

GOVERNMENT OF INDIA
MINISTRY OF IRRIGATION & POWER

REPORT OF COMMITTEE
TO SUGGEST WAYS & MEANS OF IMPROVING FINANCIAL RETURNS
FROM IRRIGATION PROJECTS

PART I & II

सत्यमेव जयते

NEW DELHI
DECEMBER, 1964

LETTER OF TRANSMITTAL

Government of India
MINISTRY OF IRRIGATION & POWER

COMMITTEE SET UP "TO SUGGEST WAYS AND MEANS OF IMPROVING
FINANCIAL RETURNS FROM IRRIGATION PROJECTS".

No. 6/29/R&S/64-WIN. Bangalore, the 28th December, 1964.

From

Shri S. Nijalingappa,
Chief Minister, Mysore..... Chairman

To

Dr. K.L. Rao,
Union Minister of Irrigation & Power.

Sir,

I have great pleasure in transmitting herewith report of the Committee "To suggest ways and means of improving Financial Returns from Irrigation Projects".

The working of the Irrigation Projects in relation to their financial returns has received considerable attention during recent years, and various suggestions for improving financial returns from these projects, have been made from time to time. The subject was also discussed at the Conference of Irrigation and Power Ministers, held at New Delhi, on 3rd and 4th January, 1964. Since Irrigation Projects are not giving adequate returns and the response in respect of betterment levy is not encouraging, a Committee was set up vide Ministry of Irrigation and Power Resolution No. DW.II-31(2)/64, dated 3rd April, 1964, to examine the whole question and suggest ways and means of improving financial returns from the Irrigation Projects. (Appendix I - Part II.).

2. The Members of the Committee were as follows:-

1. Shri S. Nijalingappa,
Chief Minister, Mysore,
Bangalore Convener
2. Shri Balwant Rai Mehta,
Chief Minister, Gujarat,
Ahmedabad Member
3. Shri S.B. Chevan,
Minister of Irrigation & Power,
Maharashtra, Bombay "
4. Shri Girdhari Lal,
Minister of Irrigation & Power,
Uttar Pradesh, Lucknow "
5. Shri A.C. Subba Reddy,
Minister of Irrigation and
Power, Andhra Pradesh, Hyderabad... "
6. Chowdhary Ranbir Singh,
Minister of Irrigation & Power,
Punjab, Chandigarh..... "
7. Shri M.P. Sinha,
Minister of Irrigation,
Bihar, Patna "
8. Shri S. Bhattacharjee,
Minister of Irrigation,
West Bengal, Calcutta..... "
9. Shri M.R. Chopra,
Chairman, C.W. & P.C., New Delhi.. "
10. Shri V.V. Chari,
Additional Secretary,
Ministry of Finance, New Delhi.... "
11. Shri B.S. Nag,
Adviser (I&P), Planning
Commission, New Delhi..... "
12. Shri S.S. Lamba,
Director, C.W. & P.C., New Delhi.. Member-Secy.

2.1. Shri Rizk Ram, Minister of Irrigation and Power, Punjab, replaced Chowdhary Ranbir Singh, on this Committee, vide Ministry of Irrigation and Power Resolution No. DW.II-31(2)/64, dated 6th August, 1964, (Appendix 2 - Part II).

3. The terms of reference of the Committee were as follows:

- (i) to suggest ways and means of improving financial returns from the projects;
- (ii) to review and suggest criteria for sanctioning new projects;
- (iii) to consider the feasibility of future beneficiaries contributing towards the cost of schemes beginning from the construction stage itself.

To elicit views of the various States on these matters, a questionnaire was addressed to them. The Report of the Committee has been compiled after taking into consideration the replies received from nine States, viz. Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Maharashtra, Mysore, Uttar Pradesh, and West Bengal, and discussions held by the Committee.

The report has been divided into two parts, as under:-

- Part I - Report containing recommendations.
- Part II- Appendices.

The committee takes this opportunity to place on record appreciation of officers, especially Sarvashri B.S. Nag, V.V. Chari, M.R. Chopra, J.P. Neegamvala, D.B. Anand and K.D. Sanwal, who rendered considerable assistance in the compilation of this report. I am to thank my colleagues of the Committee and other officers of the Planning Commission, Central Water and Power Commission, Ministry of Finance, who have taken keen interest, and have actively cooperated. My thanks are specially due to Member-Secretary, Shri S.S. Lamba.

Yours faithfully,

(S. Nijalingappa)

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PART I I



1.1. Irrigation works constructed in recent years and those under construction at present in India, are much more expensive than works built in the past, partly on account of the higher cost of labour and materials and partly on account of the easier and less expensive projects mostly having already been taken up in the past. For this reason, and also on account of the increased cost of maintenance and operation, adequate returns are not being secured from Irrigation systems which are at present working at a loss in almost all States. It has become necessary, therefore, to consider what steps should be taken to bring about substantial improvement in financial returns from Irrigation schemes. The Committee is thus required:-

- i) to suggest ways and means of improving financial returns from irrigation projects.
- ii) to review and suggest criteria for sanctioning new projects.
- iii) to consider the feasibility of future beneficiaries contributing towards the cost of schemes beginning from the construction stage itself.

These terms have been discussed in the succeeding paragraphs while the summary of recommendations, is contained in the end.

1.2. The Committee was constituted by the Ministry of Irrigation and Power, vide their Resolution No. DW.II-31(2)/64, dated 3.4.64 (Appendix 1, Part II). The first meeting was held on 16.6.64 at Mysore, and the second meeting at Bangalore on 27.12.64.

In order to elicit views of States in these

matters, a questionnaire was sent to all the States vide No. 6/29/R&S/64-WIN, dated the 2nd June, 1964 and 18th June, 1964 (Appendix 3, Part II). Replies have been received from nine States viz. Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Maharashtra, Mysore, Uttar Pradesh and West Bengal. Abstract of replies is contained in Appendix 4 - Part.II. These have been taken into consideration while preparing this report, as also the discussions held by the Committee.

1.3. Although the construction of irrigation works became the concern of the ruling alien Government from 1867, it involved raising of a large capital in the United Kingdom, by loans. To safe-guard the loan capitals the British Parliament then decided upon, in 1879, certain financial tests for sanctioning of schemes. A project for sanction was required to earn sufficient revenue so as to pay a certain minimum return after deducting working expenses on the sum at charge in the 10th year of its opening. The sum at charge was defined as the capital cost of construction plus the arrears of simple interest upto that year.

This financial criterion has been followed ever since. For works sanctioned before 1st April, 1919, the "minimum return" fixed was 4%; for works sanctioned between 1st April, 1919 to 1st August, 1921, 5%, and for all works thereafter till Independence 6%. The limit has since been scaled down to 5%.

2.

REPORT

- 2.1. Term (i) : To suggest ways and means of improving financial returns from Irrigation Projects.

This term has been dealt with under suitable subjects.

2.1.1. Projects under Construction:

Normally every project report of major and medium schemes, indicates period and phasing of construction with the outlays required from year to year. But in practice, it is seen that usually it is not possible to adhere to this programme due to various reasons. As a matter of fact, one important reason for deviation from construction programme has been the large increase in the estimated cost of certain projects, partly due to under estimation at the initial stage and partly due to rise in the cost of materials and wages. Under the circumstances, as bigger outlays are not possible without squeezing other programmes, due to limitation of resources, a project usually proceeds on the basis of outlays provided in the Plan. Consequently, construction period gets prolonged, interest charges and overheads mount up, accrual of benefits get delayed, all of which ultimately diminish financial return below the one envisaged in the report. The Committee, therefore, feels that from consideration of economy, a project once taken up should be proceeded with at the optimum pace, technologically feasible, and recommends that:-

RECOMMENDATION I : PROJECTS UNDER CONSTRUCTION.

Projects already under execution should be completed at the optimum pace technologically feasible, and within the limitation of available resources, adequate provision of funds should be made for these in the State Plans.

2.1.2. New Projects:

The River Valley Projects require elaborate investigation. But, although Special Investigation Units have already been set up in almost all the States, adequate progress in the matter of investigations, collection of data etc., and preparation of projects have not been made, even in respect of projects included in the Third Plan. In the case of inadequately investigated projects, costs rise and benefits fall due to various reasons of which important ones are as follows:-

- i) under estimation of cost at the initial stage.
- ii) change in scope.
- iii) rise in cost of materials and wages.
- iv) over estimation of benefits at the initial stage.

It is essential, therefore, that all projects are thoroughly investigated.

Besides the above, projects should be correctly planned and phased, so as to lead to economy in construction cost and to the extent feasible, speedy use of irrigation facilities created, at each stage of construction. Planning for scarce material, machinery, their spare parts, man-power, foreign exchange and finances should also be done, well in advance. Necessary

steps may be taken to ensure availability of foreign exchange at the time of sanctioning a project.

For correct overall planning, it is also necessary to see that when a new project is taken up, it would be sustainable at the required optimum pace within the limitation of resources of State, without detriment to the continuing schemes. Specially in the case of large irrigation projects, additional assistance from the Centre may become necessary for speedy execution. This additional assistance could be taken into consideration while fixing the ceiling of the State Plan.

In the States where there is large potential yet undeveloped, special emphasis should be given to develop irrigation.

The Committee, therefore, recommends that :-

RECOMMENDATION II : NEW PROJECTS

New projects should be sponsored only after these have been fully investigated, their feasibility established beyond doubt, and a complete Project Report with carefully worked out estimates of cost, benefits, etc. prepared.

The various components of works, in a project should be so planned and coordinated that benefits to the extent feasible are obtained at various stages of construction. It is of utmost importance to plan well in advance for controlled and scarce materials, heavy machinery, their spare parts and personnel. Requirements of foreign exchange and finance should be realistically worked out and phased well in advance so that availability of foreign exchange is assured when a project is sanctioned. For the assessment of foreign exchange and its expeditious availability for such projects, necessary steps should be taken to set up a Cell at the Centre, consisting of the representatives of the concerned Ministries, and the Planning Commission. For speedy execution of large irrigation projects,

additional financial assistance from the Centre may become necessary. This additional assistance could be taken into consideration while fixing the ceiling of the State Plan.

It should also be ensured that new schemes are not sponsored to the detriment of continuing schemes.

RECOMMENDATION III - PRIORITY FOR MAJOR AND MEDIUM PROJECTS.

Irrigation should be treated as one coordinated problem. While due importance may be given to minor irrigation, no secondary place should be allotted to major and medium irrigation schemes, which yield in the long run more stable resources for increasing food production. This will also bring good financial returns.

Funds allotted to Irrigation Sector, should not be diverted on any account.

2.1.3. Water Rates.

In the First Five-Year Plan, Water Rate has been defined as "a charge dependent on the kind and extent of crops grown and is based on the quantity of water required by the crop and the advantage derived from the use of it by the cultivator. It has no relation to the cost of supplying the water". This statement is reasonably clear but the problem is how to evaluate all the factors given in the definition and prescribe a structure of water rates which can be considered equitable.

In the past, water rates were fixed on ad-hoc basis. The value of the crops raised and the quantity of water required to bring the crop to maturity served only as a rough guide. They were deliberately kept low, also perhaps, to popularise irrigated agriculture but now the increased benefits

arising from higher prices of farm products have raised the earning capacity of the farmers, hence, it is justified to mobilise a part of these substantial benefits accruing to the cultivators, in order to improve financial position of the irrigation projects. But as described above, the problem still remains as to how to fix the water rates equitably.

