



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

18900

Distr.
RESTRICTED

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

IO/R.193
15 April 1991

ORIGINAL: English

IMPROVEMENT OF PRODUCTION AND PRODUCTIVITY
OF TEXTILE FACTORIES

XA/SUD/90/605

THE REPUBLIC OF SUDAN

Technical report: Strengthening the efficiency, production and
productivity of textile factories under the responsibility
of the General Spinning and Weaving Company *

Prepared for the Government of the Republic of Sudan
by the United Nations Industrial Development Organization

Based on the work of J. Saary, textile consultant

Backstopping Officer: M. Farah
Industrial Management and Rehabilitation Branch

* This document has not been edited.

ABSTRACT

Post Title: Consultant in Textile Management

Project Number: NA/SUD/90/605

Purpose: The purpose of the project is to strengthen the efficiency and production capability of the textile factories which come under the responsibility of the General Spinning and Weaving Company through the introduction of a better organization set-up and an Incentive Wage System.

Duration: 12 months

Mills belonging to the GSWC are:

- Hag Abdalla Spinning Mill
- Khartoum North Spinning Mill
- Shandi Weaving Mill
- El Dueim Weaving Mill
- Kosti Weaving Mill
- Kadugli Weaving Mill
- Nyala Weaving Mill

The textile industry in Sudan is characterized by extremely low levels of efficiency and of capacity utilization, by any measure. This results in insufficient financial returns to the mills and inadequate benefits to the national economy as a whole. Nor does this situation arise from age or obsolescence of the mills stock of capital equipment. The majority of the equipment available to the industry at present was installed within the last fifteen years or so. In most cases, the machinery was up-to-date in design at the time of installation. The textile mills face severe problems in the following main areas:

State of machinery: The machineries are in very poor working condition, due to inadequate maintenance, incorrect settings, poor working practices and lack of available spare parts and consumables due to lack of foreign currency.

Financial and cost in accountancy: Basic bookkeeping and recording systems are generally in place and operational, but considerable improvement is needed in the summarizing, analysis and use of the information which is assembled.

Management: Most of the managers lack sufficient experience in efficiently operating textile factories to cope adequately with tasks in the difficult conditions prevailing in Sudan.

Labour force: The mills are overstaffed. They are capable of operating with much higher production without any increase in the total number of labour force. Little is available in the way of formal training for skilled and semi-skilled workers. The availability of adequately trained staff capable of applying their skills and knowledge is a serious problem at all levels.

ACKNOWLEDGEMENT

The author wishes to thank, from the General Spinning and Weaving Company:

Dr. Abdel Rahman Abdallah Ali. Managing Director
Mr. Ibrahim Mabrouk. Head of Technical Department
Mr. Abu Baker Yahya El Faldli. Head of Economic Research, Planning and
Training
Mr. Tarique Ahmed Sayed. Head of Administrative Department
Sir El Khatim El Amin. Spinning Expert

for their assistance, support, and confidence during the period of the assignment.

He is also grateful to Mr. Awad El Karim Mohamed Ali. General Manager of Khartoum North Spinning Mill, Mr. Salah Suleiman Abu Salih. General Manager of Hag Abdalla Spinning Mill, and their technical staff who were working closely with the expert and also helpful and patient in enabling the author to fulfill his duty and he appreciates their contribution to the assignment.

