CHAPTER 1

INTRODUCTION

1.1 Concept of a Wage Incentive Scheme

A wage incentive scheme is essentially a managerial device of increasing workers' productivity. Simultaneously, it is a method of sharing gains in productivity with the workers by rewarding them financially for their increased rate of output.

As a device of productivity, it primarily involves a more effective utilization of manpower. Besides, it can stimulate managements to improve work methods and standardize job conditions before installing the wage incentive scheme. After its installation, it can serve as an aid to a more efficient discharge of some of the managerial functions, especially in matters relating to production and personnel.

As a scheme of rewarding workers, the term has been used in a specific sense. As used here, it has two distinguishing characteristics :

(i) A specific standard of performance for each job and task is determined as objectively as possible, frequently with the help of time study.

(ii) The workers' incentive earnings are computed by a pre-determined formula. The formula specifically

relates actual performance of a worker or a group of workers to a pre-determined standard of performance.

A wage incentive scheme, as defined above, can be on an individual or a group basis. The two are identical except for the fact that in the latter the incentive bonus is computed on the basis of performance of a group taken together. A group incentive scheme may be more suitable than an individual incentive scheme, where the work is organised on a group basis and is standardised. It will have some advantages over the individual incentive scheme in that it will simplify records keeping and computation of incentive bonus. Besides, it may stimulate a co-operative self-supervision in the group. In practice, an incentive plan may have both individual and group incentive plans, combined into a single scheme.

A wage incentive scheme, as defined above, may be distinguished from two principal types of remuneration systems, namely, time-wage and the piece-wage. In the time-wage system, the worker is paid for units of time such as hour, day, week or month without special regard for output. In the piece-wage system, payment is made for units of output irrespective of the time applied . Apparently the distinct features of a wage incentive scheme, as mentioned earlier, are not found in either of the two methods of remuneration. The line of demarcation is, however, thin. A worker on a time-wage is

expected to give a minimum output, though usually it is not explicitly spelt out; a worker on a piece-wage is expected to give some minimum output per unit of time. So, the distinction may not be justified on theoretical considerations. Such distinctions are, however, useful for the purpose of analysis.

It is not uncommon to combine time-wage and wage incentives into a single payment system. The workers may be paid their usual time-wage along with an incentive bonus calculated on the basis of performance in excess of a pre-determined specific standard. Since, the basic characteristics of a wage incentive scheme, as defined earlier, are found in this system of payment, it will be treated as a wage incentive scheme.

1.2 The Development of Wage Incentive Schemes

The idea of paying remuneration based on output is known to have existed in the ancient economic societies of Egypt, Greece and Rome (Person, 1948). The comparatively modern concept of incentive payment is, however, associated with the piece-rate. This form of wage payment attracted attention of such well-known economists as Adam Smith and Karl Marx. Adam Smith while conceding the effectiveness of piece-rate as a tool for encouraging industry among workers appeared sceptical of overall usefulness of the piece-rate system. In this context, he commented :

"If masters would always listen to the dictates of reason and humanity, they have frequently occasion rather to moderate than to animate the application of many of their workmen. It will be found, I believe, in every sort of trade, that the man who works so moderately, as to be able to work constantly, not only preserves his health the longest, but, in the course of the year, executes the greatest quantity of work" (Smith, 1937).

Karl Marx (1954), while conceding that piece-rate will stimulate the workers 'to strain their labour-power as intensely as possible', dubs it as a capitalist device to raise more easily the normal degree of intensity of labour.

The piece-rate, besides being unpopular with such intellectuals as Adam Smith and Karl Marx, encountered a hostile attitude from managements, especially towards the end of the 19th century which witnessed rapid industrialisation. Managements wanted to have flexible and adjustable piece-rates in order to share the gains of productivity resulting from technological innovations. Such flexibility and adjustibility, however, provoked labour controversies. This motivated managements to introduce innovations in incentive payment schemes. The innovations were primarily guided by the employers' desire to have a system which will retain the incentive value and will at the same time give them a share in gains of productivity from technological innovations. As a consequence of this, a number of wage incentive formulae appeared in the late 19th and early 20th centuries.

