

E. C. No. 54.

ESTIMATES COMMITTEE

FIFTY-EIGHTH REPORT
1956-57

**ACTION TAKEN BY GOVERNMENT ON THE
RECOMMENDATIONS CONTAINED IN
THE TENTH REPORT OF THE
ESTIMATES COMMITTEE**



LOK SABHA SECRETARIAT
NEW DELHI
March, 1957

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Shri A. R. Shirali—*Deputy Secretary.*

Shri C. S. Swaminathan—*Under Secretary.*

*Resigned on 20th November, 1956.

**Died on 6th October, 1956.

†Ceased to be a Member upon his election to Rajya Sabha on the 13th December, 1956.

INTRODUCTION

I, the Chairman of the Estimates Committee, having been authorised by the Committee present this Fifty-Eighth Report on the Action taken by the Government on the recommendations contained in the Committee's Tenth Report on the Ministry of Food and Agriculture.

2. The Tenth Report of the Estimates Committee was presented to the House on the 29th September, 1954. The Government furnished their replies on the 28th February, 1955 and the 29th December, 1955. The replies were considered by the Sub-Committee of the Estimates Committee 1955-56 during their sitting on the 11th May, 1956. Further replies received from Government have been included in this Report.

3. The Report has been divided into three Chapters:

I. Report.

II. Recommendations that have been accepted by the Government.

III. Replies of the Government that have been accepted by the Committee.

BALVANTRAY G. MEHTA,

NEW DELHI;

The 20th March, 1957.

*Chairman,
Estimates Committee.*

CHAPTER I

REPORT

Since the Estimates Committee presented their Tenth Report on the Cattle-cum-Dairy Farm, Karnal and on the Indian Dairy Research Institute, Bangalore, a National Dairy Research Institute has been established at Karnal. The Office of the Director of Dairy Research has been located at Karnal while the Cattle-cum-Dairy Farm at Karnal has been merged with the Research Institute. The Indian Dairy Research Institute at Bangalore has been designated as the Southern Regional Station of this Institute. A note on the formation and organisation of the Institute which has been furnished to the Committee by the Ministry of Food and Agriculture is placed at Appendix IV.

2. In view of the fact that after the Committee examined the Cattle-cum-Dairy Farm, Karnal, conditions have changed materially on account of the merger of the Farm in the National Dairy Research Institute, the Committee do not consider it necessary to pursue previous recommendations which specifically related to that particular Farm. However, they would invite reference to the action taken on the recommendations contained in paras 17 and 19 of the Tenth Report.

In para 17 of the Tenth Report, the Committee had recommended that research on Cattle Breeding on scientific lines should be undertaken in a larger number of institutes distributed over various centres in the country. They had also recommended that research work in the various branches of dairy economy should be carried on with a view to improving the quality of milk products. The Committee were informed in December, 1955 that the question of setting up regional livestock research stations was under discussion between the Ministry of Food and Agriculture and the Planning Commission for inclusion in the Second Five Year Plan. In October, 1956, the Committee were further informed that no decision on this question had still been taken. Certain recommendations on the subject made by an Expert Committee were, however, stated to be under consideration. The Committee recommend that there should be no further delay in taking a decision in this matter.

3. In para 19 of the Tenth Report, the Committee had commented on the delay of over five years in sinking tube wells in the farm, three of which were sanctioned in 1948 but only one was functioning when the Committee visited the Farm on the 28th December, 1953. The Ministry replied in February, 1955 that the causes of delay were being investigated separately in consultation with the Ministry of Works, Housing and Supply. A further reply received on the 1st October 1956 shows that the Ministry took up the matter with the Ministry of W. H. & S. only in December, 1955, i.e. nearly nine months after they gave the reply referred to above, though it was stated that the matter had been earlier taken up with the C. P. W. D. and the D. G. S. & D. The Ministry of W. H. & S. after investigating the matter expressed (on 29th June, 1956) only regret in regard to the delay and intimated that the purchase officer concerned had been suitably admonished.

The Committee regret to observe the leisurely way in which the investigation was conducted.

4. In paras 41 and 42 of the Tenth Report, the Committee had referred to the proposal to shift the Indian Dairy Research Institute, Bangalore, from that place and had recommended that in view of the very good service rendered by the Institute in the Southern districts and its specialised knowledge of the Cattle breeds peculiar to that region, the Institute at Bangalore should continue to cater to the requirements of the Southern Districts. The Committee are glad to note that this has been accepted. They understand that with the establishment of the National Dairy Research Institute at Karnal, the Institute at Bangalore has been converted into a Regional Station for the Southern Region. They were, however, informed that as a result of the change in its status to a regional station, the Bangalore Institute will hereafter continue to devote itself chiefly to research work on cross breeding of cattle and artificial insemination work, key village scheme of cattle development, central seed-bull scheme and "training of short course, Indian Dairy Diploma and Refresher Course Students"; and also that the Southern Regional Animal Nutritional Centre of the Indian Council of Agricultural Research is located there for studying the problems connected with cattle feeds and nutrition peculiar to South India. The Committee hope that the usefulness of the Institute at Bangalore which has successfully worked for over 33 years would not only be kept unimpaired but improved. Also, since Government have accepted the Committee's recommendations in para 42 of the Report, the Committee would like to be assured that the training courses of the Institute which have been or are intended to be transferred to Karnal are only those which cannot be conducted at Bangalore, on account of the restricted resources of land etc.*

5. In paras 43 and 44 of the Report, the Committee had recommended that research work in dairying should be undertaken all over the country and that there should be one or two Central Research Institutes to coordinate the work of the regional centres. From the replies of the Government, the Committee note that there will be only one Central Institute at Karnal and that it will also be the Northern Regional Centre for the present. They also understand that it is proposed to establish two more Regional Stations to represent the Eastern and Western regions, but due to lack of funds, the execution of the project may have to be deferred to the Third Five Year Plan period. The Committee are, however, anxious that the establishment of regional stations for these two regions should not be postponed and active steps must be taken, if necessary, in consultation with the State Governments and the Indian Council of Agricultural Research, to organise both the stations even during the present plan period.†

6. In para 23 of the Report, the Committee had recommended that proper cadres of technical officers in the various institutes and dairy farms

*NOTE.—The Ministry have since intimated as follows :

"The courses which are being conducted at Bangalore will continue; the degree course which is being started at NDRI, Karnal cannot be conducted at Southern Regional Station, Bangalore".

†NOTE.—The Ministry have since intimated as follows :—

"It has since been agreed in consultation with the Planning Commission to establish the two regional stations in 1958-59".

under the Central and State Governments with well defined channels of promotion should be constituted. Government stated in reply that the proposal was already under examination in the Ministry but that the State Governments were not likely to agree to their posts being merged in the Central cadres. In a subsequent reply, the Government further pointed out that the proposal was beset with certain practical difficulties on account of specialised nature of the scientific posts at the different centres calling for different sets of qualifications. They, however, stated that the question was still under consideration of the Government. The Committee hope that an early decision will be taken in the matter.