2.1.3.1. Studies so far made for fixing criteria for water rates.

(a) The National Council of Applied Economic Research undertook the problem to lay down appropriate principles governing the fixing of water rates. The principal conclusions of their report of February, 1959 are as under:-

i) The water rates should be fixed on additional net benefits derived due to irrigation. This is to be measured by the excess of net benefit after irrigation over net benefit before irrigation.

ii) Water rate should in no case exceed, say 50% of the additional net benefit to the cultivator and should vary from 20 to 50 percent.

iii) The water rate should be split into compulsory and voluntary rates where the demand fluctuates widely. The compulsory rate should be from 5 to 10% of the additional net benefit and should be charged on all cultivators who are assured of water supply whenever they need it. The voluntary rate should be from 15 to 30% of the additional net benefit.

iv) Revision of water rates is desirable after every five years or earlier if the price rise of the farm produce is more than 15% after fixation of last water rates.

v) The principle of fixing water rates on the cost of the project is not justified.

vi) The principle of fixing water rates on the value of crops is also not justified.

vii) For fixing water rates, Water Rate Boards should be set up for each system or State.

(b) The Government of Maharashtra appointed an Irrigation Commission which has also dealt with the principle of fixing water rates. The report was published in June, 1962. Its principal suggestions for fixing water rates are as under:-

i) The water rates should be based on the annual cost (interest charges plus recurring expenses) of irrigation water required by the crop per average acre.

ii) It should be related to the level of average gross income obtained from the crop under the usual conditions of fertility, supply of manure supply of water, level of efficiency of cultivation prices, etc.

iii) The average water rate should be the same as the annual cost (interest charges plus recurring expenses) of water per average acre. For the State of Maharashtra, the Commission has worked this out to be Rs. 57 per acre. Also the gross income per average irrigated acre is worked out to be Rs. 575.

Comparing the two figures, Maharashtra Irrigation Commission has suggested that 10% of the gross income may be appropriated as water rate.

iv) The range of percentage of gross income from the different crops which should be charged as water rate, may be fixed from 6% to 12%, making an average of 10%.

v) Revision of water rates may be done after every 6 years.

vi) Concessional water rates during the initial period of Irrigation Development are worth continuing.

vii) There is no need for continuing the irrigation cess as a surcharge on water rates, since the entire recurring cost on irrigation works can be recovered through water rates.

viii) Betterment levy and depreciation charges may be charged as 14% and 6% surcharge over the water rates. This surcharge of 14% and 6% is to be charged on all lands irrigated, whether new or old, the period of recovery being unlimited.

2.1.3.2. After considering the studies made, so far, in the matter as described above, and discussing the various aspects connected with water rates, the Committee feels that the best way of fixing "Water Rates" is to base them on additional net benefit derived due to irrigation by the cultivators. This is to be measured by the extent of net benefit after irrigation over the net benefit before irrigation. It is considered reasonable to adopt

water rates equal to 25 to 40% of the additional net benefit derived per acre of crop irrigated by farmer, keeping in view various factors like rainfall, water requirement, yield and value of a crop etc.

But the problem is how to assess the additional net benefit. It requires two types of data, those regarding per acre production of crops produced before and after irrigation, and those regarding per acre cost of production before and after irrigation. Data regarding production per acre may be available to some extent but those regarding the cost of production are very scanty, and may not be representative enough for calculating averages applicable over wide areas. In the existing circumstances, it may not always be possible to compute correctly the additional net benefit derived from irrigation by the cultivators in the commands of various irrigation projects. So, where the required data is not available, water rates may initially be fixed as a suitable percentage ranging between 5 to 12% of gross income to the farmers to start with, and in the meantime, the required data should be collected to revise the water rates on the basis of additional net benefits.

To get an idea as to what percentages the prevailing water rates bear to the gross income of the cultivators in respect of two common crops, rice and wheat, a preliminary study has been made, based on readily available data and some assumptions.

Yield of crops per acre under irrigated conditions in various States is not available, to work out gross income per acre irrigated, but average value of gross income per acre of both irrigated and unirrigated together, of some crops in various States is available and is given in Statement 1. It can be reasonably assumed that average value of gross income per acre from these crops under irrigated conditions would be higher. Prevailing water rates in different States are given in Statement.2. Statement 3 gives the percentage of prevailing water rates to the average value of gross income per acre from rice and wheat. It will be seen that this percentage is from 0.9 to 11.29 for rice and from 1.51 to 9.09 for wheat. Compared to gross income from irrigated crops, these percentages would be still lower.

There is no denying the fact that prices of all commodities including agricultural are rising and likely to continue to rise. The water rates should, therefore, be reviewed periodically every 5 years on the basis of assessment of the additional net benefits from time to time. Statement 4 gives price index of agricultural commodities which indicate higher trend of the prices of agricultural produce in general. The graph for rice and wheat shows how the gross income has been increasing with the rising price index whereas percentage of water rates to gross income has remained low.

Another study has been made to compare the trend of rise in yields, Farm harvest prices and water rates since 1935-44 onwards in respect of some of

the important crops. These results are indicated in Statement 5-A. It has revealed that on the average, for the whole country, in case of rice, yield has increased to about 125%, Farm harvest prices per maund, to about 5 times, whereas water rates have increased to 2.6 times. Similarly, in case of wheat, yield has increased to about 102%, Farm harvest prices to 6 times and water rates have increased to 2.4 times. In case of cotton, yield has increased to about 102% , Farm harvest prices to 3 times, whereas water rates have increased to 4.4 times.

In view of the above considerations, the Committee recommends that :

RECOMMENDATION IV. REVISION OF WATER RATES.

Water rates should be on the basis of a suitable percentage of the additional net benefit to the farmer from an irrigated crop where with the available data, this can be worked out. These rates may be fixed at 25% to 40% of the additional net benefit keeping in view factors like rainfall, water requirement, yield and value of crop, etc. Where it is not feasible to work out the additional net benefit, water rates may be fixed, to start with, as a suitable percentage of gross income to the farmer from the irrigated crop. Rates in this case may be 5 to 12% of the gross income, and should be worked up to.

Water rates should be reviewed every 5 years. Required data regarding additional net benefit should be continuously collected for this purpose

2.1.4. IRRIGATION FACILITY CHARGE

In the States where irrigation charges are optional, there is usually a tendency on the part of irrigators to take water in kharif, only when there is insufficiency of rainfall. This impedes scientific

irrigation, results in infructuous expenditure on irrigation works and means reduced revenues. As irrigation facility is created for the farmers served by a project, it becomes obligatory for them to pay for such a facility created, to the extent that it should at least cover the maintenance and operation charges. In such cases, there should be a compulsory water cess leviable on the entire culturable commanded area for which irrigation facilities are provided, irrespective of whether water is taken by the cultivators or not. This itself will be a factor in encouraging cultivators to make timely use of water, thereby promoting increased crop yields. The Committee, therefore, recommends that :

RECOMMENDATION V. INTRODUCTION OF IRRIGATION FACILITY CHARGE.

In States where irrigation charges are optional, in consideration of the irrigation facilities, having been made available for an area, there should be a 'charge' to cover at least the maintenance and operation charges, whether the facility is actually made use of or not. This should be levied on the entire C.C.A., that is, "the gross area commanded less the area of unculturable land included in the gross area", as defined in the "Glossary of Irrigation and Hydro-electric Terms and Standard Notations used in India", published by the Central Board of Irrigation & Power. On carrying out actual irrigation, this facility charge paid in respect of the area should be deducted from the total irrigation dues for the year in terms of Recommendation IV, i.e., it will form part of the water rate.

2.1.5. Betterment Levy.

This represents the Government's share in the increase in the value of land that accrues as a result of the provision of irrigation

facilities. This is levied only once when irrigation facilities are provided for the first time and the value of the land increases appreciably on this account. It may be recovered in a lump-sum or by instalments spread over a number of years or in the form of land.

Legislation for betterment levy has already been enacted in all States except Jammu & Kashmir, Uttar Pradesh and West Bengal. In Jammu & Kashmir, vide Government order No. I-12-Dev. of 1963, dated 12.1.1963, betterment fee is leviable though there is no specific Act passed for betterment levy. Similarly, in West Bengal, vide "The Bengal Development Act 1935", improvement levy is leviable on an area benefited from an improvement work, though there is no specific betterment levy Act enacted so far. There is no legislative or other provision to impose any such levy in Uttar Pradesh.

But in a majority of States, enforcement of the legislation has lagged behind, and the actual realizations in the Second Plan were assessed to be only Rs. 3.5 crores against the initial estimate of Rs. 47 crores. As regards Third Plan, the target of receipts from betterment levy was Rs. 38.7 crores. The anticipated realization in the first three years of the Plan, are only Rs. 5.76 crores. Unless the State Governments take steps to enforce the legislation effectively, little improvement can be expected in the realisations. Available information in respect of betterment levy State-wise, is compiled in a Statement and included as Appendix 5, Part II.

Enforcement of betterment levy appears to have lagged behind, mainly due to the difficulty in assessing the increase in land value due to irrigation. It is also felt in some States that as land legislations may not permit ~~of~~ sales of land (in which case the idea of the appreciation of land value becomes a notional one), the definition of betterment levy may require revision. In Gujarat, it is now proposed to collect betterment levy as a suitable part of capital cost, and not as a part of unearned income, due to increase in land value due to irrigation. They also propose that receipts from betterment levy may be treated as capital receipts and put into a special fund (Water Resources Development Fund) which may be used for financing other irrigation works in the State. Maharashtra Irrigation Commission have recommended that **betterment levy** should be charged as 14% surcharge on water rates and that this should be charged on all lands irrigated whether new or old, the period of recovery being unlimited. Government of Maharashtra have accepted this in principle, vide their Resolution No. MIC.1063-I(5), dated 30.6.64. They, however, desire that while implementing this recommendation, in Vidarbha and Marathwada, where irrigation is recently started, this recommendation may not be implemented till the people become irrigation minded or else this surcharge will act as a disincentive for the utilisation of irrigation potential.

After considering the question, the Committee feels that although there may be difficulties in

enforcing betterment levy, the underlying idea is sound and all efforts should be made to enforce it. To overcome administrative, legislative and other difficulties due to varying practices in different States, States should have the discretion to decide the quantum and the mode of recovery of capital or betterment levy themselves. The Committee, therefore, recommends that :

RECOMMENDATION VI. RECOVERY OF BETTERMENT OR CAPITAL LEVY.

A betterment or capital levy should be charged on irrigation projects, the quantum and mode of recovery being determined by the State Governments.

2.1.6. Optimum Utilisation of Irrigation Potential created - Area Programmes.

It had been suggested in the Third Five-Year Plan that, in order to ensure that the benefits which accrue from the construction of major and medium irrigation projects are availed of speedily, a large number of other developmental activities have to be carried out simultaneously. These include soil surveys; setting up of experimental farms for determining and evolving new cropping patterns; setting up of demonstration farms to propagate scientific irrigation practices, particularly economic use of water; supply of improved seeds and fertilisers; provision of credit and marketing facilities; establishment of waterhouses and godowns; opening of communications in the project areas, etc. In March, 1964, Planning Commission in consultation with the Ministries of

Irrigation and Power, Food & Agriculture, and Community Development and Cooperation, addressed a letter to State Governments intimating that a new sub-head of development 'Area programmes for irrigation projects' under the head 'Agricultural Programmes' should be created and funds provided to ensure that an integrated programme for planned agricultural development of each project area, is prepared in which the tasks and responsibilities of all the agencies concerned are clearly specified. This was followed by a letter from the Ministry of Food & Agriculture in April, 1964 suggesting that financial provision for this programme should be made in the budget of the States. This sub-head of 'Area Programmes' has come into effect in the Annual Plan for 1964-65.

The Committee considers these 'Area Programmes' to be most vital to the development of irrigation, and recommends that :

RECOMMENDATION VII. OPTIMUM UTILISATION OF
IRRIGATION POTENTIAL CREATED-
AREA PROGRAMMES.

" Area Programmes " for development of irrigation in the commended area should proceed apace with the project, so that, optimum utilisation of irrigation potential is achieved, with maximum speed, through coordination of efforts of all concerned Departments (for details, refer Appendix 7, Part II).