Halsey, Rowan and Towne developed gain-sharing systems. Any gains resulting from workers' performance in excess of a standard established on the basis of past performance were shared between labour and management according to a pre-determined formula. Taylor introduced a very important new element. Unlike Halsey, Rowan and Towne, who accepted job conditions as they were, Taylor sought to standardise job conditions and job methods through painstaking experiment. He computed standards on the basis of time study of each of the elements of a job into which it was broken. The technique of time study revolutionised the mechanics of wage incentive systems. It has come to form the basis of a number of wage incentive schemes, constructed since Taylor's work on 'Scientific Management'. A comprehensive account of these different schemes appears in several volumes (Lytle, 1942a ; I.L.O., 1951a). It will be unncessary to recount them here.

A brief account of the development of wage incentive schemes given above indicates that standardisation of job conditions and job methods and setting up specific standards of performance objectively constitute pre-requisites of modern wage incentive schemes. It may be recognised, however, that the pre-requisites mentioned above are regarded as essential aids to managerial efficiency which can be implemented independently of a wage incentive scheme.

1.3 Wage Incentive Schemes and other Incentive Plans

A wage incentive scheme, as defined above, may be distinguished from other incentive plans for analytical convenience. The basis of distinction is provided by the two characteristics of a wage incentive scheme, as noted in section 1.1. In this context, the following incentive plans may be referred to :

(i) Share-the-Production Incentive Plans

In recent years, incentive systems, such as Scanlon Plan (Lesieur, 1958 ; Whyte, 1955), Rucker Plan (Vaswani, 1961) and the Kaiser-Steel Union sharing Plan (NICB, 1963) have been tried in some of the industrial establishments in the United States (Dooley et al.,1964). In Scanlon Plan, the award of an incentive bonus is based on the ratio of total pay rolls for all participating employees to total money value of sales and inventories. Rucker Plan is similar to the Scanlon Plan with this difference that while the latter is based on the total sales value, the former operates on the basis of the 'value added'. The value added by the manufacturing process to the basic raw materials is calculated by deducting the cost of the raw materials used from the market value of the production output. The Kaiser Plan is similar to the Rucker Plan in its gain-sharing feature. Mechanically, however, the two plans differ from each other. The Rucker Plan excludes all the supply and material

costs which the Kaiser Plan includes. The Kaiser Plan excludes all the costs that the employees might become concerned about but have no control over. The 'value added' formula, by definition, includes such things as depreciation, administrative expenses and executive salaries. These costs have no effect on the possible gains of the employees covered by the Plan.

Labour savings under these plans are expected to be derived from two sources : (a) increased effort and skill of workers, and (b) suggestions for all round improvement from participating employees. Unlike wage incentive schemes, these incentive plans involve the whole body of workers and supervisors in the improvement of organisational performance. The basis for calculating incentive bonus and the methods of payment also differ from the basis and methods involved in wage incentive schemes.

(ii) Other Incentive Plans

(a) Profit-sharing and Stock Purchase Plans : These plans in most of the cases have no direct relationship with productivity as they are based on total profits which accrue on several accounts.

(b) Merit-rating Incentive Bonus Schemes : The incentive schemes are based on personal assessment as determined by merit-rating, regularity of attendance and length of service.

(c) Supplementary Production Incentive Schemes : These schemes are supplementary to production and include award of quality bonus or waste bonus.

(d) Non-financial Incentives : These cater to non-financial needs of the workers. Among others, they include an honourable mention in a function, membership of a prestige club and award of service pins.

(e) Trans-pecuniary Incentives : 'Visualising beyond money wages to the things money will buy', has been called the trans-pecuniary incentive by Florence (1950a). Money may provide no great incentive to workers 'if no leisure is provided for buying desired objects or enjoying their possession, or if no facilities for pleasure are afforded by the locality in which they live and work or again if every effort of the worker to raise his standard of life by indulging in some luxury produces an outcry'.

(iii) Lincoln Incentive System

One of the most famous incentive plans of modern times is that of the Lincoln Electric Company, Cleveland, Ohio (Lincoln, 1946, 1951, 1961; Glover and Hower, 1950). It is an integrated multi-dimensional incentive system which has the following important elements :

(a) A piece-work plan to give a greater financial reward to the more skilful and industrious workers.

(b) Incentive pay system to share the profits of the Company with the employees on the basis of their contribution to the Company as measured by merit-rating on the following factors : A. Supervision required B. Workmanship and attitude to quality C. Output D. Ideas and co-operation.

(c) A stock purchase plan to foster a sense of belonging and copartnership among the employees.

(d) A suggestion system to award monetary reward for successful suggestions which increase efficiency or safety, lower cost or improve the product.