CHAPTER II

RECOMMENDATIONS THAT HAVE BEEN ACCEPTED BY THE GOVERNMENT

S.No.*	Ref. to para No. of the Report	Summary of Recommendations	Reply of the Government		
			(1)	(2)	(3)
1	10	<i>Cattle-cum-Dairy Farm, Karnal.</i> The reasons given for closing down the Jabalpur Farm are not very convincing. Besides the financial loss involved in closing this Farm, a very useful line of experiment in cross-breeding of cattle has also ceased. Greater care should be exercised in future before embarking upon such schemes.	The main object of establishing the Farm was to conduct experiments in selective breeding, cross-breeding and grading up of dairy breeds. Work was to be confined to six breeds (three from Pakistan—Red Sindhi, Tharparkar and Sahiwal—and three from Central India—Malvi, Gaolao and Nimari). The S. F. C. memo of 16-7-46 made it clear that the recurring cost was expected to be Rs. 7.25 lakhs (in addition to Rs. 50.55 lakhs non-recurring) against an estimated initial revenue of Rs. 3.3 lakhs and ultimate revenue of Rs. 5 lakhs when the scheme was to be in full swing. It is thus clear that the Farm was never intended to be run as a self-financing proposition. The tentative breeding plan also made it clear that the Experimental Farms would "not be run on commercial lines and cannot be expected to be financially self-supporting." At that stage suitability of the land for fodder production was not the principal consider-	(4)	4

tion as the main emphasis was to be on experimental breeding. It is regretted that at that stage the concerned experts did not report specifically in regard to water-logging or other difficulties. Due to financial stringency the object of the farm had to be modified in 1950. In this modified scheme it was stated that "crop production would be added to livestock work". It was in this context that unsuitability of the land from various points of view including water logging came as an obstacle in the attainment of the revised objective. The observations of the Committee have, however, been noted.

(Ministry of Food and Agriculture O. M. No. F. 5-II/54 Adm. Coord., dated the 28th February, 1955).

7 17 Research on cattle-breeding on scientific lines should be undertaken in a larger number of Institutes distributed over various centres. Research work in the various branches of dairy economy could also be carried on with a view to improve the quality of milk products.

7

It is not correct to say that cattle breeding research on scientific lines is carried on only at the IDRI and the IARI. There is no difference in the lines of research work followed in those Institutes and at the Karnal Farm. Karnal Farm has continued the line of work that has been followed in the IARI during the last half a century. The enclosed statements (Appendices I & II) show the progress in the daily milk yield, reduction in the mortality rate and increase in the number of services.

(Ministry of Food & Agriculture O.M. No. F. 5-II/54-Adm. Coord., dated the 28th February, 1955).

(Further information required for the Committee).

That certain amount of research work was being done at Karnal Farm was known to the Committee

The Cattle-cum-Dairy Farm at Karnal has now been merged with the National Dairy Research Institute which has its headquarters at Karnal and a regional station at Bangalore. The

*NOTE :—S. No. indicates the S. No. of the recommendations as given in the Appendix to the 10th Report.

(1) (2) (3)

(4)

vide para 15 of their report. The Ministry may state what steps have been taken to implement the specific recommendation made in this paragraph regarding research on the various aspects of dairy economy.)

(L.S.S. O.M. No. 278-FC/55 dated the 20th September, 1955).

The maximum utility of land should be the guiding policy of land utilisation. Greater attention should be paid to this aspect.

(*Further information desired by the Committee*).

The Ministry may be asked to intimate when the investigation was taken on hand. The result of the investigation may be intimated to the Committee.

(L.S.S. O.M. No. 63-EC-1/56 dated the 16th June, 1956).

Division of Dairy Husbandry of this Institute looks after the routine management of the farm and Livestock and will carry out research work pertaining to:

- i. Genetics;
- ii. Physiology; and
- iii. Nutrition in relation to milk production.

(Ministry of Food and Agriculture O.M. No. F. 5-11/54—Adm. Coord., dated the 28th February, 1956).

6

The investigation was undertaken in November, 1954 and completed in February, 1955. The officer-in-charge had reported that the 12½ acres of fertile land was not included in paddocks. The area included in paddocks is ordinary land and has no water facilities for bringing in cultivation. The area in paddocks is rain-fed and grass-grown area is used for grazing the cattle.

With the establishment of the N.D.R.I. on the Karnal Farm, the whole question of proper allocation of the available land for the construction of the Institute buildings, cattle paddocks and fodder cultivation has been carefully examined, so as to ensure

the maximum utilisation of land for crop production. In addition, the Institute is also launching a programme for the reclamation of some 200 acres of uncultivated land.

(Ministry of Food & Agriculture O. M. No. F. 5-12/56-Adm. Coord., dated the 1st October, 1956).

12 23 Proper cadres of Technical Officers in the various Institutes and Dairy Farms under the Central and State Governments with well defined channels of promotion should be constituted early.

A proposal is already under examination in the Ministry for the setting up of a Central Agricultural and Animal Husbandry Service, which if constituted, will include posts in the various Institutes and Dairy Farms. State Govts. are not likely to agree to their posts being merged in Central cadres or to the constitution of an All India Agricultural and Animal Husbandry Service encadring posts both in the States and the Centre.

(Ministry of Food & Agriculture O.M. No. F. 5-11/54-Adm. Coord., dated the 28th February, 1955).

The question of setting up a Central cadre of Animal Husbandry Service to group together all senior scientific personnel working in Central Government departments concerned with Animal Husbandry, Dairying and allied fields is under the consideration of the Government of India. The matter is, however, beset with certain practical difficulties mainly on account of the specialised nature of the scientific posts at the different centres calling for different sets of qualifications. The N. D. R. I. is the only Institution of its kind in India and with the exception of a few minor posts, all the others require personnel with special qualifications and experience who may not ordinarily be found in other Government Departments, Dairy Farms and allied institutions.

(Ministry of Food and Agriculture O. M. No. F. 5-12/56-Adm. Coord., dated the 1st October, 1956).

(1) (2) (3) (4)

15 39 The loss in receipts of the Institute should be made up by other activities. This should be possible, to some extent, if the full capacity of the plant for the purpose of processing milk is utilised by making arrangements for getting the milk produced around the Institute, through co-operative societies, and processing it at the Institute.

The Comments of the Mysore Government on the possibilities of setting up Co-operative Societies on the lines suggested have been invited and will be examined on receipt.
(Ministry of Food & Agriculture O. M. No. F. 5-II/54-Adm. Coord., dated the 28th February, 1955).

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The Ministry of Food and Agriculture are in communication with the Mysore Government in regard to the Organisation of Co-operative Milk Supply Societies. The Mysore Government have included schemes for the establishment of Co-operative Milk Unions in the Second Plan.

(Ministry of Food & Agriculture O. M. No. F. 5-II/56-Adm. Coord., dated the 1st October, 1956).

43 Research work in cattle breeding and dairying should be undertaken all over the country. (Ministry of Food & Agriculture O. M. No. F. 5-II/54-Adm. Coord., dated the 28th February, 1955).

Regional Research Institutes like the Bangalore Institute, should be opened and for this purpose the country may be divided into four regions *viz.* heavy rainfall areas, medium rainfall areas, dry weather areas and hilly weather areas.

The new National Dairy Research Institute at Karnal will function as the Central Research Institute to co-ordinate the activities of the Regional Centres. At present, the Dairy Institute at Bangalore is functioning as the Southern Regional Station. The main Institute at Karnal will also represent the Northern Regional Centre for the present. It is proposed to establish two more regional stations to represent the Eastern and Western Regions of the Country, but due to lack of funds, the execution of the project may have to be deferred to the Third Five Year Plan Period.