2.1.7. Coordination between Agriculture Department
and Irrigation Department.

In the Planning Commission's Mid-term Appraisal of the Third Five-Year Plan, recommending

the establishment of an Irrigation Development Committee in each State, it has been urged that its effectiveness would be greatly enhanced if, at the same time, the overall responsibility for ensuring effective coordination between the various agencies was placed on an officer to be specified at the State, Project and local levels. Pursuing this line, it has been recommended:

" At the State level, the overall responsibility might be placed on the State Development Commissioner. It should be his duty to ensure that the various plans and instructions are implemented effectively and in accordance with agreed schedule. At the district level, this responsibility might be placed on the Collector..... Responsibility for securing the observance of obligations on the part of the beneficiaries and for utilisation of the available irrigation facilities have been placed on the Panchayat Raj Institutions, especially Panchayat Samities and Village Panchayats".

An Agricultural Production Committee presided over by the State Chief Minister, and an Administrative Coordination Committee, presided over by the Chief Secretary, have been set up by all State Governments.

In pursuance of the decision taken in the National Development Council meeting in November, 1963, an Agricultural Production Board has been established at the Centre to achieve an integrated and coordinated approach in matters of agricultural policy and programmes.

Irrigation Department is responsible for supplying water for irrigation. Agriculture Department is responsible for using it. There is a need to secure closer coordination between these two Departments. It is very necessary that expert advice of Agriculture Department is readily available to the Irrigation Department on all agricultural aspects of major and medium irrigation projects, such as cropping pattern, water requirement of various crops, suitability of areas for irrigation etc. at all levels from the planning stage upto the stage of execution. The Committee, therefore, recommends that :

RECOMMENDATION VIII. COORDINATION BETWEEN AGRICULTURE
DEPARTMENT & IRRIGATION
DEPARTMENT.

A senior and experienced officer of the Agriculture Department with adequate supporting staff, should be attached to the State Irrigation Department, to advise on agricultural aspects of major and medium irrigation projects, such as, cropping pattern, water requirements of various crops, suitability of areas for irrigation, both for new and existing projects.

2.2. Term (ii) : To review and suggest criteria
for sanctioning New Projects.

2.2.1. In accordance with the recommendations of the Select Committee on Indian Public Works, in 1879, it was decided by the Parliament that the project for sanction should be able to earn sufficient revenue so as to pay a certain minimum return after deducting all working expenses, on the sum-at-charge in the 10th year after completion. The sum-at-charge was

defined as the capital cost of construction plus the arrears of simple interest upto that year.

We have followed this criterion ever since; for works sanctioned before 1st April, 1919, the 'minimum return' fixed was 4% ; for works sanctioned between 1st April, 1919 to 1st August, 1921, 5% ; for works sanctioned after 1st August, 1921, till 31st March, 1937, 6 %. For works sanctioned after 1st April, 1937, that is, after the introduction of the Government of India Act, 1935, different percentages were adopted in different provinces. Most of the provinces reduced the productivity rate to 4% although the rate prescribed by the Government of India, continued to be higher at 6%. In May, 1949, the Government of India, in the Ministry of Finance fixed 3.75% as the rate of return on the capital outlay for classifying a capital work as 'productive'. This rate continued to the year 1954 and was applied to all projects financed by the Central Government, as also for determining productivity of State Irrigation works for which loans were obtained from the Centre. Subsequently, the rate was raised to 4.5%, and this rate continued upto March, 1960. Thereafter, the productivity rate was fixed at 5%.

Since the above criterion was fixed in 1879, conditions have changed very materially. Firstly, the country has become Independent, and has adopted a socialistic pattern of society. Secondly, the production of food has not kept pace with the growth of population, resulting in a large deficit

of food, which has to be imported from other countries, involving much foreign exchange. Thirdly, in the past, irrigation works were constructed mostly to take advantage of the run-of-the-river supplies, and as such, were cheap, and at easy locations, but the present schemes are mostly storage schemes which are much more costly, and located at difficult sites.

Due to changed conditions described above, in practice, considerable flexibility in application of the productivity test, has been allowed. The First Five-Year Plan (1951-56) was drawn up in the background of a long-term plan to double the area under irrigation from Government works over a period of 15 to 20 years. Agriculture including irrigation and power, were allotted high priority. Emphasis was laid on substantial increase in food production as basic pre-requisite to sustain a high tempo of industrial development. The prevailing criterion was, "for increasing the production of food and other agricultural produce, it is necessary that irrigation projects should be undertaken wherever there are facilities for such projects". Emphasis on development of agriculture through irrigation, has been continued during the Second and Third Plan periods, and several projects which were below the recognized productivity test, have been taken up. But unless the financial criterion which attempts to justify a project mainly on the basis of the revenue derived by Government from water rates and other miscellaneous receipts, is replaced by a more broad-based criterion, future development of irrigation in the country may be seriously jeopardized. In the

progressive countries of the world today, irrigation schemes are undertaken on the basis of economic benefits criterion. This criterion does not judge a project by the direct return it gives to the Government treasury, but by the overall benefits it gives to the economy as a whole.

Another point requiring serious consideration is that besides direct and miscellaneous receipts, revenues are derived by the Central and State Governments as a result of irrigation projects, because irrigated areas and their environs virtually become pockets of all-round prosperity. The various indirect or extended benefits are usually recognised as those associated with the additional volume of agricultural produce flowing through channels of trade and industry after leaving the project farms. Such for instance are the values of additional business and employment created both in and off project areas, increased revenues to local, State and Central authorities, increased residential values, opportunities for better living and resource utilisation. Important sources of revenue to the Government from indirect benefits, are as follows:-

To the Central Government:

- (i) Income tax, super tax, sales tax etc., from factories utilising agricultural produce, like sugar, and cotton factories, flour mills, etc.
- (ii) Increase in income from railways on account of movement of agricultural produce and traffic.
- (iii) Income from duty on oils, motor goods, used for movement of agricultural produce and extra traffic.

(iv) Increased income from posts and telegraphs, income from customs duty on account of increased import of machinery and material.

To State Government :

- (i) Increased land revenue in some cases.
- (ii) Revenue from registration and stamps.
- (iii) Income from excise, sales tax, agricultural tax, etc.
- (iv) Saving in famine and flood expenditure.

In this connection, it will be interesting to note that in a detailed study of indirect benefits, by Shri D.R. Gadgil in his "Economic Effects of Irrigation (Publication No. 17, Gokhale Institute of Economics & Politics, Poona)", based on economic survey of Godavari & Pravara canal areas in the State of Bombay (now Maharashtra), these have been shown substantial which work out between 10 and 11 percent on capital outlay.

The present financial criterion of evaluating irrigation projects is unsatisfactory, because :

(1) It is partial and does not take into account the total benefits of irrigation, not even the total of tax receipts by Government arising out of irrigation development.

(2) It was not uniformly applied in all States.

(3) It depends upon water charges which vary from State to State, sometimes even from project to project in the same State, and which do not appear realistic.

2.2.2. After discussing the whole question in detail and considering the studies contained in the report "Criteria for Appraising the feasibility of Irrigation Projects" by the Research Programmes Committee, Planning Commission (May, 1964), the Committee recommends that the criterion for economic analysis most suitable is the "benefit cost ratio" method.

Under certain conditions even the economic criterion may have to be relaxed due to social and welfare considerations. For example, in a welfare State, the human aspect of irrigation project is of great importance. There are several arid areas in the country where people have little gainful employment and to provide them with occupation, and improve their living conditions, irrigation may have to be introduced in the area even at a high cost. These projects may not be justified in terms of economic benefit or reasonable financial return, and may yet have to be taken up from wider considerations.

Considering all the facts, the Committee recommends:

RECOMMENDATION IX. CRITERIA FOR SANCTIONING A PROJECT

Economic Benefit Criterion should be adopted for sanctioning irrigation projects instead of the present financial criterion. For this purpose, it will be necessary to lay down detailed instructions for working out the "benefit-cost ratio". As a general rule, a project should be considered worthwhile only if the benefit cost ratio as explained in para 2.2.3. is not less than 1.5. Exceptional cases such as those for scarcity and backward areas, may, however, continue to receive special consideration.

2.2.3. It is suggested that for all irrigation projects, benefit cost ratio should be worked out in a standard way. Detailed instructions for this purpose should be drawn up as quickly as possible. Interest and depreciation rates in such economic analysis, may be adopted as follows:-

Interest rate:

Interest rate of 10% should be adopted in the economic analysis. As the interest is to be calculated on 'capital cost' of the project, and not on the 'sum-at-charge', the interest charges should be kept on the higher side. It would also be desirable to fix the interest charges on the higher side to compensate for any possible increase in the estimated cost of the project, as also non-accrual of the benefits envisaged in the project, because of optimistic estimate of the area irrigated and water use. Also allowance has to be made for smaller benefits in the developmental stage of a project. An interest rate of 10% on the capital cost for the benefit-cost analysis, is therefore, considered reasonable.

Depreciation:

Depreciation should be calculated on the expected economic life of a project, as given in the Project Report, but this should not exceed 100 years in any case.

- 2.3. Term (iii). To consider the feasibility of future beneficiaries contributing towards the cost of schemes, beginning from the construction stage itself.

One of the most important issues connected with planning, is the raising of capital resources. Every effort has, therefore, to be made to add to them. It has been considered equitable to levy betterment fee on areas benefited by irrigation

projects. This betterment levy is a capital levy to be credited to the capital account. But this levy commences 2 or 3 years after irrigation water becomes available. By the time, realizations are started, considerable interest charges accumulate. Any realisation of betterment levy before or during the period of construction would help in raising resources for the project and improve its financial return.

Most of the States which were consulted in the matter, have not held out hope of succeeding in securing advance contribution from beneficiaries. Under special conditions, however, where there are sugar factories or cooperatives, with substantial funds at their disposal, or where irrigation demand is acute, beneficiaries may be willing to make advance contribution. The Committee, therefore, recommends as under:-

RECOMMENDATION X. ADVANCE CONTRIBUTION TOWARDS
COST OF SCHEMES.

In deciding inter-se priorities of irrigation projects accepted for inclusion in a Plan, schemes in respect of which beneficiaries are ready to pay betterment or capital levy in advance, should receive special consideration.

3. RECOMMENDATIONS

- 3.1. Term (i). To suggest ways and means of improving financial returns from the projects.

RECOMMENDATION I. PROJECTS UNDER CONSTRUCTION

Projects already under execution should be completed at the optimum pace technologically feasible, and within the limitation of available resources, adequate provision of funds should be made for these in the State Plans.

RECOMMENDATION II. NEW PROJECTS

New projects should be sponsored only after these have been fully investigated, their feasibility established beyond doubt, and a complete Project Report with carefully worked out estimates of cost, benefits, etc. prepared.

The various components of works in a project should be so planned and coordinated that benefits to the extent feasible are obtained at various stages of construction. It is of utmost importance to plan well in advance for controlled and scarce materials, heavy machinery, their spare parts and personnel. Requirements of foreign exchange and finance should be realistically worked out and phased well in advance so that availability of foreign exchange is assured when a project is sanctioned. For the assessment of foreign exchange and its expeditious availability for such projects, necessary steps should be taken to set up a Cell at the Centre, consisting of the

representatives of the concerned Ministries, and the Planning Commission. For speedy execution of large irrigation projects, additional financial assistance from the Centre may become necessary. This additional assistance could be taken into consideration while fixing the ceiling of the State Plan.

It should also be ensured that new schemes are not sponsored to the detriment of continuing schemes.

RECOMMENDATION III - PRIORITY FOR MAJOR AND MEDIUM PROJECTS.

Irrigation should be treated as one coordinated problem. While due importance may be given to minor irrigation, no secondary place should be allotted to major and medium irrigation schemes, which yield in the long run more stable resources for increasing food production. This will also bring good financial returns.

Funds allotted to Irrigation Sector, should not be diverted on any account.