(e) Non-financial incentives such as Membership of the Quarter-Century Club on completion of 25 years of service, presentation of a Gold Watch at the Annual Banquet of the Club Membership, award of service pins with the objective of meeting other than monetary needs of the workers, especially his status and publicity needs.

(f) Provision of safeguards against workers' unemployment and income insecurity.

(g) An effective human communication programme.

(h) Provision for fringe benefits such as a group insurance plan and free training facilities on a liberal scale.

1.4 Wage Incentives and Productivity

Broadly speaking, by productivity is meant output per unit of input of productive resources, one of which is manpower. In this study, it has been used in the restricted sense of 'output per unit of labour time expended'.

The definition of productivity is adhereed to for the following reasons :

(i) Wage incentives are installed in situations where output can be standardized and is capable of quantitative measurement.

(ii) Wage incentives deal with efficiency of manpower. As such, the primary interest lies in measuring the changes in the efficiency of manpower after introduction of wage incentive schemes.

There are several ways of increasing productivity. The important among these are :

(i) Improved product design ;

(ii) Improved process and materials ;

(iii) Better machines and equipment ;

(iv) Better work methods ;

(v) Better organisation and planning ; and

(vi) More effective utilisation of manpower.

A wage incentive scheme is but one method of raising productivity and is primarily concerned with more effective utilisation of manpower, though in practice it often stimulates managements to adopt better work methods, better organisation and aids them in more effective production planning, scheduling and control. Besides, it can probably improve labour management relationship as it correlates workers' interest in higher earnings with managements' interest in higher output. As compared to (i), (ii) and (iii), it involves comparatively very little capital expenditure and yields quick results, a feature which is also true of (iv) and (v). As such, it is likely to find favour as a tool of productivity in developing countries which are capital starved.

The belief that wage incentives can raise productivity is reinforced by reported experiences with them in India and abroad. In India, most of the companies which experimented with financial incentive schemes have reported significant gains in productivity and earnings. In a recently conducted survey of the use of productivity techniques in industries in India by the National Productivity Council, cited by the National Commission on Labour (1968), it was reported that about 70% of the reporting companies had incentive schemes. 80% of the incentive schemes were based on Work Measurement Data. On an average, the schemes seem to have achieved increases in output between 30 - 50%

and increases in earning between 25 - 45%. These results have, however, to be interpreted with the following cautions :

(i) Conclusions are based on only 85 replies from a total of 1000 companies to which the questionnaire was mailed. These companies are comparatively of the sophisticated type with efficient managements.

(ii) The total situation surrounding the incentive scheme under which increases in output and earnings are reported are not known. Within these limitations, however, the results indicate the potentiality of wage incentives as tools of productivity. The findings of the survey are supported by the results of wage incentives as reported individually by some engineering establishments. In this context, the names of India Pistons Limited (Raju, 1961), Enfield India Limited (Sankaran, 1961), Bhadravati Bonus Scheme (Channabasappa, 1961), TISCO (ILO, 1951) Railway Workshops (Luthar, 1961), among others, may be mentioned.

In regard to the results of wage incentives abroad, the most reliable source of information appears to be the ILO publication "Payment by Results" (ILO, 1951b). The general conclusion reached in this context in this volume is that in the majority of the cases, the systems of payment by results have led to increased output, higher earnings and lower costs. The conclusion is, however, based on

information reported by governments, employers' and workers' organisations rather than on objective investigations. Within these limitations, however, the results show that such systems have immense potentialities of increasing productivity.

1.5 Limitations and Shortcomings of Wage Incentives

Wage incentives have, however, some inherent limitations. Besides a number of problems emerge during the life of a wage incentive plan. Some of these limitations and problems, as referred to by several authors (Bavier, 1961; Beach, 1962 ; Crandall, 1962 ; Delloff, 1959; Livernash, 1964; Mangum, 1962; Massard, 1963; Northrup, 1959;. Robinson, 1961; Torbert, 1959; Wrape, 1952) are briefly recapitulated below :

(i) Wage incentives are incapable of effective installation in situations where output cannot be standardised and objectively measured. Difficulties are experienced in extending wage incentives to indirect workers and office workers. Managements sometimes try to resolve these difficulties by rewarding indirect workers on the basis of average incentive earnings of direct workers. This approach hardly provides any satisfactory solution. The reward not being based on performance, the workers thus rewarded remain dissatisfied.

(ii) The concept of wage incentives implies a close if not perfect correlation between workers' effort and skill and their output. Where workers do not have much control over their rate of output, such correlation is not possible. This probably explains progressive obsolescence of wage incentives with the adoption of automated processes.