(Ministry of Food & Agriculture O.M. No. F. 5-II/56-Adm. Coord., dated the 1st October, 1956).

(i) There will be one Central Institute at Karnal to co-ordinate the work of the Regional Stations.

(ii) There should be one or two Central Research Institutes to co-ordinate the work of the Regional Centres.

(ii) The Central Institutes should also work in close collaboration with dairy farms run by the State Governments and by the Military authorities.

(ii) Noted.

(Ministry of Food & Agriculture O.M. No. F. 5-II/54-Adm. Coord., dated the 28th February, 1955).

(1) (2) (3) (4)

20 45 A portion of the expenses of the Research Institutes could be met by attaching to each of them, a dairy farm run on commercial lines. The distribution of milk produced by these farms should be through marketing organisations run on cooperative basis, such as the organisation supplying milk to Bombay from Anand.

(*Further information desired by the Committee.*)

The Ministry may be asked to indicate what action has actually been taken in implementation of this recommendation and what results have been reached.

10 (Ministry of Food & Agriculture O.M. No. F. 5-11/54-Adm. Coord., dated the 28th February, 1955).

(Ministry of Food & Agriculture O.M. No. F. 5-12/56-Adm. Coord., dated the 1st October, 1956).

(L.S.S. O.M. No. 63-EC-1/56, dated the 16th June, 1956).

21 46 The Director of the Institute should be relieved of some of his routine administrative work by authorising an Officer subordinate to him to

An Asstt. Administrative Officer has already been appointed to relieve the Director of routine administrative work.

to attend to this work upto a specified monetary limit, thus enabling the Director to devote more time and attention to real research work.

(Ministry of Food & Agriculture O.M. No. F. 5-111/54—Adm. Coord.
dated the 28th February, 1955.)

22 47 The following recommendations made by the Special Reorganisation Unit set up by the Ministries of Finance and Home Affairs should be implemented :—

(a) Class I :—The four posts of Heads of Division should be held by two officers on the special scale and two on usual Class I scale. The post of second Dairy Chemist should be converted into a Class II appointment.

(b) Class II : The posts of Assistant Dairy Husbandry Officer and Dairy Engineer are not at present required to be filled and may be abolished.

Full savings will accrue only when one of the officers holding the post in the special scale vacates it. The post of the Second Dairy Chemist will be converted into Class II post only when it is vacated by the present incumbent.

The recommendations have been accepted.

(c) Class III : The Central Office should be reorganised. (c) & (d). The recommendations have been implemented.

(1) (2) (3) (4)

Veterinary Officer should be appointed and the number of Research Technical Assistants reduced from 16 to 13.

(d) *Class IV:* The strength of class IV Staff should be reduced from 166 to 149.

There is scope for reduction in the employment of daily labour. The matter requires a thorough and detailed examination on the spot by Officers of the Institute.

The Director of the Institute should be authorised to dispose of animals which are surplus to requirements by auction subject to certain conditions. This will reduce expenditure on feeding and also increase revenue from sale of animals.

The recommendation has been implemented.
(Ministry of Food & Agriculture O. M. No. R. 5-11/54-Adm. Coord. dated the 28th February, 1955.)

CHAPTER III

-REPLIES OF THE GOVERNMENT THAT HAVE BEEN ACCEPTED BY THE COMMITTEE

S. No. • Ref. to para	No. of the Report	Summary of Recommendations	Reply of the Government
1	2	3	4

CATTLE-CUM-DAIRY FARM, KARNAL

4 The Farm is at present essentially a commercial organisation. Little research work is being carried on there and the activities are limited to the supply of milk to the public, and the upgrading of local breeds by cross-breeding with pure-bred cattle such as the Sindhi, the Tharparkar and the Sahiwal.

15 The Karnal Farm being essentially concerned with the sale of milk and maintaining good quality breed of cattle, is not engaged in breeding research except as regards the Tharparkar breed. Trained

13
Paras 4 and 15
It was brought to the notice of the Committee that "it is one of the functions of the Cattle-Cum-Dairy Farm, Karnal, to conduct researches with a view to increasing the milk yield of the milk animals by the adoption of various measures. The result is that in June, 1954, the average daily milk yield per cow was 17 lbs. as compared to 14.5 lbs. in the same period last year. These researches include research on various items of cattle-seeds, which help in the attainment of this objective. It is also one of the objectives of the Farm to evolve, by research, a high yielding dairy breed of cattle largely suitable for Indian conditions." Over and above increasing the milk yield and evolving a high yielding breed, the main object of the Farm is to develop the three Pakistan breeds (Red Sindhi, Tharparkar and Sahiwal) to their full capacity and to utilise them for the improvement of cattle in India. This herd is a national asset, which must be preserved and developed at all costs.

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and qualified staff is also not available in Karnal for such purposes.

2 11 The transfer of the Sahiwal breed of cattle from Delhi to Karnal like the transfer of the Sindhi breed from Jabalpur, was ill-advised.

(Ministry of Food and Agriculture O. M. No. F. 5-11/54—Adm. Coord. dated the 28th February, 1955).

As the Government of India were running two other farms at Karnal and New Delhi, it was considered that shifting of cattle both from Jabalpur and New Delhi to Karnal so as to accommodate all the animals of the three farms at one place would not only be economical but also technically desirable from the point of view of progeny tests as explained in the reply to para 12 below. Thus the transfer was primarily the result of adoption of economy measures due to financial stringency—a circumstance beyond one's control.

(Ministry of Food and Agriculture O. M. No. F. 5-11/54—Adm. Coord. dated the 28th February, 1955).

3 12 The Sindhi, Tharparkar and Sahiwal breeds of cattle should be dispersed over various centres so that they may be put to greater use. In keeping them all in one locality there is a potential danger that in the event of an epidemic, they may all be destroyed by disease.

The dispersal will result in the improvement already obtained being diluted and gradually lost. Government's intention is to effect progressive improvement in the herds, so that progressively better bulls of known pedigree and transmitting ability become available for the development of other smaller herds in the country and also of the non-descript cattle in heavy rainfall areas. If these cattle are dispersed, the numbers will not be sufficient for continuing this policy. As is well known progeny testing is the only sound basis for the selection of breeding bulls and for the introduction of progressive improvement. For this purpose, bulls have to be tested over a larger number of animals in order

to obtain unassailable conclusions on the breeding value of the bulls. This implies the maintenance of a large number of cows under uniform conditions of feeding and management. Only a large herd of the size now maintained at Karnal will permit prugney testing on the desired lines. Possibilities of epidemics can be anywhere. The Ministry, therefore, regrets its inability to accept this recommendation.

(Ministry of Food and Agriculture O.M.No. F.S-11/54 Adm. Circ. dated the 28th February, 1955).