RECOMMENDATION IV. REVISION OF WATER RATES

Water rates should be on the basis of a suitable percentage of the additional net benefit to the farmer from an irrigated crop where with the available data, this can be worked out. These rates may be fixed at 25% to 40% of the additional net benefit keeping in view factors like rainfall, water

requirement, yield and value of crop, etc. Where it is not feasible to work out the additional net benefit, water rates may be fixed, to start with, as a suitable percentage of gross income to the farmer from the irrigated crop. Rates in this case may be 5 to 12% of the gross income, and should be worked up to.

Water rates should be reviewed every 5 years. Required data regarding additional net benefit should be continuously collected for this purpose.

RECOMMENDATION V. INTRODUCTION OF IRRIGATION FACILITY CHARGE

In States where irrigation charges are optional, in consideration of the irrigation facilities, having been made available for an area, there should be a 'charge' to cover at least the maintenance and operation charges, whether the facility is actually made use of or not. This should be levied on the entire C.C.A., that is, "the gross area commanded less the area of unculturable land included in the gross area", as defined in the "Glossary of Irrigation and Hydro-electric Terms and Standard Notations used in India", published by the Central Board of Irrigation & Power. On carrying out actual irrigation, this facility charge paid in respect of the area should be deducted from the total irrigation dues for the year in terms of Recommendation IV, i.e., it will form part of the water rate.

RECOMMENDATION VI. RECOVERY OF BETTERMENT OR CAPITAL LEVY.

A betterment or capital levy should be

charged on irrigation projects, the quantum and mode of recovery being determined by the State Governments.

RECOMMENDATION VII. OPTIMUM UTILISATION OF IRRIGATION
POTENTIAL CREATED - AREA PROGRAMMES.

"Area Programmes" for development of irrigation in the commanded area should proceed apace with the project, so that, optimum utilisation of irrigation potential is achieved, with maximum speed, through coordination of efforts of all concerned Departments (for details, refer Appendix 7, Part II).

RECOMMENDATION VIII. COORDINATION BETWEEN AGRICULTURE DEPARTMENT
AND IRRIGATION DEPARTMENT.

A senior and experienced officer of the Agriculture Department, with adequate supporting staff, should be attached to the State Irrigation Department, to advise on agricultural aspects of major and medium irrigation projects, such as cropping pattern, water requirements of various crops, suitability of areas for irrigation, both for new and existing projects.

- 3.2. Term (ii). To review and suggest criteria for sanctioning new projects.

RECOMMENDATION IX. CRITERIA FOR SANCTIONING A PROJECT

Economic Benefit Criterion should be adopted for sanctioning irrigation projects instead of the

present financial criterion. For this purpose, it will be necessary to lay down detailed instructions for working out the "benefit cost ratio". As a general rule, a project should be considered worthwhile only if the benefit cost ratio as explained in para 2.2.3, is not less than 1.5. Exceptional cases such as those for scarcity and backward areas, may however, continue to receive special consideration.

- 3.3. Term (iii). To consider the feasibility of future beneficiaries, contributing towards the cost of schemes beginning from the construction stage itself.

RECOMMENDATION X. ADVANCE CONTRIBUTION TOWARDS COST OF SCHEMES.

In deciding inter-se priorities of irrigation projects accepted for inclusion in a Plan, schemes in respect of which beneficiaries are ready to pay betterment or capital levy in advance, should receive special consideration.

Statement showing Average value of Gross Product per Acre of some Crops* - gross income per acre from some crops.

STATEMENT 1
Fig. in Rupees.

State	RICE																WHEAT															
	56-57	57-58	58-59	59-60	60-61	61-62	62-63	Jan. '64	56-57	57-58	58-59	59-60	60-61	61-62	62-63	Jan. '64																
Andhra Pradesh	242	256	299	300	321	309	321	353	-	-	-	-	-	-	-	-																
Assam	185	210	192	194	207	200	207	228	-	-	-	-	-	-	-	-																
Bihar	145	108	174	164	176	169	176	193	50	100	148	157	140	137	142	173																
Maharashtra)	)	)	264	247	264	254	264	291	)	)	119	90	80	79	81	99												
Gujarat	197	192	203	192	205	197	205	226	84)	81	147	156	139	136	141	172																
Kerala	258	237	275	328	351	338	351	386	-	-	-	-	-	-	-	-																
Madhya Pradesh	159	103	161	119	127	123	127	140	95	66	130	107	95	93	97	117																
Madras.	286	269	294	312	333	321	333	367	-	-	-	-	-	-	-	-																
Mysore	246	255	299	282	302	291	302	332	-	-	-	-	-	-	-	-																
Punjab	161	182	184	202	216	208	216	238	176	153	179	166	148	145	150	182																
Rajasthan	207	81	235	288	308	296	308	339	171	133	166	157	140	137	142	172																
Uttar Pradesh	95	112	141	105	112	108	112	124	127	123	144	147	131	128	133	161																
West Bengal	215	228	223	237	253	244	253	279	-	-	-	-	-	-	-	-																

* The value has been calculated as the product of yield per acre and the average farm (Harvest) price of the crop in the State concerned.

Conversion ratios.

Rice (cleaned) production : 2/3 of paddy production

Cotton lint production : 2/3 of kapas production.

Source: Economic Survey of Indian Agriculture (1960-61) by Directorate of Economics and Statistics, Ministry of Food and Agriculture.

Notes: 1. Values for the years 1960-61 to January, 1964 are projected from 1959-60, based on the following formula:

(Gross income of the previous year - vide Statement 1) x (Index No. of the year vide statement 4)
(Index No. of the same previous year - vide Statement 4).

2. In case of Bihar, Mysore & Gujarat, figures have been projected from 1958-59 onwards, because data for 1959-60 is not available.

Statement showing All-India index numbers of Wholesale Prices for selected Agricultural Commodities.

Crop	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Rice	100	102	86	76	93	104	108	102	109	105	109	122	120
Wheat	97	96	79	70	86	90	96	102	91	89	92	91	112
Jowar	100	101	86	59	116	120	101	116	124	111	120	113	123
Bajra	101	103	84	78	113	131	121	128	129	133	128	125	139
Maize	103	101	88	70	101	115	116	123	106	111	106	101	119
Fruits and Vegetables.	104	105	99	98	108	117	112	128	121	131			
Sugar & Gur	100	123	122	88	97	105	123	143	139	121			
Gur	98	138	133	85	98	105	125	155	145	117			
Groundnut	98	128	93	71	107	110	113	126	141	167			
Cotton	107	100	105	95	106	108	100	103	113	108			
Jute	122	94	102	122	122	136	121	118	179	208			

Sources: 1) Economic Survey of Indian Agriculture 1960-61 for the data for the years from 1952 to 1961.

11) Bulletin on Food Statistics, February, 1964, for the years from 1961 to 1964.

STATEMENT SHOWING RELATION OF INCREASED PRODUCTIVE VALUE
TO WATER RATES IF INCREASED PROPORTIONATELY - PER ACRE

STATEMENT (5)-A

Sl. No.	Name of crop	Yield of new crop	Ratio of new Harvest Price to old one.	%age of new productive value to old one.	%age of prevailing water rates to water rates (old ones) (1935-44)	Proportionate increase in prevailing water rates (Col. 5/Col. 6)	Proportionate water rates/ per acre. (Col. 7 x average prevailing water rates in Statement 2	Gross income per acre (59-60)	%age of proportionate water rates to gross income.	%age of proposed water rates to gross income.
1	2	3	4	5	6	7	8	9	10	11
1.	Rice	125	5	625	261	2	24.00	233	10.30	} 5 to 12%
2.	Wheat	102	6	612	239	3	23.00	133	17.29	
3.	Cotton	102	3	306	439	1	16.00	122	13.15	

Conclusion:- The range of proposed water rates/acre at 5 to 12% of Gross Income/acre is lower than that of the water rates calculated in proportion to increase in productive value.

Sources:

- (i) For Cols. 3, 4 and 6 refer Statement (5)-B.
- (ii) For Col. 8, refer statement 2 of Part I of the Report.
- (iii) For Col. 9 - Economic Survey of Indian Agriculture for 1960-61, by Directorate of Economics and Statistics, Min. of Food & Agriculture (1962).

TO BE PUBLISHED IN THE GAZETTE OF INDIA, PART I, SECTION I.

No.DW.II-31(2)/64
Government of India
Ministry of Irrigation & Power

New Delhi, the 3rd April, 1964.

RESOLUTION

The Working of the irrigation projects in relation to their financial returns has received considerable attention during recent years and proposals suggesting ways and means of improving the financial returns from the projects have been made from time to time. The subject was also discussed at the Conference of Irrigation and Power Ministers held at New Delhi on the 3rd and 4th January, 1964. Since irrigation projects are not giving adequate returns and the response in respect of betterment levy is not encouraging, a Committee has been set up to examine the whole question and suggest ways and means for improving the financial returns from the Projects.

2. The Committee consists of:

- | | |
|--|--------------|
| 1. Shri S. Nijalingappa,
Chief Minister, Mysore, Bangalore | Convener |
| 2. Shri Balwant Rai Mehta,
Chief Minister, Gujarat, Ahmedabad. | Member |
| 3. Shri S.B. Chavan,
Minister of Irrigation & Power,
Maharashtra, Bombay. | " |
| 4. Shri Girdhari Lal,
Minister of Irrigation & Power,
Uttar Pradesh, Lucknow. | " |
| 5. Shri A.C. Subba Reddy,
Minister of Irrigation & Power,
Andhra Pradesh, Hyderabad. | " |
| 6. Chowdhury Ranbir Singh,
Minister of Irrigation & Power,
Punjab, Chandigarh. | " |
| 7. Shri M.P. Sinha,
Minister of Irrigation,
Bihar, Patna. | " |
| 8. Shri S. Bhattachargee,
Minister of Irrigation,
West Bengal, Calcutta. | " |
| 9. Shri M.R.Chopra,
Chairman, CW&PC, New Delhi. | " |
| 10. Shri V.V. Chari,
Additional Secretary,
Ministry of Finance, New Delhi. | " |
| 11. Shri B.S.Nag,
Adviser, Planning Commission, New Delhi. | " |
| 12. Shri S.S. Lamba,
Director, CW&PC, New Delhi. | Member-Secy. |

3. The terms of reference of the Committee will be as follows:-

- i) to suggest ways and means of improving financial returns from the projects.
- ii) to review and suggest criteria for sanctioning new projects.
- iii) to consider the feasibility of future beneficiaries contributing towards the cost of schemes beginning from the construction stage itself.

4. The report of the Committee will be submitted to the Government of India in the Ministry of Irrigation and Power not later than the 30th September, 1964.

Sd/-

(V. Nanjappa)

Secretary to the Government of India.

ORDER

Ordered that a copy of the Resolution be communicated to all concerned.

Ordered also that the Resolution be published in the Gazette of India for general information.

Sd/-

(V. Nanjappa)

Secretary to the Government of India.

To

The Manager,
Government of India Press,
Faridabad, Distt. Gurgaon,
(Punjab).

Copy forwarded to all Members and Secretary of the Committee.

Sd/-

(S.M. Misra)

Under Secretary to the Govt. of India.

Copy forwarded for information to:-

1. All Attached and Subordinate Offices under the Ministry of Irrigation and Power.
2. Central Water & Power Commission - 5 spare copies.
3. All Officers/Sections in the Ministry of Irrigation and Power.
4. Accountant General, Commerce, Works and Miscellaneous, New Delhi.

Sd/-

(S.M. Misra)

Under Secretary to the Govt. of India.

(TO BE PUBLISHED IN THE GAZETTE OF INDIA, PART I, SECTION I)

No.DWII-31(2)/64
Government of India
Ministry of Irrigation & Power

New Delhi, the 6th Aug, 1964.

RESOLUTION

In Resolution No.DW.II-31(2)/64 dated the 3rd April, 1964, setting up a Committee to examine the question of financial returns from irrigation projects, against S.No.6, the following may be inserted in place of the existing entry -

- 6) Shri Rizak Ram,
Minister for I&P, Punjab,
Chandigarh.

