were very essential. The chemical fertilizers, though not very popular among the farmers, were popularised by the extension staff. From 1951-56, the supply of fertilizers was maintained and 48865 tons of ammonium sulphate was supplied to the farmers.\footnote{86} And during 1955-56, last year of the First Plan the supply was to the tune of 15923.07 tons of ammonium sulphate and 272.85 tons of super phosphate.\footnote{87} These fertilizers were given against taccavi loans.

First Five Year Plan - the Union vis-a-vis Punjab:

Keeping in view the development of the State, the Planning Commission presented a draft outline of a Plan for a period of five years from April 1951 to March 1956. The Plan included a number of development projects which had already taken in hand as well as others which had not yet begun. The Draft outline was discussed in detail by the Centre and most of the State Governments.

\footnote{86}{\textit{Ibid.}}
\footnote{87}{Govt. of Punjab. 1956. \textit{Annual Report 1955-56 - Operations of Department of Agriculture}. Patiala: CPS, p. 35.}
The central objective of Planning in India was to initiate the process of development which would raise living standards and open out to the people new opportunities for a richer and more varied life. To attain maximum production, employment, economic equality and social justice, the planning process was started in India. Before the planning, little attention was paid to the improvement of agriculture or to the needs of the rural areas. The members of the Planning Commission decided unanimously to dedicate the First Plan to agriculture sector including irrigation and power. The outlay and the actual expenditure incurred under various heads is given below:

Table II(3)
India's First Five Year Plan (in Crores)

<table>
<thead>
<tr>
<th>Head</th>
<th>Actual Expenditure</th>
<th>%</th>
<th>Outlay</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture and Community Develop-</td>
<td>360.43</td>
<td>17.4</td>
<td>191.69</td>
<td>12.8</td>
</tr>
<tr>
<td>ment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Irrigation and Power</td>
<td>561.41</td>
<td>27.2</td>
<td>450.36</td>
<td>30.2</td>
</tr>
<tr>
<td>3. Transport and Communication</td>
<td>497.10</td>
<td>24.0</td>
<td>388.12</td>
<td>26.1</td>
</tr>
<tr>
<td>4. Industry</td>
<td>173.04</td>
<td>8.4</td>
<td>100.99</td>
<td>6.7</td>
</tr>
<tr>
<td>5. Social Services</td>
<td>339.81</td>
<td>16.4</td>
<td>254.22</td>
<td>17.0</td>
</tr>
<tr>
<td>6. Rehabilitation</td>
<td>85.00</td>
<td>4.1</td>
<td>79.00</td>
<td>5.3</td>
</tr>
<tr>
<td>7. Miscellaneous</td>
<td>51.99</td>
<td>2.5</td>
<td>28.54</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>2068.78</td>
<td>100.0</td>
<td>1492.92</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The table given above clearly indicates that the First Plan's expenditure on agriculture and irrigation and power was 44.6 percent against the target of 43.0 percent as earmarked in the draft. Multipurpose irrigation and power projects were considered important for the agricultural development and good amount was spent on them. Major, medium and minor irrigation projects augmented the irrigation facilities, which led to the increase in agricultural production. Transport and communication sector was also given due attention. Economic and social planning comes under the 'Concurrent List' on which the centre and states both were competent to legislate.

Punjab formulated a development strategy as per the national policy and during the First Plan period (1951-56) agricultural development, more production of foodgrains and expansion of irrigation was the target.

The proposal of agricultural development in Punjab got the support of the Central leadership and they were ready to assist the State by allocating good amount out of the planned allocations. Punjab was lucky to receive 8.5 percent of the total allocation for 'A' class States in the national plan, against its 3.53 percent of population. Punjab received

* The Constitution of India distributes powers between Centre and States on subjects mentioned in three lists viz. 'Union List' comprises subjects under the Union Government, 'State List' gives power to the States of the Union to legislate on the subjects mentioned in the list and the 'Concurrent List' is under the control of both the Centre and the States.

special attention partly because it held greatest potential for food production due to its legacy of irrigation facilities and other infrastructure.\textsuperscript{90}

With the assistance from the Centre and its own resources, the Punjab Government formulated its First Five Year Plan completely in favour of agricultural sector.

The total expenditure incurred in the First Plan of Punjab was of the order of Rs.141 crores. The break-up of the expenditure under different heads is given as under:

\textbf{Table I1(h)}

\textbf{The First Five Year Plan of Punjab (1951-56)}

<table>
<thead>
<tr>
<th>Head</th>
<th>Actual Expenditure</th>
<th>Percentage of Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture and Community Development</td>
<td>25.47</td>
<td>18.07</td>
</tr>
<tr>
<td>2. Irrigation and Power</td>
<td>82.56</td>
<td>58.59</td>
</tr>
<tr>
<td>3. Industries and Mining</td>
<td>1.30</td>
<td>0.92</td>
</tr>
<tr>
<td>4. Roads and Road Transport</td>
<td>8.17</td>
<td>5.80</td>
</tr>
<tr>
<td>5. Social Services</td>
<td>12.00</td>
<td>8.52</td>
</tr>
<tr>
<td>6. Miscellaneous</td>
<td>11.41</td>
<td>8.10</td>
</tr>
<tr>
<td>\textbf{Total}</td>
<td>\textbf{140.91}</td>
<td>\textbf{100.00}</td>
</tr>
</tbody>
</table>

\textbf{Source: Planning Department, Punjab.}

The split given above clearly indicate that the First Five Year Plan of Punjab devoted 76.66 percent of the total expenditure on agriculture, and irrigation and power. Such heavy expenditure on agriculture was necessary for development needed to rehabilitate the uprooted millions and to fill the gaps caused by the partition, particularly in the irrigation (canal) system of the State. Moreover, adequate allocation for Bhakra Nangal Project had to be made not only for irrigation but also for creating power potential which was the pre-requisite for agriculture and industrial development.

By the end of the First Five Year Plan, the planners assessed the achievements of Plan and they were of the opinion that though the results\(^1\) were encouraging, yet one more Plan period should be devoted to the agricultural sector on priority basis.\(^2\)

The discussion ensued in Chapter II gives the clear picture of the state of affairs of Punjab agriculture from various aspects i.e. political, administrative, economic, social etc. over the period 1947-56. During this period, the Punjab politico-administrative set up could overcome the deficiencies caused by the partition. These efforts gave impetus to the sincere thinking in the direction of a proposal leading to agricultural revolution in Punjab.

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91. Refer Appendix Table Nos. III(A) and III(B).

As to how the efforts started during the First Plan and continued in subsequent plans could create a politico-administrative environment leading to the green revolution is dealt with in the next chapter.