Paras 13 & 14

The Sahiwal animals in Karnal are only just recovering from the change in environment. Another change at this stage is likely to result in great harm to the herd. In the interests of cattle development, it is essential to maintain a fixed breeding policy since frequent changes in such a policy prevent various herds in India from developing their maximum potential capacity. For example, the decision taken in 1946 to set up the Jabalpur Farm for experimental breeding work had to be substantially modified in April, 1950, due to financial stringency and again in November 1950, due to the decision to close the Jabalpur Farm. The Committee's proposal is likely to result in putting the clock back again. The Ministry, therefore, regrets its inability to transfer the Sahiwal herd to New Delhi and the rest of the herd to State Farms. The

4 13 Such of the Sahiwal breed of cattle as can be transferred from Karnal to Delhi should be brought over and maintained in the Indian Agricultural Research Institute. The possibility of transferring the rest to State Farms for breeding purposes should also be examined. The corresponding staff should also be transferred from Karnal to Delhi.

5 14 With the transfer of the Sahiwal breed of cattle from Karnal to Delhi, the milk yielded by them could be made available at a reduced rate of Rs. 17/- per maund.

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breeding requirements of the State Farms are already met by Karnal as far as possible, as shown below:

Year	No. of bulls supplied to States
1951-52	35
1952-53	36
1953-54	74
1954-55 (Up to Oct.)	58

The disposal of Karnal Milk to the ICAR is only a matter of convenience. The highest tender received in June last for delivery ex-Farm was Rs. 11/8/- per maund. Fresh tenders have now been invited for the purpose of deciding the best and most economical method of disposal of Karnal milk.

The cost of production and/or purchase of fodder in Delhi will necessarily be higher than in Karnal and it is difficult to see how a reduction in the sale price of milk could be justified merely on the ground that the herd will be maintained by a research institution with no problems of a commercialised system of accounting. If a suitable scheme of disposal of milk in Karnal itself can be devised, it will eliminate high handling costs. The matter will be further examined on receipt of fresh tenders.

(Ministry of Food and Agriculture O.M. No. F. 5-11/54 Adm. Coord. dated the 28th February, 1955).

(Further information required by the Committee re reply to S. Nos. 4 and 5.

The recommendation was made on the basis of an on-the-spot study by the Chairman and some members of the Estimates Committee who visited the Karnal Farm and the evidence tendered before the Committee by the Director, Indian Agricultural Research Institute who considered that 58 cows and some young stock should be brought back to Delhi.

In fact the animals had deteriorated ever since their transfer from Delhi to Karnal. The Ministry may, therefore, explain as to how the transfer of Sahiwal Breed of cattle to Delhi will result in great harm to the herd.
(L. S. S. O.M. No. 278-FC/55, dated the 20th Sep. 1955).

The late Cattle-cow-Dairy Farm at Karnal has since been merged with the National Dairy Research Institute which has been established there. Whatever may have been the condition when some members of the Estimates Committee made an on-the-spot study Government are satisfied that under present conditions at Karnal, the Sahiwal cattle are being looked after as best as is possible anywhere else and that no improvement will result by the retransfer of these cattle to Delhi.

On the other hand experience has proved that every transfer of cattle on a large scale to a new station results in a setback due to environmental effects. The improvement already effected in the Sahiwal herd after overcoming the set-backs due to transfer from Delhi will be lost for a considerable time. This will dilute the progressive improvement in the progeny which is used for the development of smaller herds in the country and the non-descript cattle in heavy rainfall areas. Thus the retransfer of Sahiwal herd to Delhi will result in great harm to the herd.

The argument that by the retransfer of the Sahiwal herd, the milk will fetch a price of Rs. 17/- per maund is also not borne out by fact as the Meerut Co-operative Milk Supply Union, which is now managing the Delhi Milk Supply Schemes, is paying

only Rs. 11/- per hundred P.O.R. Delhi while Government is now selling milk in Karnal @ Rs. 10/5/4 ex-Farm without incurring any expenditure on pasteurisation, etc.

(Ministry of Food and Agriculture O. M. No. F. 3-9/55-Adm.
Coord. dated the 29th December, 1955).

6 16 The Karnal Farm should continue to specialise in Tharparkar breed of cattle. Research work should be undertaken by this Farm in respect of the Sindhi breed also. The necessary scientific advice should be made available to the Farm by the Geneticists of the I.A.R.I., New Delhi.

Please see the reply against para. 4 & 15. As it is not proposed to dispense the herds, as suggested by the Committee, research in Karnal will continue on all herds maintained there. There are no animal geneticists at the I.A.R.I.

(Ministry of Food and Agriculture O. M. No. F. 5-11/54-Adm.
Coord. dated the 28th February, 1955.)

8 19 The Committee regret to note that more than five years should have been taken for the completion of three tube wells in the Karnal Farm, for which a sum of Rs. 1,70,000/- was sanctioned in 1948, and especially, when the land was lying fallow and water was badly required for the cultivation of fodder, thereby making it necessary for the Farm either to purchase fodder from the market or to curtail the cattle population.

(*Further information required by the Committee.*)

The Ministry may be requested to furnish the results of the investigation carried out and also to indicate when the Ministry of W. H. & S. were asked to investigate the delay, when the investigation was actually taken on hand and what are the causes for delay in finalising the investigation.

(L.S.S.O.M. No. 63-ECI/56, dated the 16th June, 1956).

The programme of construction of tube wells on the Karnal Farm was entirely in the hands of C.P.W.D. The Ministry of Food and Agriculture took up the matter with the W. H. & S. Ministry in December, 1955; the matter had previously been taken up with the CPWD and DGS&D. The Ministry of W. H. & S. have, after investigating the matter, only expressed (29th June, 1956) regrets in regard to the delay and has intimated that the purchase officer concerned has been suitably admonished for the lapse in delaying the case.

(Ministry of Food and Agriculture, O.M. No. F. 5-12/56-Adm. Coord. dated the 1st October, 1956.)

10 21 A Buffalo-breeding farm and an experimental station may be attached to the Karnal Farm.

Buffalo is already well developed and the further improvement expected by better breeding is estimated at only 10-15 per cent. against 50-60 per cent. in the case of cattle. There is no research involved in the case of the buffalo except progeny testing as the basis of improvement. A farm set up for this purpose will not be able to secure a fraction of the improvement which can be obtained through the distribution of semen from a central station which has already been established at the I.D.R.I., Bangalore for distributing semen all over the country. The Ministry is, therefore, unable to accept the recommendation. (Ministry of Food and Agriculture O.M.No. F. 5-11/54-Adm. Coord. dated the 28th February, 1955.)

(*Further information required by the Committee.*)

The Ministry may be asked to indicate the yard stick by which improvement in the case of the cattle as a result of better breeding

The yard stick by which the improvement in the dairy herd is judged is the achievement of a substantial increase in milk yield within lactation period as a result of careful breeding and management of the animals. Two other factors considered important in this connection are shortening of the intercalving period and early maturity of heifers.

is judged. A note may be called for regarding the achievement of the Karnal Farm indicating the improvement which has been obtained in the case of cattle.

(L.S.S. O.M. No. 63-EC-I/56 dated the 16th June, 1956.)

A note showing the improvement achieved in the performance of the Tharparkar herd, which has been developed at this Farm over a number of years, is attached (Appendix III). The Institute has also been maintaining part of the Sahiwal herd transferred from the Pusa Institute. A small number of Sindhi cows transferred from the Jubbulpore Farm are also maintained on the Farm for the past few years and they have shown all round improvement.