Sd/-
(V. Nanjappa)
Secretary to the Government of India

ORDER

Ordered that a copy of the Resolution be communicated to all concerned.

Ordered also that the Resolution be published in the Gazette of India for general information.

Sd/-
(V. Nanjappa)
Secretary to the Government of India

To

The Manager,
Government of India Press,
Faridabad, Distt. Gurgaon,
Punjab.

Copy forwarded to Private Secretary to:-

1. Shri S. Nijalingappa,
Chief Minister, Mysore, Bangalore.
2. Shri Balwant Rai Mehta,
Chief Minister, Gujarat, Gujarat, Ahmedabad.
3. Shri S.B. Chaman,
Minister of Irrigation & Power,
Maharashtra, Bombay.
4. Shri Girdhari Lal,
Minister of Irrigation & Power,
Uttar Pradesh, Lucknow.
5. Shri A.C. Subba Reddy,
Minister of Irrigation & Power,
Andhra Pradesh, Hyderabad.
6. Shri M.P. Sinha.

7. Shri S. Bhattacharjee,
Minister of Irrigation,
West Bengal, Calcutta.
8. Shri Rizak Ram,
Minister of Irrigation & Power
Punjab, Chandigarh,
(with a copy of Resolution No.DW.II-31(2)/64
dated 3.4.64).
9. Shri M.R. Chopra,
Chairman, CW&PC, New Delhi.
10. Shri V.V. Chari,
Additional Secretary,
Ministry of Finance, New Delhi.
11. Shri B.S. Nag,
Adviser, Planning Commission,
New Delhi.

Copy also forwarded to:-

Shri S.S. Lamba,
Director, CW&PC, New Delhi.

Sd/-
(S.N. Misra)
Under Secretary to the Govt. of India

Copy forwarded for information to:-

- 1) All attached and subordinate offices under the
Ministry of Irrigation & Power (CW&PC - 5 spare
copies).
- 2) All officers/Sections in the Ministry of I&P.
- 3) A.G.C.W.&M., New Delhi.

Sd/-
(S.N. Misra)
Under Secretary to the Govt. of India.

W.I.N. Directorate
Central Water and Power Commission
(Water wing)

Subject:- Committee on "Financial Returns" of Irrigation Projects.

Reference: Resolution No. DWII-31(2)/64 dated 3rd April, 1964.

The terms of reference of the Committee will be as follows:-

Term(i) To suggest ways and means of improving Financial Returns from irrigation projects.

Irrigation works constructed in recent years and those under construction at present, are much more expensive than works built in the past, partly on account of higher cost of labour and materials and partly on account of the more difficult and, therefore, more expensive means of making supplies available, viz. high dams, etc. For this reason, and also on account of the increased cost of maintenance and operation of old and new projects, returns are not adequate. Special steps to bring about substantial improvements in financial returns are, therefore, called for. Some of the important steps could be as under:-

1. By Speeding up completion of Projects.

Under the present accounting system, interest charges are levied on the expenditure from the very start of construction. So, longer the construction period, greater is the sum-at-charge of the project on which return is calculated. It is, therefore, necessary that after a project is taken in hand it is completed as fast as possible. It is possible, provided a particular scheme is properly investigated, adequate provision of funds and foreign exchange is made for it, and use of personnel and equipment available, is concentrated on it. In view of this the states may be asked as follows:-

Q.(1) Will it be possible to concentrate on the continuing schemes and to start only a minimum of new schemes to complete them on a priority basis?

(2) Whether there can be two classes of schemes - those that are estimated to cost more than Rs.10 crores and those that cost less..... So that former schemes may be initially financed by the centre and latter by the States within State Plan ceilings.

2. Speeding up utilisation of irrigation facilities created by irrigation projects.

Due to efforts of the Central and State Governments, utilisation all over the country is steadily increasing. It is expected that percentage utilisation in the country at the end of Third Plan (1965-66) would be of the order of 80% or so.

A detailed analysis has indicated that utilisation has been fairly high except in a few states. Where the lag is substantial, suitable measures, for expeditious utilisation of the available irrigation supplies, are being suggested. These are provision of field channels, developmental measures like demonstration farms, supply of fertilizers and improved seeds, arrangements of credit, etc. It is being impressed on all concerned, that, the optimum utilisation of available irrigation potential, offers, the quickest way of increasing financial returns as also agricultural production.

The States should be asked in this regard as follows:

- i) What is the percentage utilisation of the irrigation potential created in the State?
- ii) What are the special reasons or obstacles for the utilization lagging behind Potential? How could they be met and expeditious maximum utilization achieved?
- iii) How many years are required to utilise the whole of potential created in each project in the State?

3. Revision of Water Rates:

This is a charge for the water supplied for irrigation and varies from state to state - Statement-I attached. The rates do not bear any relation to the cost of providing the facility.

The existing water rates in most states are relatively low. While there has been considerable increase in the value of crops produced as a result of irrigation, and maintenance cost have also greatly increased, there has not been commensurate increase in the water rates. On the whole, therefore, there is a case for upward revision.

But since, one of the main objectives of the irrigation programme, is to create a better standard of living for the farmer, water rates for irrigation should be sufficiently low, to leave them enough incentive to use the facility. In other words, irrigation payments are to be related to the capacity of the farmer to pay. The following questions may be asked:-

- i) What are the principles on which water rates should be fixed and what could be the maximum water rate on different crops in your state?
- ii) Should the water rate be related to the crops raised i.e. variety of crops or to predetermined rate of water supplied by volume - the rate being determined by factors like capital, cost, maintenance of staff etc.
- iii) How quickly can the revision in water rates be effected?

4. Introduction of Compulsory Water Cess:

There is usually a tendency on the part of the irrigators, to take water in Kharif, only, when there is an insufficiency of rainfall. This impedes scientific irrigation, results in infructuous expenditure on irrigation works and means reduced revenues. It is, therefore, necessary to levy some nominal compulsory water cess, on the whole command, so that, the project can be properly

maintained, without additional burdens on the state revenues, for the benefit of the cultivators in the command. The question in this regard would be:

- i) whether compulsory water cess should be charged? If yes, on what principles?

5. Recovery of Betterment levy:

This represents the Government's share in the increase in the productive value of land that accrues as a result of the provision of irrigation facility. It is proposed to be levied, only once, when irrigation facilities are provided for the first time. It may be recovered in one lumpsum or by instalments spread over a number of years or in the form of land.

Legislation for betterment levy has already been enacted in almost all the States but everywhere, enforcement of the legislation has lagged behind - reference: Statement-II attached.

Recoveries at the prescribed rates are spread over a period of 15 to 20 years and commence one or two years after irrigation waters become available.

The target of receipts from betterment levy in the Third Plan was Rs.38.7 crores. The anticipated realisation in the first three years of the Plan are only 5.76 crores. Unless the State Governments take steps to enforce the legislation effectively, little improvement can be expected in the realisation. The question in this regard may be asked as follows:-

- i) whether Betterment Levy Act has been passed in your State?
- ii) If so, what steps are being taken to enforce the Act?
- iii) What realisations have been made so far on different projects and how the remaining are proposed to be recovered?
- iv) Whether any modifications are required in the Act, or/and in the method of collection of betterment levy?
- v) Whether any incentives can be given for advance payments of betterment levy and if so of what type? To examine the feasibility of attracting such advance contributions.

6. Economy in the use of irrigation supplies:

Economy in the use of water is most important. of the methods for economizing the use of water may be as follows:-

- i) Consolidation of holdings.
- ii) Land preparation in the fields.
- iii) Proper irrigation methods.
- iv) Proper alignment, grading, construction and maintenance of field channels.

- v) Evolving cheap methods of lining the field channels/
water courses.
- vi) Evolving cheap designs for water control
equipment and crossings on the field channels/
water courses.
- vii) Charging water rates on volumetric basis.
- viii) Co-ordinating optimum irrigation requirements
of crops vis-a-vis rostering of channels.
- ix) Evolving cropping patterns in relation to
available water supply and kind of soil, and
encouragement of dry-cum-wet irrigation as a mea-
sure of economy in the use of irrigation supplies.
- x) Elimination of weeds.
- xi) Offering incentives to progressive farmers.
- xii) Re-use of surplus salvaged water.
- xiii) Popularising these methods by extension
and demonstration services.

These and other methods may be brought to the notice of the States and it should be impressed upon them to take effective steps to implement the suggestions through proper coordination of the various departments. It has to be ensured that the farmer receives the guidance, seeds, fertilizer, credits, etc., at the proper time so that he can plan well with confidence. Question: What steps have been taken by each State in this regard and what further steps would they suggest?

7. Revision of Land Revenue

This is based on the increased benefit, derived annually, by the landlord, on account of provision of irrigation supplies. It sometimes takes initially the form of water advantage rate or canal advantage rate and is merged with the land revenue at the settlement following the construction of a canal.

It is not known, in how many States land revenue has been revised, in the project areas, but, this could also be one way of improving the return and the States may be asked as follows:-

- i) Do you revise land revenue in the project areas on provision of irrigation facilities? If yes, on what principles?

or

Would you consider betterment levy, irrigation cess, and, increase of water rates enough to obtain increased returns?

Terms (ii): To review and suggest criteria for sanctioning new projects.

Background History:

Prior to 1854, all public works in India except railways were carried out by the Engineering Department of the Army under the superintendence of a Military Board.

The expenditure was treated as ordinary and was charged against the revenues of the year. No capital or revenue accounts of the works were kept.

In 1858, great pressure was brought to bear upon the Government of India to promote irrigation under what was known as the "Guarantee System". A Madras Irrigation Company was formed with a Government guarantee of 5 per cent upon a capital of one million pounds. A few years later, another private company called the East India Irrigation Company undertook the construction of a system of canals in Orissa. The arrangements between the Secretary of State and the Irrigation Companies became so involved, that in 1867 the Government decided that irrigation works should be constructed by their own agency, which course was considered to be more economical and more amenable of control than the guarantee system. This involved raising a large capital in the United Kingdom by loans.

To safeguard that such loan capital was spent on projects, which would ensure payment of interest on such loans, the Parliament of England appointed a Select Committee to suggest specific measures. In accordance with the recommendations of the Select Committee on Indian Public Works in 1879, it was decided by the Parliament that the Project, for sanction, should be able to earn sufficient revenue so as to pay a certain minimum return after deducting all working expenses on the sum-at-charge in the 10th year after completion. The sum-at-charge was defined as capital cost of construction plus the arrears of simple interest up to that year.

We have followed these criteria ever since. For works sanctioned before 1st April, 1919, the 'minimum return' fixed was 4%; for works sanctioned between 1st April, 1919 to 1st August, 1921, 5% and for all works thereafter up to the partition of India 6%. The limit has since been sealed down to 5%.

Advent of Planning:

In practice, however, considerable flexibility in application of this orthodox productivity test has been allowed. The first Five-Year Plan (1951-56) was drawn out in the background of a long-term plan to double the area under irrigation from Government works over a period of 15-20 years. Agriculture including irrigation and power were allotted the topmost priority. Emphasis was laid on substantial increase in food production as basic pre-requisites to sustain a high tempo of industrial development. The prevailing criterion was that:

"For increasing the production of food and other agricultural produce, it is necessary that irrigation projects should be undertaken wherever there are such facilities".

Emphasis on development of agriculture through irrigation has been continued during the Second and Third Plan periods and several projects which were below the recognised productivity test have been taken up.

Conditions also have materially changed, since the fixation of the financial criteria in 1879. These are:

- a) The Socialistic Pattern of Society aimed at by the present Independent State;
- b) food deficit and the consequent drain on the foreign exchange reserve;
- c) Launching of huge multi-purpose projects, requiring larger period of development than the 10 year period;
- d) Exhausting of cheap run-of-river irrigation resources.