(iii) One of the pre-requisites of wage incentive plans is the objective and scientific determination of standards of performance. Procedures underlying the determination of such standards, however, are not quite free from value judgments. As such, the workers may try to secure loose standards out of their desire for easy incentive money and a relaxed pace of work. The managements, on the other hand, may make an attempt to tighten standards to further their own interests. The diverse goals of the two parties, namely, the workers and the managements, may thus be brought into a sharp focus. This goes against the first impression that wage incentives induce harmony by promoting an interest in higher rates of output in both labour and management. In this context, Waring (1961) makes a similar observation, namely :

"It is my premise that the biggest single detriment to conventional wage incentive systems is that they form a wedge between the employees and the Company, separating their interest, causing poor human relations, and eventually high cost".

(iv) Wage incentive schemes emphasize only monistic motivation. It does not recognise the influence of other than monetary needs on workers' motivation to increase their productivity. It is now well realised that other needs, specially social and psychological, play a significantly important role in workers' motivation (pluralistic theory of motivation). It seems quite probable that the effect of monetary incentivation will weaken as the workers rise above the subsistence level.

(v) Primary focus of wage incentives is on minimising direct labour cost. A reduction in the unit cost will, however, depend on a number of factors over which wage incentives may have no control. The important among these are mentioned below :

(a) The amount of increase in production ;

(b) The relation of fixed cost to unit cost ;

(c) The cost incurred in installing and administering the wage incentive system ; and

(d) The elasticity of demand for the firm's products.

(vi) Besides these inherent limitations and shortcomings, managements are reported to have encountered a number of problems connected with the administration and operation of wage incentive schemes over a period of time.

The important among these may be recapitulated below :

(a) Group restriction of output ;

(b) Varying looseness or tightness of standards ;

(c) Induced wage inequities as between different categories of workers and between workers and supervisory personnel ;

(d) Increasing number of grievances ;

(e) Introduction of conflict in labour management relationship over revision of standards ;

(f) Increase in overhead expenses incurred in paper work and strengthening the administrative and accounting personnel ;

(g) Diversion of supervisory and managerial time from real production problems to paper formalities associated with the operation of wage incentives; and

(h) Workers' resistance to changes in production methods, or introduction of new equipment.

A notable contribution on the negative aspects of wage incentives over a period of time has recently been made by Wilfred Brown (1962). In a study, he came to the conclusion that changes from wage incentives to hourly

rates in his factory had no discernible effect on output ; instead , these changes had provided numerous advantages. The important among these are recounted below :

(i) Release of managerial time from concern with bonus to more attention to the real production problems of tooling, machines, flow of work, training of operators and reduction of scrap.

(ii) Decrease of the clerical work load on the department office, the Wage Office and the Cost Office.

(iii) Decreased resistance by workers to changes in production methods and introduction of new or re-organisation plans.

(iv) Greater freedom of action for managers in distribution of work between workers.

(v) Elimination of some of the problems surrounding the manufacture of samples and special jobs on experimental work.

1.6 Extent of Application of Financial Incentives

In spite of the limitations and shortcomings of wage incentive schemes as noted above, their use appears to be widespread and almost universal[1]. It is, however,

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[1] The most useful description of international trends in the use of systems of payment by results appears in Payment by Results, ILO, Geneva, 1951, pp. 54 - 92.

very difficult to get full classified information on the subject and much more difficult to interpret whatever information one may be able to obtain. Nevertheless, a brief description of the extent to which systems of payments by results are in use in some of the industrially developed countries should be an indicator of their usefulness.

Extent of Application of Incentive Payment Systems in the U.S.A.

Financial incentives have been very popular with American industries, especially since World War II. A survey conducted by the U.S.bureau of labour statistics in 1945-46 showed that 30% of the plant workers in manufacturing industry in the USA were being paid on an incentive basis. (United States Department of Labour, 1945-46) . In a survey (cit. NPC, 1962a) made in May, 1958, it was found that about 27% of all production and related workers were on an incentive basis. The same survey showed that the percentage of production workers paid on incentive basis was about 70% in men's and boys' apparel industries and the leather and footwear industries where control of output rests to a greater extent with the workers. The incidence of financial incentives was, however, low in such large manufacturing industries as aircrafts and aircraft parts, bakery products, and beverages etc. (less than 10%). In these industries production

is largely machine-paced. Though in recent years the proportion of workers on incentive payment system fell from 30% to 27%, their use is still widespread, their decline in technologically more sophisticated industries, however, appears beyond doubt (Gomberg, 1967).