(Ministry of Food and Agriculture O.M. No. F. 5-12/56-Adm. Cord. dated the 1st October, 1956.)

11 22 The Central Government may also contribute to some extent towards the maintenance and development of the Hissar Farm which is now run wholly by the State Government and where the Haryana breed is being reared.

Maintenance and development of cattle at State Farms is the responsibility of State Governments. Suggestions have, however, been invited from the State Government as to the type of assistance, financial or otherwise, required by the Hissar Farm. These will, on receipt, be examined on merits.

(Ministry of Food and Agriculture O.M. No. F. 5-11/54-Adm. Cord. dated the 28th February, 1955.)

13 36 *Indian Dairy Research Institute, Bangalore.*
(i) Attention of the State Governments should be drawn to carry the fruits of the research work to the villages.

(i) The results of research carried out at various Central Research Institutes and by the State Governments in regard to Agriculture and animal husbandry (including dairying) are co-ordinated by the Board of Research of the Indian Council of Agricultural Research and recommendations made for testing them under actual farming conditions through pilot scheme and if found practicable and economical, incorporating them in current practices. The Indian Council of Agricultural Research has also set up a special agency—the Agricultural Information

Organisation—to guide and assist the States in planning and executing an effective information programme (which includes the results of research) for the farmers. The Indian Council of Agricultural Research has also laid down *inter alia* the following condition which is repeated in every sanction for research scheme.

“The State Government agree that they will take suitable steps to carry such of the results of this research into practice as are of practical value to the farmers.”

(*Ministry of Food and Agriculture O. M. No. F. 5-II/54-Adm. Coord. dated the 28th February, 1955.*)

(*Further information required by the Committee*)

The practical steps taken by the Central and State Governments to ensure that the fruits of research reach the villages may be communicated. (L.S.O.M. No. 63-EC-I/56, dated the 16th June, 1956).

At present the results of research work in the fields of agriculture, animal husbandry and dairying are being propagated to the farmers mainly through the medium of the various non-technical periodicals, pamphlets and other publications issued by the I.C.A.R., the Central Council of Gosamvardhana, the Indian Dairy Science Association and State Government Departments of Animal Husbandry and Dairying. Under the Key Village Development Programme of the Government of India, a net-work of artificial insemination centres and key village centres has been organised throughout the country, and in these centres trained staff provide personal advice and guidance to the farmers in improving the local cattle and introducing modern methods of animal management and milk production. The Community Project Centres and National Extension Blocks offer another avenue for the transmission of scientific knowledge to the villagers. The technicians and village level workers from these centres undergo practical training in animal husbandry and dairy institutions for short periods and these men serve to

apply the results of scientific work for the benefit of the village producers.

In the proposed set up of the N.D.R.I., Karnal, there will be a full-fledged division of the dairy extension, which will work in co-operation with the existing Central and State Extension Organisations to transmit the results of research work at the Institute for the benefit of the producers and the industry under field conditions and also study the day to day problems of the trade calling for investigation at the Institute.
(Ministry of Food and Agriculture O.M. No. R. 5-12/56-Adm. Coord. dated the 1st October, 1956.)

(ii) Research workers should pay more attention to the practical problems of the trade, and research should be more of an applied nature. Close contact should also be maintained with the trade.

(ii) The research workers of the Indian Dairy Research Institute are fully conscious of the need to maintain close contact with the trade but they have not been able to maintain as much contact as they wished to due to shortage of staff and lack of accommodation in Bangalore for expanding the research and extension activities of the Institute. A proposal for setting up a National Dairy Research Institute with Regional Stations is under consideration of Government. It is hoped that when the new proposals are finalised research workers will be able to devote more attention towards the practical problems of the trade than is now feasible.

(iii) An achievement audit should be conducted periodically, say every three years, with a view to

(iii) Noted.
(Ministry of Food and Agriculture O.M. No. F. 5-11/54-Adm. Coord. dated the 28th February, 1955).

assessing the practical utility to which the results of the research have been put.

14 37 Difficulties faced by the Institute, like the delays in the supply of laboratory equipment, will interfere with the efficient working of the Institute. Research work in the institute should not be made to suffer or languish by slackness and red tape on the part of Government.

16 41 The reasons given for transferring the Institute from Bangalore to some other place are not fully convincing and the Committee consider it inadvisable to shift the Institute from Bangalore.

The recommendation has been brought to the notice of the Ministry of Works, Housing & Supply which is concerned with the store purchase policy.

(Ministry of Food and Agriculture O.M. No. F. 5-II/54-Adm. Coord. dated the 28th February, 1955).

It has been decided to locate the main Institute at Karnal and to convert the existing Institute at Bangalore into a Regional Station for the Southern Region.

The area of 448 acres surrendered by the Institute to the Military authorities should be restored to it. The Mysore Government should also be approached for leasing out some land for the Institute in its immediate vicinity or within a radius of 10 to 15 miles around.

The Ministry of Food and Agriculture tried its best to keep the Agra Farm but the Military requirements had to be given precedence. The Mysore Government were approached as desired but there is no suitable land that they can offer and is sufficient for the requirements of the Institute.

(Ministry of Food and Agriculture O.M. No. F. 5-II/54 Adm. Coord. dated the 28th February, 1955.)

(Further information required by the Committee).

The Ministry may be requested to furnish a comprehensive account regarding the formation, organisation and functions of the N.D.R.I. together with a detailed note on the functions of the Bangalore Institute, in the new set up as compared with the work done by the Institute hitherto.

(L.S.S.O.M. No. 63-EC. I/56, dated 16-6-56.)

A note on the formation, organisation and functions of the N.D.R.I. (Appendix IV) is attached. A paragraph pertaining to the future of the Bangalore Institute is also included.

(Ministry of Food and Agriculture O.M. No. F. 5-12/56-Adm. Coord. dated the 1st October, 1956.)

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17 42 The number of students undergoing training in the various courses should be increased to at least 150 per year and all necessary additional accommodation, furniture, laboratory equipment etc should be provided. Even if it is necessary to transfer the cattle-breeding activities of the Institute to some other place, training in dairy farming can be given to students at the Institute. The recommendations will be borne in mind when the re-organisation and expansion of the Institute is undertaken.

Even if a Dairy Institute with provision for Dairy Science degree courses is established somewhere near Delhi, as is being considered, the Institute at Bangalore should cater to the requirements of the Southern Districts in such courses as are now being conducted, with such modifications as may be necessitated by the restricted resources of land etc.

Accepted.

(Ministry of Food and Agriculture O.M. No. F. 5-II/54-Adm.
Coord. dated the 28th February, 1955.)



(*Further information required by the Committee.*)

The Ministry may be asked to indicate the present stage of the re-organisation of the Institute.
(L.S.S.O.M. No. 63-EC I/56, dated the 16th June, 1956.)

The foundation stone of the new Institute at Karnal was laid on the 7th August, 1955, by Shri Ajit Prasad Jain, Minister for Food and Agriculture. The office of Director of Dairy Research has been located at Karnal and the late Cattle-cum-Dairy Farm merged with it. Most of the senior scientific officers have been transferred from Bangalore to Karnal to attend to the work of planning and building up of the new institute and a Quality Control Laboratory has also been set up at Karnal. With these changes, the Institute at Bangalore has been designated as the Southern Regional Station of the National Dairy Research Institute.