Another important aspect is the general prosperity induced in irrigated areas. There can be no reason to doubt that vast revenues are derived by the Central and Provincial Governments as a result of development of irrigation projects besides direct and indirect receipts. A broad indication of the benefits resulting from river valley projects may be given as under:

Irrigation

Direct Benefits:

- i) Water Rates
- ii) Irrigation Cess
- iii) Betterment Levy
- iv) Increase in Land Revenue
- v) Sale proceeds of Govt. Waste Lands.
- vi) Miscellaneous receipts from plantations
- vii) Miscellaneous receipts from lease of land over the canal banks etc.

Indirect Benefits:

To the community:

- i) Increase in land value, employment, improvement of living standards, livestock production, etc.
- ii) Stimulation of business.
- iii) Reduction in the cost of pumping water due to rise in the water table by the introduction of the net work of irrigation canals.

To the local bodies:

- iv) Increase in local fund cess.
- v) Increase in Ground tax.
- vi) Increase in duty, taxes etc. due to influx of more population.

To State Government:

- vii) Saving in famine and flood expenditure.
- viii) Revenue from registration and stamps.
- ix) Income from excise, sales tax, agricultural tax, etc.

To the Central Government:

- x) Income tax, super-tax from factories

utilising agricultural produce, sugar and cotton factories, flour mills, etc.

- xi) Increase in income from railway on account of movement of agricultural produce and labour as well as extra traffic.
- xii) Income from duty on petrol, motor goods used for movement of agricultural produce and labour.
- xiii) Increased income from posts and telegraphs, income from customs duty on account of increased import of machinery and material.
- xiv) Arrest of activities of unlawful elements.

It is clear, therefore, that the old productivity test, which was good enough under old conditions needs to be replaced by some criterion more in consonance with new conditions.

Benefit cost ratio

In the more progressive countries of the world, the financial approach for the undertaking of irrigation schemes has been generally based on different considerations.

In USA, for example, an irrigation project is not judged by the direct return which it gives but by the overall benefits which it confers on the community as a whole, as compared to the cost for achieving those overall benefits. For a project to be economically justified, it is estimated that the annual benefits should exceed the estimated total cost, including the intangible ones, and that equivalent benefits should be impossible to achieve at a lower cost. If the computed benefit-cost ratio is used as yard-stick, then the project is considered to be economically justified, if the value of the ratio exceeds unity.

Considerable work on this benefit-cost technique modified to suit Indian conditions, has been carried out by the Research Programmes Committee of the Planning Commission. Their report is under finalisation.

It is for consideration whether we should adopt benefit-cost ratio as the criterion for judging irrigation projects in India. We may ask the States as follows:-

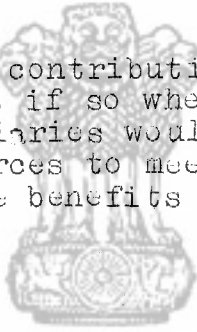
- i) Whether the financial criterion, so far used for sanctioning a project, should be, dropped and replaced by benefit-cost technique, or otherwise revised? If you favour revision of the present criterion, what do you think should be the guiding principle for revision?

Item (iii) - To consider the feasibility of future beneficiaries, contributing towards the cost of schemes beginning from the construction stage itself.

One of the most important issues connected with planning is the raising of capital resources. Every effort has, therefore, been made to add to them and it has been considered equitable to levy betterment contribution on areas benefited by irrigation projects. This betterment contribution is the capital levy to be credited to the capital account. But this levy commences two or three years after irrigation water becomes available. By the time realisations are started on account of betterment levy to decrease the capital invested, lot of interest charges have already accumulated in the capital account during the period of construction stage itself. The idea, then naturally comes up, whether it is possible to start some sort of capital levy which can be realised from the construction stage itself. If this becomes feasible, financial picture of many projects, which gets distorted due to heavy burden of interest charges during construction period, will improve. Irrigation projects will at the same time become self-supporting.

But the problem arises whether we will be able to enforce and also realise a capital levy of this sort especially when we are finding it very difficult even to realise the betterment levy. Also whether the beneficiaries would be able to pay such contributions even before benefits have accrued to them. The question may be asked:

- i) whether such a contribution is considered justified, and, if so whether it is felt that future beneficiaries would be able to find the resources to meet the contribution even before the benefits have accrued.



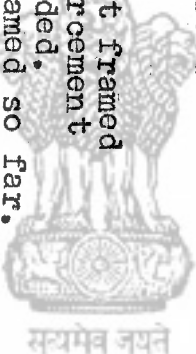
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Statement II.

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Statement showing the position of Betterment Levy in the States of the Indian Union.

Sl. No.	Name of States	Date of enforcement of Betterment Levy.	Date from which recoveries being made.	Remarks.
1.	Andhra Pradesh	Not yet enforced		
2.	Assam	Not yet enacted		
3.	Bihar	Not yet enforced		
4.	Gujarat	-do-		
5.	J & K	-do-		
6.	Kerala	Rules not yet framed		
7.	M.P.	Date of enforcement not yet decided.		
8.	Madras	Rules not framed so far.		
9.	Maharashtra	Levy not yet assessed.		
10.	Mysore	Not yet enforced.		
11.	Orissa	-do-		
12.	Punjab	Kharif 1958	Advance recoveries are being made from Kharif 1958.	
13.	Rajasthan	1961 and 1962 for different projects.		Not yet being made.
14.	Uttar Pradesh	Act not yet passed.		
15.	West Bengal	Act not yet enforced.		



Appendix 4.

States' Replies - Abstract.

4.1. Term (i) - To suggest ways and means of improving financial returns from the projects.

4.1.1. By speeding up completion of projects.

Q.(i) Will it be possible to concentrate on the continuing schemes and to start only a minimum of new schemes to complete them on a priority basis?

A.(i) Andhra Pradesh:

Agreed. New schemes yielding quick results only have been proposed for inclusion in IVth Plan.

Assam:

All possible steps have been taken to complete the continuing schemes.

Bihar:

Agreed. The State Govt. has already been acting accordingly since the beginning of the IIIrd Plan.

Gujarat:

Agreed. But a few new schemes may have to be taken up in the arid regions of the State.

Kerala: Yes.

Maharashtra:

Not agreed. Sufficient number of new schemes have to be taken up in each Plan to ensure continuity in the construction activity and in the employment of man, material and machinery.

Mysore:

Not agreed. Most of the rivers in the State are inter-state. Some major projects on them are already under construction in the neighbouring States. So, possible projects on them in Mysore, if not started early, will be objected to on the ground of "prescriptive rights". Again most part of the State is arid requiring irrigation facilities urgently.

Uttar Pradesh:

Suggestion seems to be sound, but this will limit the activity to particular regions in the State.

West Bengal:

The proposal is acceptable. The State had been following this principle in the past. Keeping this view, new schemes should be selected on the basis of over-all allocations during the IVth Plan.

Q.(ii) Whether there can be two classes of schemes - those that are estimated to cost more than Rs.10 crores and those that cost less, so that former schemes may be initially financed by the Centre and latter by the States within State Plan ceilings?

A.(ii) Andhra Pradesh:

Agreed subject to conditions that for schemes costing over Rs.10 crores the allocations may not be rigid and the State should have a say in altering allocations, depending on the progress of the schemes and with the object of realising benefits at the earliest.

Assam:

Comments not given. There is no irrigation scheme above Rs.10 crores.

Bihar:

Idea of classification favoured. But this should not be taken as a hard and fast rule.

Gujarat:

Unless the Centre finances the schemes costing more than Rs.10 crores till their completion, the position will not improve. The word "initially" needs elucidation.

Kerala: Yes.

Maharashtra:

The view is not acceptable. The Centre may take over major projects only (a) if the progress of project lags behind on account of lack of technical know-how and availability of trained and technical personnel, (b) if the progress of a project is delayed or retarded because of the difficulty in obtaining requisite machinery involving foreign exchange etc.

Mysore:

Agreed provided there is a guarantee that all projects of Mysore costing more than Rs.10 crores are going to be executed within a target period.

Uttar Pradesh:

The matter is under consideration.

West Bengal:

Agreed if Central assistance to schemes costing less than Rs.10 crores, is not reduced accordingly.

Contd....

4.1.2. Spreading up utilisation of irrigation facilities created by irrigation projects.

Q.(i) What is the percentage utilisation of the Irrigation Potential created in the State?

A.(i) Andhra Pradesh:

94% (65-66) excluding Nagarjunasagar Project.

Assam:

No major or medium scheme completed. On minor schemes utilisation is 100% in one year after completion.

Bihar:

88% by the end of 1962-63.

Gujarat:

Present utilisation is about 45%.

Kerala:

Almost full.

Maharashtra:

55% in 1961-62 and 45% during 1962-63 by major and medium schemes.

Mysore:

70% upto date.

Uttar Pradesh:

About 91%

West Bengal:

90.1% (1963-64) excluding D.V.C. and 88.1% (1963-64) including D.V.C.

Q.(ii) What are the special reasons or obstacles for the utilisation lagging behind Potential? How could they be met & expeditious maximum utilisation achieved?

A.(ii) Andhra Pradesh:

Frequent breaches in new canal system; Inadequate supplies due to less storage in reservoirs; delay in the excavation of field channels; difficulty in reclamation of new ayacut lands; difficulty in changing over to new cropping pattern.

Agro economic and Socio economic survey should be conducted for big projects before execution of the project is completed. Water management beyond outlets should be under one authority like Irrigation Development Board with representatives of all the concerned Departments.

Assam:

There has been no difficulty in utilising the irrigation potential created by minor schemes.

Bihar:

Reluctance of cultivators to use water, absence of smaller size water-courses, absence of adequate length of field channels. Inability of cultivators to buy manure, implement, better seeds, and prepare land etc.

Area programme is being introduced to help the farmers financially and to ensure timely supply of improved seeds and manure etc. To induce cultivators water is supplied free of charge in the last 2 years of construction of the project.

Gujarat:

Cultivators are new to the system of irrigation and the proper cropping pattern is yet to be evolved. Also the potential figures reported in the project reports are not realistic.

Canal Advisory Committees and Water Panchayat Committees have been constituted for accelerated utilisation. A uniform pattern of water rates has been evolved and some concession is given on certain important crops like Cotton, Bidi, Tobacco and Jowar.

Kerala: Does not arise.

Maharashtra:

Cultivator's gambling on rain, lack of knowledge of irrigated cultivation, financial difficulty, growing of cash crop, neglecting cropping pattern; delay in construction of water courses; uncertainty of river supplies.

Concessional water rates are applied. High Level Committee and Sub-Committee have been constituted for emergent actions.

Mysore:

Cultivator's, in-capacity to provide field channels, in-experience in irrigated cultivation, financial difficulty in preparing lands and securing manures. Concessional water rates for the first four years are being levied.

Uttar Pradesh:

Delay in construction of water courses.

The Northern Indian Canal and Drainage Act has been amended to undertake construction of water courses by the State Govt. in the event of failure on the part of beneficiaries and to recover the cost from them.

West Bengal:

Delay in construction of water courses is the cause of under utilisation.

Some extension and improvement works and completion of residency works and outlets, and compulsory levy of water rate will improve utilisation.

Q.(iii) How many years are required to utilise the whole of potential created in each project in the State.

A.(iii) Andhra Pradesh:

Two to three seasons after supplies become available at field level.

Assam:

According to the programme it would take about 5 years for total utilisation of Irrigation potential created by Jamuna Irrigation Scheme after its completion.

Bihar:

5 years in case of major and 3 to 4 years in case of medium schemes.

Gujarat:

About 10 years for major and 5 years for medium schemes.

Kerala: 3 to 5 years for new conversions.

Maharashtra:

10 years for major and 6 years for medium schemes have been assumed.

Mysore:

With strict legislation and concessional water rates, the period required is 2 years for major and less than one year for medium projects.