Extent of Application of Incentive Payment Systems in the USSR

The Soviet Union has not lagged behind in adopting the incentive feature of industrial technique. Financial incentives have been significantly applied to all categories of workers who get cash reward for more output.

Straight or progressive piece-rates have formerly been the most predominant form of wage payment in the USSR. More than 75% of all workers were paid at piece-rates. The old system has, however, been steadily giving way to the new bonus system under which workers get a bonus for overfulfilling the quota and it is calculated as follows : "For each one percent over 100% of his quota, the worker gets an additional 2% of his earnings but not over 25% as a whole". It has been estimated that with the implementation of the new incentive system introduced by the Soviet planners, 60 million out of 109 million (55% of working force) will be under incentive payment. (cf. Stevenson and Charles, 1961). This compares more than favourably with the reported 27% of the American

workers paid on incentive basis.

Extent of Application of Incentive Payment Systems in Great Britain and Germany

An enquiry conducted recently in the United Kingdom showed that in the establishments covered by the enquiry, the number of workers paid under the scheme of payment by results in the manufacturing industries constituted 33% of all workers in manufacturing industries at the end of October, 1961. The percentage of wage earners paid under the schemes of payment by results in principal industries went up from 25% in October 1938 to 33% in October, 1961 (United Kingdom : Ministry of Labour Gazette, 1958 and 1961). An upward trend in the use of wage incentives is unmistakably revealed by the results of the enquiry, referred to above.

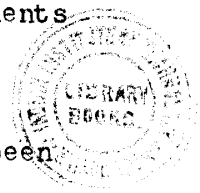
In West Germany, out of 15 million industrial workers, about 30% are reported to be on incentives in one form or the other. In the textile industry, nearly 55% of workers are covered by incentive plans; in metal industries, the coverage is 85%; in mechanical engineering industries, the coverage is 70% and in chemical engineering industries 80%. Incentive plans based on output/efficiency have been applied even to office workers. Maintenance personnel and other indirect workers are generally not on incentives, but in some cases, they are

attached to production groups and share in incentive payments (cit. NPC, 1962b). Though there have been modifications of incentive plans, there is no suggestion of any sharp decline in the use of financial incentives - a phenomenon which suggests that the advantages of financial incentives are well understood and probably outweigh any possible disadvantages.

The Extent of Application of Financial Incentives and their Scope in India

Not much is known about the extent to which systems of payments by results are in use in India. On the basis of limited information available with the labour bureau, it will appear that they have become increasingly more popular after 1946, specially with engineering industries (Labour Bureau, India, 1961a).

In India wage incentives appear to have immense possibilities. In this context, the following comments may be made :



(i) The efficiency of the Indian worker has been at a sub-normal level of efficiency and the need to raise it is immediate. The use of wage incentives with pre-requisites such as standardisation in job conditions, job method and setting up standards of performance offers a comparatively easy way to Indian Managements to pull up

the sub-normal level of efficiency to a normal level. Talking of scope of wage incentives, in this context, Mitchell made the following observation :

> "In many of the Indian factories a good incentive plan would eventually increase effort by over 100% ..... Several Indian industries have informed the author of instances in their factories where increases of over 100% have been achieved". (Mitchell, 1961).

(ii) At its current technological level, India offers rather favourable conditions for the use of wage incentives, since job control is mostly vested in workers' hands. It may be recalled here that with the use of automated processes which tend to remove the job controls from workers' hands and tend to vest them in electronic devices, the traditional wage incentives become increasingly incapable of application.

(iii) An average Indian worker is on the subsistence level. The monetary inducement may be more meaningful and effective for him than for his counterpart in advanced countries like the United States where workers' social and psychological needs have become increasingly more significant as against monetary needs.

(iv) In an industrially matured economy like that of the United States, a higher rate of output on the part of the workers may mean fewer jobs for them, since demand for the product of the establishment is a limiting factor.

It may often result in lay-offs and job displacements, thus creating conditions of conflict between labour and management, making the operation of wage incentives more difficult. In an expanding economy like that of India, demand may not be much of a limiting factor. Higher rate of output may be used to meet the increased pressure on demand for products. It may be possible to provide a guarantee to workers against loss of jobs consequent upon the introduction of wage incentives. Thus, factors that may account for workers' resistance in the beginning and conflict later are comparatively weak in the context of Indian economic environment.