The proposals for the establishment of the National Dairy Research Institute have been accepted in principle by the Planning Commission and a sum of Rs. 160 lakhs allotted for the purpose. The detailed scheme for the establishment of the Institute and its sub-stations has been examined by an Expert Committee whose report is under consideration.

The C.P.W.D., who will be in-charge of the construction programme, has just completed the preparation of the Master Plan of the Institute as well as preliminary drawings of research laboratories and other buildings. The schedule of construction programme and work targets to be completed during the plan period (1955-61) have been furnished to the C.P.W.D. and the detailed plan and estimates are being worked out. Arrangements are also ready for the demarcation of the principal roads on the Estate and planting of avenue trees by the 15th September, 1956.

It is hoped to start the B.Sc. (Dairying) Course from July, 1957 and with this end in view priorities for the construction of certain necessary buildings (Hostel, Dairy Technology Division, etc.) have been accorded and provision has been made in the current year's budget for this purpose as well as for the purpose of equipments and apparatus and recruitment of staff, etc. According to the present schedule it is hoped to complete the construction of buildings, equipment of laboratories and recruitment of staff before 1960, so that the new Institute will be able to function fully during the 5th year of the plan period.

(Ministry of Food and Agriculture, O.M. No. F. 5-12/56-Adm. Coord, dated the 1st October, 1956.)

BALVANTRAY G. MEHTA,

Chairman,
Estimates Committee.

NEW DELHI ;
The 20th March, 1957.

APPENDIX I

(Vide S. No. 7, CHAPTER II)

MORTALITY AND RECORD OF SERVICES AT THE CATTLE-CUM-DAIRY FARM, KARNAL

Mortality at the Cattle-cum-Dairy Farm, Karnal

Months	1952	1953	1954
May	17	9	7
June	3	4	7
July	8	4	10
August	20	23	6
September	18	9	4
TOTAL	66	49	34

Record of Services at the Cattle-cum-Dairy Farm, Karnal

Months	1953	1954
May	72	90
June	60	78
July	78	91
August	51	61
September	53	60
TOTAL	314	380

APPENDIX II

(Vide S. No. 7, CHAPTER II)

Statement showing Average Daily Milk Yield at the Cattle-cum-Dairy Farm, Karnal

Month	1951		1952		1953		1954		
	No. of milch cattle	Average daily milk	No. of milch cattle	Average daily milk	No. of milch cattle	Average daily milk	No. of milch cattle	Average daily milk	
	1	2	3	4	5	6	7	8	9
			(lb.)		(lb.)		(lb.)		(lb.)
January	.		204	2,620	200	2,680	187	3,000	
February	.		190	2,680	211	3,100	192	3,020	
March	.		185	2,720	223	3,460	195	3,100	
April	.	.	177	2,840	231	3,560	213	3,300	
May	.	226	2,480	176	3,020	234	3,400	223	3,520
June	.	217	2,420	172	2,840	223	3,440	214	3,580
July	.	209	2,380	172	2,880	224	3,380	210	3,480
August	.	217	2,620	174	2,790	218	3,080	222	3,500
September	.	222	2,780	181	2,680	216	3,020	214	3,300
October	.	223	2,780	187	2,480	207	3,080		
November	.	221	2,780	196	2,440	202	2,980		
December	.	219	2,840	195	2,460	191	2,760		

APPENDIX III

(Vide S. No. 10, CHAPTER III)

Note on the development of Tharparkar herd of Cattle at the Karnal Farm

The Tharparkar animals, which constituted the foundation stock from which the present herd has been developed, were purchased from the open market during the period 1923-1931. At the time of purchase the productive capacity of the animals was very low (less than 2,000 lb. in lactation and giving less than 10 lb. milk yield per diem). As a result of following a sound breeding policy based on a careful selection of the sires and continued scientific feeding and management these animals have shown remarkable improvement in their productive capacity as shown in the following table:—

Year	Aver-	Aver-	Dairy	Yield	No. of	Interval	Highest		
	age No. of cows in herd	age No. of cows in milk	yield per cow	per lac- tation	days in milk	between calvings	Lactation record for the year.		
1933	.	89	50	12.4	4,311	331	446	7,708	356
1937	.	97	50	19.3	5,493	277	445	8,785	396
1941	.	92	63	20.0	5,979	292	413	10,232	306
1944	.	92	65	20.2	6,178	298	425	10,133	306
1947	.	103	69	19.8	5,413	286	417	9,076	306
1950	.	83	50	19.6	6,299	292	465	9,009	306
1953	.	115	76	17.2	4,807	279	403	9,207	306
1955	.	121	80	17.8	5,195	292	413	9,882	306

A number of the animals belonging to the above herd have been the recipients of Championship Awards at successive All-India Cattle Shows.

The Tharparkar animals purchased from open market for Livestock Farm Jubbulpore, were transferred to Karnal in 1951. The inclusion of these animals and their progenies in the Tharparkar herd of Karnal has been responsible for lowering in milk yield in 1953, but improved trend within about two years is reflected in the record of 1955.

APPENDIX IV

(*Vide S. No. 16, CHAPTER III*)

Note on the Formation and Organisation of the National Dairy Research Institute, Karnal

Historical Background

The need for expanding the activities of the Dairy Research Institute, which had been functioning at Bangalore for many years since 1923, was engaging the attention of the Government of India for the past 18 years. In 1937, the then Government of India invited Dr. N.C. Wright, Director of Hannah Dairy Research Institute, Ayr, Scotland, to study conditions in India relating to the Development Cattle of and Dairy Industry. One of his important recommendations was the establishment of a well-equipped Dairy Research Institute at a central place situated in an intensive dairy tract. This recommendation was accepted and it was decided to transfer the Bangalore Institute to a place more representative of the conditions of dairying in the plains and to convert it into a first class Dairy Research Institute. In consequence, the late Dr. W.L. Davies of the National Institute for Research in Dairying, Reading (U.K.), was appointed as India's first Director of Dairy Research in 1939. After careful consideration, he recommended the location of the new Institute near Delhi. This recommendation was accepted. Two research sections of Dairy Chemistry and Dairy Bacteriology were opened in Delhi and temporarily housed in the Indian Agricultural Research Institute, New Delhi. Unfortunately, Dr. Davies died in May, 1941 and the further implementation of the scheme had to be postponed due to the conditions created by World War II. The office of the Director of Dairy Research and the two research sections were transferred to Bangalore and merged with the existing Institute there to form the Indian Dairy Research Institute.

On the termination of the war, the Director of Dairy Research submitted fresh proposals for the establishment of the expanded Institute at a central place and these were accepted in principle. In order to meet immediate post-war requirements some additional staff was sanctioned at Bangalore and a new section of Dairy Technology was also added. Early in 1946, Government invited Prof. H.D. Kay, Director, National Institute for Research in Dairying, Reading (U.K.), to review the position and make suitable recommendations in consultation with the Director of Dairy Research. Prof. Kay recommended the early establishment of a National Dairy Research Institute at Delhi, including the establishment of a Dairy Science College as part of the Institute, and the continuance of the Bangalore Institute as a sub-station. Due to unforeseen difficulties arising out of the partition of the country, the implementation of these recommendations was again postponed.