Uttar Pradesh: 7 to 10 years.

West Bengal:

5 years for major projects and 3 years for medium and minor schemes.

Contd...

4.1.3. Revision of Water Rates:

Q.(i) What are the principles on which water rates should be fixed and what could be the maximum water rate on different crops in your State?

A.(i) Andhra Pradesh:

Basis for water rates should be, the nature of crops grown, nature of soil, quantity of water supplied and its duration, etc.

Maximum water rates are not stated.

Assam:

Irrigation payments are to be related to the degree of benefit derived.

Maximum water rates are not stated. The Assam Embankment and Drainage Act 1953, read with Assam E&D Act (Amendment Act) 1962, provides that water rates are to be charged on land benefited by E&D Works, in such a way so as not to exceed 10% per annum on the first cost of the said works, adding thereto, the estimated yearly cost of maintenance and supervision of the same and such rate may be varied from time to time within such maximum limit by the State Government.

Bihar:

The principle may be the capacity of the farmers to pay from benefits.

Maximum water rates in Rs./acre should be as follows:-

Kharif
15.00

Rabi
7.50

Hot-weather
25.00

Gujarat:

General principles are:-

- The quantity of water normally required for maturing a particular type of crop.
- Nature of water supply i.e. seasonal or perennial.
- Reasonable return on total capital invested.
- Capacity of the beneficiary to pay from benefits.

Maximum water rates are not stated.

Kerala: Benefit and capacity to pay.

Maximum water rates are not stated.

Maharashtra:

Water rates are charged to cover the interest charges on the capital investment. General principles are:-

- value of water used in each season.
- capacity of the irrigator to pay
- profits accruing to the irrigator from the crops grown.

Maximum water rates Rs./acre may be as recommended by the Maharashtra State Irrigation Commission.

Sugarcane in Block	Sugarcane outside Block.	Fruits & other perennials	Nonsoon crops (Kharif)		
2,31	2,31	150	10.8		
Rabi crops	Hot weather crops	Paddy	Cotton	Two sea- sonals	Ground- nut.
12.6	20	22.4	66	35	40

Mysore:

General principles may be;

- a) Water rates should cover all the liabilities including interest on capital charges.
- b) Capacity of the cultivator to pay from his profits on different crops. Maximum possible rates not suggested.

Uttar Pradesh:

General principles may be;

- a) Type of crops,
- b) volume of water required for irrigating the particular crops.
- c) the price of net produce,
Maximum water rates not given.

West Bengal:

Water rates should cover maintenance and interest on capital charges. Irrigation rate should not exceed half the value of the increased out-turn as a result of irrigation.

Maximum water rate should not exceed for

- i) Kharif Rs.15/- per acre.
- ii) Rabi Rs.15/- per acre.

- Q.(ii) Should the water rate be related to the crops raised i.e. variety of crops or to predetermined rate of water supplied by volume the rate being determined by factors like capital cost, maintenance of staff etc?

A.(ii) Andhra Pradesh:

The introduction of predetermined rate of water supply by volume is fraught with difficulties.

Assam:

Not stated.

Bihar:

Irrigation rate should not be related to the supply of water by volume.

Gujarat:

For tube-well irrigation only, water rates may be on volumetric basis.

Kerala: Yes.

Maharashtra:

The rates should be related to the crops raised.

Mysore:

A uniform volumetric rate irrespective of crop variety does not seem to become very popular.

Uttar Pradesh:

Not stated.

West Bengal:

Water rate on volumetric basis will be impracticable and costly.

Q.(iii) How quickly can the revision in water rates be effected?

A.(iii) Andhra Pradesh:

Not stated.

Assam:

Specific time not stated.

Bihar:

After every 5-7 years.

Gujarat:

Every six years.

Kerala:

The question of revision of water rates is being considered in the Kerala Irrigation Bill under preparation.

Maharashtra:

Every six years normally.

Mysore: Not stated.

Uttar Pradesh:

Govt. of India should lay down a uniform policy for revising the rates after every 5 years for the whole country.

West Bengal: Not stated.

4.1.4. Introduction of Compulsory Water Cess:

Q. Whether compulsory water cess should be charged?
If yes, on what principles?

A. Andhra Pradesh:

Yes. Based on Andhra Pradesh Irrigation Works (Levy of Compulsory Water Cess) Act, 1955. The cess is to be levied on whole irrigable command, and starts three years after completion of the work.

Assam:

A compulsory watercess not exceeding Rs.5/- per acre of land may be levied. On actual utilisation of irrigation water this amount will be credited to the payee against his overall dues during that year.

Bihar:

Compulsory cess should be charged. Irrigation schemes should be classified into perennials and inundation. In case of perennial schemes, the minimum command area for which water can be assured should be marked and compulsory cess charged. Remission in compulsory cess should be allowed if no water is supplied even due to unforeseen circumstances. Areas falling outside the minimum command should be charged water rate at a rate higher than the compulsory cess and the water rate put together as fixed for the minimum command. In case of inundation schemes also some procedure should be followed but the charges should be less as compared to for the perennial schemes. Rate proposed to be levied is Rs.3.50 per acre to meet the cost of maintenance of new works.

Gujarat:

Compulsory water cess should be charged from every land owner in the irrigation command of the project and it may cover all the working expenses.

Kerala:

It is difficult to differentiate whether water has been actually taken or not. The works are there on which cost has been incurred and which give assurance of water supply. It should be paid for.

Maharashtra:

Separate, compulsory water cess is not acceptable.

Mysore:

Where water rates are low, water cess may be charged to cover 100% liability on account of maintenance.

Uttar Pradesh:

Two part tariff in case of Tube-well irrigation has been under consideration of the State Govt. and a bill to this effect has been recently introduced in the Legislature.

West Bengal:

Compulsory water rate is being charged on major projects. The same principle should be applied to all irrigation schemes.

4.1.5. Recovery of Betterment Levy:

Q.(1) Whether Betterment Levy Act has been passed in your State?

A.(1) Andhra Pradesh:

Yes. Andhra Pradesh Irrigation (Levy of Betterment Contribution Act) - Act No. XXV of 1955.

Assam:

Yes. The Assam Embankment & Drainage Act 1953 and the Assam E & D (Amendment Act) 1962.

Biher:

Yes. Biher Irrigation and Flood Protection (Betterment Contribution) Act, 1959.

Gujarat:

Existing Irrigation Act provides for Betterment charges.

Kerala:

As far as the State is concerned, there are two Irrigation Acts for regions (Travencore-Cochin and Malabar) and these provide for collecting the betterment levy. Steps for unification of the Acts are being taken.

Maharashtra:

Yes. There are three Acts. The Bombay Irrigation Act 1879 as amended in 1950 is applicable to Western Maharashtra. The Madhya Pradesh Taxation Laws (Amendment) Act 1956 is for Vidarbha region. The Hyderabad Irrigation (Betterment Contribution and Inclusion Fees) Act 1952 is for Marathwada region. सत्यमेव जयते

Mysore:

Yes. Betterment Levy and Water Rates Act of 1963.

Uttar Pradesh: No

West Bengal: No

Q. (11). If so, what steps are being taken to enforce the Act?

A.(11). Andhra Pradesh:

The provisions of this Act are being implemented and Betterment Levy collected by the Revenue Deptt. as arrears of Land Revenue.

Assam:

State Revenue Department has been entrusted the work of assessment and realisation of betterment levy.

Bihar:

Rules have been framed in April, 1962. The Act has come into force from 31.5.62. Recently printed executive instructions for administration of the Act have also been issued to all concerned officers.

Gujarat:

A high level Committee was set up to look into the whole question of Betterment Levy. The Committee has submitted the report which is under consideration of the State Govt.

Kerala:

This is under consideration of Government.

Maharashtra:

No steps have been taken to enforce the provisions Act on account of administrative difficulties.

Mysore:

Betterment Levy Rates are under finalisation, after which the Act will be enforced throughout the State.

Uttar Pradesh: Does not arise.

West Bengal: Does not arise.

Q.(iii). What realisations have been made so far on different projects and how the remaining are proposed to be recovered ?

A.(iii) Andhra Pradesh:

Rs. 0.33 lakhs were collected till 31.5.1964. Balance of Rs. 32.50 lakhs has to be collected as arrears of land revenue.

Assam:

No realisation has been made so far, under this Act.

Bihar:

No realisation made so far. Actual realisation on 36 irrigation and flood protection schemes is expected to start by the end of the current year. Action for levy on the remaining schemes is under contemplation.

Gujarat: No realisation has been made so far.

Kerala: No realisation has been made so far.

Maharashtra: No realisation has been made so far.

Mysore: No realisation has been made so far.

Uttar Pradesh: Does not arise.

West Bengal: Does not arise.

Q.(iv) Whether any modifications are required in the Act or/and in the method of collection of betterment

A.(iv) Andhra Pradesh:

The Act has been recently amended so no further modification appears necessary.

Assam:

Any modifications will have to wait until difficulties are encountered with, when actual operation of the Act starts.

Bihar:

No modification is envisaged at present.

Gujarat:

Yes. Modifications are required in the Act for expeditious assessment & recovery of betterment charges.

Kerala:

This is under consideration in the Kerala Irrigation Bill.

Maharashtra:

Yes. Govt. has accepted, in principles, the Maharashtra State Irrigation Commission's Recommendation of imposing surcharge of 14% on the water rates as Betterment Levy.

Mysore:

No proposal at present.

Uttar Pradesh:

Does not arise.

West Bengal:

Does not arise.

Q.(v) Whether any incentives can be given for advance payments of betterment levy and if so what type? To examine the feasibility of attracting such advance contributions?

A.(v) Andhra Pradesh:

Rebate of 10% is allowed if entire contribution is paid in lump-sum, which need, ordinarily be paid in 20 annual instalments.

Assam:

Advance realisation of betterment levy whatever may be the incentive is not considered practicable.

Bihar:

a) If within 12 months from the date of service of notice, entire amount is paid, a rebate of 20% is allowed on the amount.

b) After 12 months from the service of notice and within two years of such service, if entire outstanding amount is paid, a rebate of 15% is allowed on the amount.

Gujarat:

Under the existing Act lump-sum provisions can be made without interest.

Kerala:

Nothing seems to be possible.

Maharashtra:

Question does not arise, as this charge is now proposed to be considered as surcharge on water rates.

Mysore:

The idea is welcome, but financial soundness of the beneficiaries may not be so good as to pay the betterment levy in advance. Incentives may be (i) reduction in betterment levy, (ii) payment of interest on the sum paid in advance and adjusting same towards water rate or land revenue payments, (iii) giving priority to projects where such advances are forth-coming.

Uttar Pradesh:

Does not arise. सत्यमेव जयते

West Bengal:

Does not arise.

Contd...

4.1.6. Economy in the use of irrigation supplies:

- . What steps have been taken by each State in this regard, and, what further steps would they suggest?

A. Andhra Pradesh:

Now cropping patterns have been evolved; Gravity flow Irrigation is being practised for proper Irrigation; local materials are used for cheap lining; dry-cum-wet irrigation is practised for economy; demonstration farms and plots are opened; weed in canals is removed; salvage water is roused; land mortgage Banks advance loans.

Assam:

Steps will be taken for economic use of water as suggested in the Questionnaire, in conformity with practicability of their application in this State.

Bihar:

Zila Parishads at the district level & Panchayat Samitis at the Community Development Block levels are associated with the development of irrigation projects. These are to see that the farmer receives the guidance, seeds, fertilizers, credit etc. at the proper time.

Gujarat:

Government is already in the know of the measures suggested. A High Level Committee under the Chairmanship of the Chief Secretary to the Govt. reviews all these measures periodically & issues suitable instructions for implementation.