From these comments, it will readily appear that wage incentives are likely to play an increasingly important role for increasing the rate of effort as well as earnings of the workers for quite some time to come. It is, however, of paramount importance to know the actual performance of wage incentives in Indian environment and the problems that might emerge during the life of a wage incentive plan in a factory.

1.7 Past Research into Wage Incentives & Productivity

The subject matter of the actual effects of wage incentives on productivity and their effectiveness on a continuing basis has been a matter of comparative neglect both in India and abroad. While reviewing past research

on the subject, Florence concluded : "While economists devoted their energies to abstract reasoning rather than patient observation of facts and events, psychologists patiently observed but were only slightly interested in tracing the economic motive or observing the material economic facts of output, costs, absence and labour turnover." (Florence, 1958).

In a comprehensive review of research and opinion on the subject, Marriott has shown convincingly that the amount of research on incentive payment schemes is scant in comparison with the volume of beliefs, opinions, and unsubstantiated claims regarding their strength and weakness. Many theoretical accounts can be found but few present direct evidence as to how these payment systems appear in practice (Marriott, 1957a).

A notable exception in this context is an elaborate study made by Davison and Ross (1958) on the changes in productivity, earnings and direct labour cost brought about by wage incentives. The approach adopted was that of isolating the wage incentive effect by selecting those operations which remained fairly constant after the introduction of the incentive schemes. A few observations are, however, called for :

(i) The operations for investigations were drawn from a number of factories which differed from each other in many respects. The influence of these differences on the effects of wage incentives in different factories is not known. Conclusions on the basis of such a study seem to suffer from severe limitations.

(ii) The study limits itself to the post-incentive effects with respect to the pre-incentive reference period and does not examine the effectiveness of the incentive scheme over a period of time. A simultaneous study of the post-incentive effectiveness of a wage incentive scheme with respect to the pre-incentive period and continuing effectiveness over a period of time can be more revealing, especially in the context of several references by many authors, as noted in section 1.5, to the growing disillusionment with the wage incentive scheme, after it has operated for some time. Rothe (1951), Kilbridge (1960) and Brewer and Kacser (1964) have made some very useful contributions to the quantitative assessment of the continuing effectiveness of a wage incentive scheme. These tools have not, however, reached a stage where they can be exclusively relied upon or applied to all situations. Their work, therefore, needs to be considerably supplemented in order to have a reliable set of tools for determining the continuing effectiveness of wage incentive schemes

In India

In India there is hardly any objective and reliable study made on the effects of wage incentives and their continuing effectiveness. The limited data that are available on the effects of wage incentives are from parties directly interested i.e., employers' or workers' organisations (Labour Bureau, India, 1961 b). Hardly has any attempt been made at disentangling of actual results on output, earnings and costs of production of a change from a time-wage to an incentive wage, let alone any effort to evaluate the continuing effectiveness of these plans.

1.8 The Present Study

The present study has been primarily undertaken in an attempt to determine as objectively as possible the impact on productivity of a wage incentive scheme and its continuing effectiveness over a period of time. The actual formulation of the problem and the design of the study are, however, based on research leads identified in a case study, undertaken as a prerequisite to subsequent investigations.

The basic approach has been that of conducting detailed investigations into a number of jobs taken from a single factory. In the jobs taken up for investigations, adequate steps were taken to isolate the wage incentive

effect. The steps primarily involved the screening of the jobs with respect to a number of criteria laid down for the isolation of the wage incentive effect. That the jobs were selected from a single factory was governed by the consideration that a number of factors such as managerial methods and organisational practices can influence the effectiveness of a wage incentive scheme and that these factors are bound to differ from one factory to another.

The focus of the study is primarily on two aspects :

(i) The determination of the initial impact on productivity.

(ii) The determination of the effectiveness of the wage incentive scheme over a period of time.

The initial impact has been studied with the help of the measures of the initial impact, as evolved in the present study. The continuing effectiveness has been determined with the help of a number of criteria, specifically formulated for the present investigations.

The findings of the present study, within the broad limitations that usually characterise such investigations, should be relevant to similar situations elsewhere, especially in India. The conceptual framework of the present

study and the theoretical criteria can be profitably employed for determining the continuing effectiveness of wage incentive schemes operating under similar situations. Some of the general conclusions reached in regard to wage incentive schemes may be helpful in designing more effective incentive plans under identical conditions. The present study has, however, its limitations and needs to be supplemented by many more studies of this nature in order to bridge the gap in knowledge that exists.