The proposals relating to the establishment of a National Dairy Research Institute on the lines recommended by Prof. Kay were again revived in connection with the Second Five Year Plan. Under this Plan it is proposed to reorganise the procurement and distribution of milk in a number of large

towns throughout the country and also to establish milk products factories to absorb surpluses in certain milk pockets of the country. This intensive programme of dairy development will require a large number of dairy technicians trained in various fields of dairying. It will also be necessary to back up the developmental activity with adequate research on various problems which may arise in connection with large scale production, handling and distribution of milk as well as the manufacture of milk products under Indian conditions. As the existing facilities at the Indian Dairy Research Institute, Bangalore, were far too inadequate to meet the demands both in respect of research work as well as of training facilities, the Government of India decided to establish the National Dairy Research Institute at Karnal, where they had a running Farm with an extensive area of over 2,000 acres of good cultivable land lying in the heart of the main dairying tract of the country. This Farm had also been maintaining pedigree herds of Tharparkar, Sahiwal and Red Sindhi cattle. The office of the Director of Dairy Research was located at Karnal in July 1955 and the existing farm was amalgamated with it. A number of senior scientific personnel were also transferred to Karnal to look after the construction and organisation of the new Institute. A quality Control Laboratory was also set up on the Farm. The Foundation Stone of the new Institute was laid on the 7th August 1955 by Shri Ajit Prasad Jain, Minister for Food and Agriculture, Government of India. The Planning Commission has accepted the proposal regarding the establishment of the National Dairy Research Institute at a cost of Rs. 160 lakhs. This expenditure has been roughly allocated as follows:—Construction of buildings, paddocks for cattle, roads, residential quarters etc.—Rs. 103 lakhs; plant, machinery and equipment—Rs. 25 lakhs, and recurring charges for salaries of staff and miscellaneous expenditure during the period 1956-61—Rs. 32 lakhs. The details of the proposals are, however, being scrutinised by an Expert Committee. In the meanwhile, work is in progress to demarcate the roads for planting of avenue trees, to construct and equip certain essential buildings required for starting the B. Sc. (Dairying) course from July 1957 and to recruit the necessary staff for the purpose.

Organisational set-up

The new National Dairy Research Institute will consist of the main Institute at Karnal comprising the Research Divisions, the Administrative Organisation and the Educational Wing with a Dairy Science College, and three Regional Centres, the existing one at Bangalore functioning as the Southern Regional Station. It is proposed to have seven research divisions, namely Husbandry, Bacteriology, Chemistry, Technology, Nutrition, Machinery and Engineering and Extension Divisions. There will be an Educational Wing of the Institute with an attached Dairy Science College, a Section of Economics and Statistics, a Library and Museum. The National Dairy Research Institute with its Regional Stations will be under the control of the Director of Dairy Research, who will be assisted by the different Heads of Divisions, Research Officers and other staff as indicated in the attached chart (Annexure). The total strength of the staff is estimated at over 1,000.

The Institute buildings will occupy a total area of about 100 acres at a selected site on the 2,000 acre Karnal farm. The Central Administrative Organisation will be housed on the ground-floor of a two-storeyed main building facing the G.T. Road and on the first floor will be located the auditorium, library, museum, the Economics and Statistics Section and the Dairy

Extension Division. On either side of the main building but contiguous with it will be the buildings for the Divisions of Dairy Husbandry and Nutrition on one side and Dairy Chemistry and Bacteriology on the other. Parallel to the main building but somewhat away from the Research Divisions will be located the Experimental Dairy and the Dairy Technology Division. The Educational Wing and Dairy Science College will be accommodated on the first floor of the latter building. The Dairy Machinery Division will also be located near about these buildings. On the other side of the Technology Building, but in the interior, the Cattle-Yard building will be constructed. In the arrangement and disposition of cattle yard buildings, special attention is being paid to modern layout, convenience of working for efficiency and scientific management of animals as well as economy of constructional costs. The 'Milking Parlour' will be of a special design and will be fully furnished with stanchions and other fixtures. Night shelters for cows and exercise yards for bulls, metabolism stalls and various auxiliary buildings have been planned in considerable detail to make the Institute Farm ideal for teaching as well as for research work. A number of residential quarters for housing the main portion of the staff in the Institute 'Colony' will be constructed. Other auxiliary buildings proposed to be constructed are the students hostel to accommodate 200 students, Rest House, Club, Post-office, Dispensary, School, etc.

Functions of the Institute

The main functions of the National Dairy Research Institute when it is fully developed would be:

- (a) to carry out basic research on problems in dairy industry of all-India importance. This will be carried out through the activities of the Research Divisions of Chemistry, Bacteriology, Technology, Dairy Machinery and Engineering, Nutrition (milk and milk products) and Dairy Husbandry (Including research in breeding and feeding of dairy cattle);
- (b) to carry out researches into similar problems but of specific character peculiar to certain regions at its Regional Stations;
- (c) to supervise, control and co-ordinate the activities of the Regional Stations;
- (d) to disseminate the results of researches to persons engaged in the dairy industry from the production of milk to its final stage of disposal to the consumer through the Extension Divisions;
- (e) to impart education in all aspects of dairying from the diploma to the post-graduate stage through the Education Wing and Dairy Science College;
- (f) to assist in the establishment of standards of milk and milk products; and
- (g) to advise the dairy industry and organisations and Governments departments concerned with dairy development in the country.

(i) *Farm*—The Institute Farm, which comprises a total area of about 1,000 acres of cultivable land provided with irrigation facilities from the Jumna Canal, will continue to be utilised as at present for growing the fodder required for feeding the milk herd as well as any other crops that may be

needed for research purposes. Some 400 acres of the land are proposed to be set apart for study of rotational grazing and of pasture crops, which will be carried out under a programme of 'Grassland Research'.

The Institute herd consisting of over 1,000 animals will comprise chiefly of the pure bred animals of the Sahiwal, Sindhi and Tharparkar breeds of cows and Murrah breed of buffaloes. The farm bred male stock of these scarce breeds (whose homeland is in Pakistan) will be available for distribution to the different States of India for developing their local breeds. About 4,000 pounds of milk may be produced in the farm which will be sold to the public at Karnal or Delhi; but if the pilot scale investigations at the Institute need mobilisation of additional quantities of milk they can be easily collected from the nearby areas.

(ii) Educational activities:—The Education Wing of the Institute with the attached Dairy Science College will impart the following types of training:—

*Indian Dairy Diploma Course (2 Years):—*An intensive course of dairy training at under-graduate level.

*Graduate Course (B. Sc. in Dairying):—*3 years; open for Inter-Science passed candidates.

*Post-graduate Training (Two Years):—*Graduates in dairy science, agriculture, veterinary and other appropriate branches of science will be admitted to this course and will be awarded the Associateship of the Institute which is equivalent to M.Sc. Degree.

*Refresher Courses:—*These will be given in specialised fields such as plant operation, quality control, etc. from time to time for the benefit of persons working in the line.

*Short Courses:—*These are intended to provide practical training in any particular field of dairying for persons in the trade and industry.

The Dairy Science College will have an Educational Officer and all the auxiliary staff needed to make it a full-fledged teaching institution for theoretical and practical training in dairy science. The staff of the Research Divisions will also help in the teaching work in specialised fields. The Education Wing of the Institute will also co-ordinate the training activities in respect of post-graduate training in different Research Divisions and the training and educational activities of the Regional Stations.