Kerala:

Consolidation of holdings is not a practical proposition in the State; Charging water rate on volumetric basis may be useful in certain cases like lift irrigation; The optimum requirement of paddy during the different cropping seasons are being assessed by regular experiments; Different cropping patterns are also being tried to find-out the most suitable pattern; Experiments are being carried out for weed control, weed control on campaign basis is also carried out in selected areas and in respect of particular weeds; Re-use of surplus salvaged water is being done. All the suggestions given are considered necessary and useful.

Maharashtra:

For consolidation of land holdings an Act has been enacted. Loans are advanced to needy farmers; concessional water rates are applied in the beginning. Block system of Irrigation is practised as proper method of irrigation; canal and well-water supplies will be properly co-ordinated in the canal command. Demonstration farms have been opened. Demonstration plots in the cultivators' fields are also proposed. An act making the beneficiaries responsible for the construction of water courses is being enacted. Methods for cheap lining and cheap designs for Regulating Works will be considered.

Zila Parishads, Regional Committees and Special study groups are also looking into such problems.

Mysore:

The State is carrying out these suggestions. Land preparation is done by border strip method; experimental and demonstration farms have been opened; alignment construction and maintenance of field channels is proposed to be done by the Government wherever beneficiaries are unable to do this. Methods for cheap lining and cheap designs for regulating works are under study with the assistance of experts etc.

Uttar Pradesh:

Steps suggested in the note are generally followed.

West Bengal:

Reports of Central Team set up by the Ministry of I&P and Central Team of Agricultural Production Board are awaited. This question can be better examined in the light of these reports.



4.1.7. Revision of Land Revenue:

Q. Do you revise land revenue in the project areas on provision of irrigation facilities? If yes, on what principles?

or

Would you consider Betterment Levy, Irrigation cess, and, increase of water rates enough to obtain increased returns?

A. Andhra Pradesh:

No

or

Yes

Assam:

No

or

Yes

Bihar:

No

or

Yes

Gujarat:

No

or

Yes

Kerala:

No

or

Yes

Maharashtra:

Land revenue is revised at the time of survey settlement once in 30 years keeping Irrigation element also in view.

or

--

Mysore:

The land revenue is liable to revisions.

or

--

Uttar Pradesh:

Under consideration

or

--

West Bengal:

No

or

Yes.



4.2. Term (ii)- To review and suggest criteria for sanctioning new projects.

Q. Whether the financial criterion, so far used for sanctioning a project, should be, dropped and replaced by benefit-cost technique, or otherwise revised? If you favour revision of the present criterion, what do you think should be the guiding principles for revision?

A. Andhra Pradesh:

Report on "Criteria for Appraising the Feasibility of Irrigation Projects" by Research Programmes Committee, Planning Commission, may be awaited.

Assam:

Yes, it is recommended that benefit-cost technique may be evolved with necessary modifications to suit Indian conditions.

Bihar:

Yes. Irrigation projects in future should be sanctioned taking into account both the direct and indirect benefits. "Benefit cost Ratio" technique may be considered as such criterion.

Gujarat:

Report of Research Programme Committee of Planning Commission, may be awaited before considering this suggestion.

Kerala:-

Yes. Cost benefit ratio. A substantial portion of the cost should be subsidy.

Maharashtra:

Yes. Requires revision. The system proposed is to devise & operate water charges to meet fully the annual costs of the irrigation system in the State as a whole. If in the case of any new or proposed Irrigation Project, receipts from water rates so prescribed, fully meet the annual cost of the project, the project could be safely considered as feasible.

"Benefit cost ratio" as being worked out at present is based on direct costs & benefits, and as such would be on the conservative side so far as the determination of financial results, are concerned.

Mysore:

Method of "Benefit-cost ratio" could be tried for according priority to projects within the State. While deciding priority of projects in the National Sector, however, this or any other method should be applied with due consideration to the principles of removing regional imbalances. In arid and topographically unsuitable regions like Mysore, projects should be taken up to develop all the available possibilities of irrigation.

Uttar Pradesh:

The old productivity test may be revised. Consideration for sanction of major and medium projects should be based on some sort of financial criterion, say 2%. But in the case of backward areas, this should not be enforced.

West Bengal:

The old productivity test should be dropped. Benefit-cost ratio principle should be the criterion in sanctioning future irrigation schemes. Betterment Levy and water-rates may be imposed to meet the maintenance and operation cost and to realise the capital cost during a period of 25 years, interest on capital being met by the State. After 25 years or after recovery of capital cost, water rate may be reduced to meet the maintenance and operation cost only.

4.3. Term (iii) - To consider the feasibility of future beneficiaries contributing towards the cost of schemes beginning from the construction stage itself.

Q. Whether such a contribution is considered justified, and, if so, whether it is felt that future beneficiaries would be able to find the resources to meet the contribution even before the benefits have accrued?

A. Andhra Pradesh:

Because of recent increase in water rates and as Betterment Levy is also collected, such contribution is difficult to be realised.

Assam:

Such an advance contribution is not considered justified.

Biher:

The possibility of realising capital levy, before the benefits have actually accrued, is remote.

Gujarat:

Such a contribution is not likely to be realised and is bound to be very unpopular.

Kerala:

No advance levy will be possible except in the case of certain cash crops.

Maharashtra:

No such proposal is mooted. If interest charges are incorporated in the water rates, it is perhaps not necessary to resort to such capital levy.

Mysore:

This may work only in exceptional cases where there are organised institutes like sugar factories or cooperatives who have got considerable means at their command.

Uttar Pradesh:

The proposal is not considered justified or feasible.

West Bengal:

In view of the poverty of the peasants, this advance contribution will not be possible.

Appendix 6

No.DW.II-28(1)/61(Policy)
Government of India,
Ministry of Irrigation & Power
.

New Delhi, the 28th July, 1962.

From
Shri A.L. Roongta,
Under Secretary to the Govt. of India.

To
All the State Governments.

Sub:- Exhibition of Betterment Levy Realisation in the
Financial Forecasts of Irrigation Projects.

Sir,

I am directed to state that at present no uniform practice is in vogue for exhibiting Betterment Levy receipts in the financial forecasts of the Irrigation Projects. Some Projects take Betterment Levy in reduction of capital expenditure, while others treat them as straightforward revenues receipts, or re-appropriate the receipts in liquidation of interest charges after the revenue receipts, have been appropriated first to this end.

2. The Government of India have examined the question in detail in consultation with the Comptroller and Auditor General of India and the Planning Commission and consider that Betterment Levy should be taken in reduction of the capital expenditure, while working out the proforma Financial Forecasts. I am to request that, if there be no objection, suitable instructions in this behalf may kindly be issued to the Project authorities under the administrative control of the Governments of Andhra Pradesh etc. Necessary amendments to the form of Administrative Accounts etc. should be issued by the Comptroller and Auditor General in due course.

3. The receipt of this letter may kindly be acknowledged.

Yours faithfully,

(A. L. Roongta)
Under Secretary to the Govt. of
India.

Appendix 7

No.3(16)/63-I&P
Government of India
Planning Commission

Yojana Bhavan,
Parliament Street,
New Delhi, March 16, 1964

From

Shri T. P. Singh,
Secretary to the Govt. of India,
Planning Commission,
New Delhi.

To

Development Commissioner,
Planning Secretary,
All State Governments.

Sub:- Coordination of efforts by all concerned
departments for utilising irrigation
potential created - provision of funds
under agricultural and other programmes

Sir,

It had been suggested in the Third-Five-Year Plan that, in order to ensure that the benefits which accrue from the construction of major and medium irrigation projects are immediately available, an integrated programme of agricultural development should be carried out simultaneously with the construction of the projects. This matter has received further attention in the Planning Commission and, in consultation with the Ministries of Irrigation & Power, Food & Agriculture and Community Development and Cooperation, it has been agreed that a new sub-head of development area programme for Irrigation Projects under the head Agricultural Programmes should be created. The purpose of this sub-head is to ensure that a planned agricultural development programme is prepared for each project area in which the tasks and responsibilities of all the agencies concerned are clearly specified. The responsibility for the formulation of this programme should be that of the State Agriculture Department acting in collaboration with the Department of Irrigation and the Department of Community Development and Cooperation. In future no irrigation project should be approved by the State Government unless it is satisfied that a Plan for agricultural development has also been formulated and that financial provisions for the items included in this plan have been made under the appropriate heads. It is not intended that detailed soil surveys and other such aspects of the agricultural production programme should be completed before the irrigation project is approved but that an integrated programme for agricultural development has been prepared and that, further this programme will be implemented along with the construction of the irrigation project.

Contd...

2. The following specific measures should receive particular attention:-

- (i) Alignment of field channels - Marking on Village maps.

This should be the responsibility of the Irrigation Department. The cost for this item should be included in the estimate for the irrigation projects.

- (ii) Excavation of Field Channels:

Legislative provision should be made for fixing the responsibility for the excavation and maintenance of field channels on the beneficiaries and, in case of defaults, for the execution of this work by the Panchayats and ultimately by the State Government. The Ministry of Community Development and Cooperation have also addressed the State Governments in the matter vide their letter No.3(33)/62-Agr dated November 20, 1962. It has further been suggested in their letter No.1(2)/(74)/62-Agr dated December, 13, 1962 that to cover cases of default by beneficiaries arrangements may be made to give advances to Panchayats from the block funds. If the block funds do not suffice, the State Govt. should make additional funds available for the purpose. The excavation of field channels can also be included among the items to be taken up under the Rural Works Programme.

- (iii) Carrying out detailed soil surveys:

This will be the responsibility of the State Agriculture Department. Provision of funds for this purpose may be made under the new sub-head "Area Programme for Irrigation Projects" mentioned above.

- (iv) Tractorisation and levelling of fields where necessary:

Provision for tractorisation would be necessary in the case of large projects where levelling by manual labour may not be feasible. The possibility of starting rural works projects in areas requiring levelling on a large scale should be considered.

- (v) Setting up of experimental farms for determining and evolving new cropping patterns, variety of crops etc.

- (vi) Setting up of demonstration farms/plots to propagate scientific irrigation practices, particularly economic use of water:

- (vii) Supply of improved seeds, fertilisers and development of local manurial resources:

Provision of funds for these programmes should also be made in the new sub-head "Area Programme for Irrigation Projects".

- (viii) Credit and Marketing facilities & establishment of warehouses and godowns:

The possibility of the Agricultural Refinance Corporation and land mortgage banks providing long term credit facilities to cultivators for development of land in project areas should be considered.

- (ix) Opening of Communications in the Project Areas:

This should be the responsibility of the Public Works Department / Zila Parishads and the provision of funds for the programme should be made by the concerned agencies.

- (x) Extension Works:

This should be the responsibility of the existing extension agencies, which may be suitably augmented depending on the requirements of the area.

- (xi) Consolidation of Holdings:

Consolidation of holdings in the project areas should be attempted on a preferential basis.

3. It is considered that with ~~with~~ the provision of adequate funds in annual plans of the States for the activities of all the Departments concerned, the implementation of the area development programme should not present any major difficulty. As regards the administrative and organisational measure necessary for proper coordination, Irrigation Development Committees consisting of representatives of the respective Depts. have already been set up at the State level. These Committees should include the Director of Agriculture and Head of other Departments concerned. Similarly, the Chief Engineer, should be represented on the State Agricultural Production Committee at the official level. At the District level, the Agricultural Production Committee of the Zila Parishads should have representative of the Irrigation Department and other Departments concerned. There should also be similar agricultural Production Committees at the Block level. In the case of large projects where there are separate development committees for the projects, all the concerned Departments should be represented on them. For effective coordination it is important that the responsibility for the implementation of the various programmes of the different departments in these project areas should be assigned to one single officer of appropriate status at the State level.

Yours faithfully,

Sd/- D.P.Singh

Copy forwarded for information and necessary action to:

- 1) All Union Territories.
- 2) Ministry of Irrigation & Power.
- 3) Ministry of Food and Agriculture.
- 4) Ministry of Community Development and Cooperation.
- 5) Ministry of Transport.
- 6) Ministry of Finance.