(iii) *Research Work:—*Each of the Research Divisions will be chiefly entrusted with the task of carrying out research work on every aspect of the problems facing the dairy industry in India and also keep in touch with the trends and developments in different fields in foreign countries.

The Dairy Husbandry Division will investigate problems pertaining to feeding and management of dairy cows, the rearing of calves, the large-scale production of different fodders and their relative efficiency and economics for milk production, conservation of fodder by silage-making and drying; study breeding problems; carry out physiological studies pertaining to the utilisation of feeds in relation to milk production, growth and health, etc. Considerable emphasis will be laid on increasing milk production in our cows by research in breeding and feeding practices.

The Bacteriology Division will study problems pertaining to clean and hygienic milk production under village conditions, problems arising out of the handling and processing of milk under commercial conditions; examine the efficiency of the different methods of processing milk such as pasteurisation, sterilisation, etc., standardise tests for the rapid determination of quality of milk and of use in Quality Control work; and carry out research on problems relating to the manufacture and keeping quality of milk products.

The Chemistry Division will study the problems arising out of the variations in composition of milk of different breeds of animals, evolve methods for detection and control of adulteration of milk and milk products; standardise test for the analysis of milk and milk products; and also investigate the chemical aspects of milk and milk products.

The Technology Division is chiefly concerned with investigations on the large-scale handling, transport and processing of milk under commercial conditions and will also run an experimental dairy for the purpose. It will also be interested in the manufacture and packaging of various milk products such as ghee, butter, ice-cream, indigenous milk products, condensed milk, milk powder, etc. and study the utilisation of various dairy by-products.

The Dairy Machinery and Engineering Division, besides providing help in the maintenance of the equipments and machineries located in the different Divisions of the Institute and Dairy, will also run the services such as supplying gas, water, steam, electric power, etc. to the Institute. This Division will also carry out research work, in collaboration with the Technology Division, on the designing and fabrication of different equipments to suit the requirements of our dairy industry.

The Nutrition Division will chiefly be concerned with the evaluation of the nutritive quality of milk and milk products with particular reference to the dietary habits of our people and the different indigenous milk products manufactured and consumed in the country.

(iv) *Extension and other activities*—The Dairy Extension Division of the Institute will be concerned with the examination of various problems of the Industry which need investigation at the Institute and will transmit the results of research work carried out at the Institute as well as in other parts of the world, to the industry. This Division will maintain liaison with State Dairy Organisations and study methods for the demonstration of the results of research work to the trade and industry for application in the field. It will also carry out investigations on new methods of Extension technique and tests for evaluating the success of extension work.

The Economic and Statistics Section of the Administrative Organisation will co-operate with the Extension Division for conducting economic surveys on the conditions of dairying in different parts of the country. It will assist the Research Divisions in the Statistical planning of research and evaluation of results.

Southern Regional Station, Bangalore

This Institute had been functioning at the national centre for dairy research and education for the past 25 to 30 years. The activities of the

Institute were being carried out through four Sections *viz.*, Dairy Husbandry, Dairy Technology, Dairy Chemistry and Dairy Bacteriology. Each Section was headed by a Class I Officer and had other complement of research staff. The Director of Dairy Research was the administrative head of the Institute. The principal activities of the Institute were research work on all aspects of dairy science; breeding and development of pedigree herds of Red Sindhi and Gir cows and Murrah Buffaloes as well as maintenance of cross-bred animals; production and distribution of milk; training of dairy students; and advisory work.

In the field of dairy research, the Institute has carried out several important investigations bearing on the production of clean milk, chemistry and bacteriology of milk and milk products, processing and transport of milk, improved methods of manufacture of milk products and so on.

The Institute has been conducting the following courses of training:—

Indian Dairy Diploma Course (2 years)

Short Courses of practical training (3 to 6 months)

Honorary Research Workers' course for 1 to 2 years
intended to carry out post-graduate research.

2. As a result of the change in its status to a Regional Station, the Bangalore Institute will hereafter continue to devote itself chiefly to research work on cross-breeding of cattle and artificial insemination work, key village scheme of cattle development, Central seed-bull scheme and training of short course, Indian Dairy Diploma and Refresher Course students. The Southern Regional Animal Nutrition Centre of the Indian Council of Agricultural Research is also located there for studying the problem connected with cattle feeds and nutrition peculiar to South India. Consequent to the reduction in its status as well as scope of activities there would be corresponding curtailment of staff and number of cattle to be maintained. These questions are being examined. The staff has already been reduced to some extent by transfer to Karnal.

ANNEXURE
NATIONAL DAIRY RESEARCH INSTITUTE

A. Central Administration

**B. Education Wing-
Dairy Science College**

Registrar (Class I)—1
 Asstt. Registrar, Accounts
 Officer, Stores Officer
 (Class II)—4

Class III:
 Ministerial—77
 Non-Minist.—

Class IV—27

Economics & Statistics Section	Advisory & Publicity Section	Library & Museum	Medical and Sanitation Branch
Economics Officer (Class I) 1	Class III Non-Minist. 3	Librarian Class II-1	Medical Officer (Class II) 1

Class IV-2	Class III Non-Minist. 6	Class III Ministerial-1
Statistical Officer (Class I)—1	Class IV-8	Class III Non-Ministerial-1
Asstt. Statistician (Class II)—1		
Class III, Ministerial 1		Class IV—75.

Class III, Non-Ministerial—3
 Class IV—2

Head of Division—1
 Asstt. Professors—6
 (Class II)
 Class III Ministerial—4
 Class III Non-Ministerial
 Lecturers, Demonstrators etc.—14

Class IV—22

NATIONAL DAIRY RESEARCH INSTITUTE
DIRECTOR OF DAIRY RESEARCH

Dairy Bacteriology	Dairy Chemistry	Dairy Technology & Dairy	Dairy Husbandry & Physiology	Nutrition	Dairy Machinery	Extension
Head of Divn.-I Class I Officer-I	Head of Divn.-I Class I Officer-I	Head of Divn.-I Class I Officer-I	Head of Divn.-I Class I Officer-2	Head of Divn.-I Class II Officer-3	Head of Divn.-I Class II Officer-3	Head of Divn.-I Class I Officer -I
Class II Officer-5 <i>Class III Minister-3</i> Non-minister-II Class IV —18	Class II Officer-5 <i>Class III Minister-2</i> Non-Minister-10 Class IV —23	Class III Minister-5 Non-Minister-17 Class IV —38	Class III Minister-5 Non-Minister-24 Class IV —221	Class III Minister-3 Non-Minister-9 Class IV —21	Class III Minister-3 Non-Minister-26 Class IV —52	Class III Minister-2 Non-Minister-3 Class IV —8

REGIONAL STATIONS

BANGALORE

Class I Officer—1
Class II Officer—4
Class III ministerial—18
Class III non-ministerial—25
Class IV—140

TWO OTHER REGIONAL STATIONS (EACH)

Class I Officer—1
Class II Officer—2
Class III ministerial-5
Class III non-ministerial—7
Class IV—10

Minist.—Ministerial

Non-Minist.—Non-Ministerial.