TABLE OF CONTENTS

| | |
|--|----|
| INTRODUCTION | 6 |
| <u>RECOMMENDATIONS</u> | 8 |
| 1. Technical Assistance | 8 |
| a. The textile consultant | 8 |
| b. UN Volunteers | 8 |
| 2. Adequate and appropriate number of personnel of the General Spinning and Weaving Company | 9 |
| a. Technical Department | 9 |
| b. Economic Research, Planning and Training Department | 9 |
| 3. Establishing Labour Training Section at all Mills | 9 |
| 4. Computerization | 10 |
| 5. Complete Rehabilitation of the Mills | 10 |
| 6. Communication | 10 |
| II. <u>ACCOMPLISHED WORKS</u> | 11 |
| A. Consultant in Textile Management | 11 |
| 1. Job Description | 12 |
| 2. Working method | 13 |
| B. Work Accomplished | 13 |
| III. <u>INCREASING THE EFFICIENCY AND PRODUCTION OF HAG ABDALLA SPINNING MILL AND SECURE ITS OPERATION DURING THE RAINY SEASON</u> | 14 |
| A. Modification of the organizational set-up of the mill | 14 |
| 1. Establishment of Production Management | 14 |
| 2. Establishment of Mill Control Section | 14 |
| B. Introduction of machine maintenance programme | 15 |
| C. Introduction of the operation of the mill during the rainy season | 15 |
| D. Quantity and Quality of labour | 16 |
| IV. <u>ELABORATION AND INTRODUCTION OF STANDARDS</u> | 16 |
| A. Standards for the mills | 16 |
| V. <u>ON-THE-JOB TRAINING OF NATIONAL STAFF</u> | 17 |
| VI. <u>ELABORATION OF TIME STUDY, WORKLOAD AND STANDARD PERSONNEL</u> | 17 |
| VII. <u>ELABORATION AND INTRODUCTION OF AN INCENTIVE WAGE SYSTEM</u> | 18 |

| | |
|--|----|
| VIII. <u>RESULTS ACHIEVED AND THEIR UTILIZATION</u> | 18 |
| A. Results which already have been utilized | 18 |
| 1. Operation of Hag Abdalla Spinning | 18 |
| a. Utilization of cotton Shambat | 18 |
| b. Introduction of a three-shift operation in the coarse spinning section | 19 |
| 2. Operation of Khartoum North Spinning Mill | 19 |
| B. Results which will be utilized in the future | 19 |
| 1. Hag Abdalla Spinning Mill | 19 |
| a. Capacity utilization | 19 |
| b. Foreign exchange earning from the export of yarn | 20 |
| 2. Khartoum North Spinning Mill | 20 |
| a. Capacity Utilization | 20 |
| b. Foreign exchange earning from the export of yarn | 21 |
| 3. General | 21 |
| IX. <u>SUMMARY</u> | 22 |
| ANNEX | 23 |

INTRODUCTION

Development of substantial industrial production of textiles in the Sudan dates from 1950. Following independence in 1956 establishment of a cotton textile industry through private foreign and local investment was encouraged under the Approved Enterprises Concession Act. Only two of a number of applications under this Act came to fruition. Sudan Textile Industries Ltd. in 1958 and Khartoum Spinning and Weaving Company in 1959.

In the early 1970's shortage of foreign exchange began to be seen as a possible future constraint on Sudanese economic development, and the Ministry of Industry declared a policy of establishing manufacturing industries based on local agricultural raw materials, for import substitution and ultimately the increase of foreign exchange earnings by higher added-value exports.

A 15-year tentative plan for cotton textile industrial development, prepared in 1972, was approved and concessions extended to encourage its implementation by private entrepreneurs.

In 1973, however, not very long after publication of the plan, the Government took the decision to accomplish part of the expansion by establishing a number of public sector mills.

In 1975 the Spinning and Weaving Corporation was established with the aim to be responsible for the textile mills in the public sector.

In the latter half of the 1970's and the early 1980's there was a considerable stream of additions to the industry's capacity both in the public and private sectors. In the public sector this began with the Chinese-funded Friendship Integrated Textile Mill at Hassaheisa and continued with the establishment of a set of six identical weaving mills in widely separated locations. The spinning mills at Hag Abdalla and Port Sudan were constructed also in this period.

In 1985 the General Spinning and Weaving Company was formed to replace the Spinning and Weaving Corporation. The newly formed company had more autonomy and flexibility in the management of textile mills belonging to the public sector.

In 1987 the Khartoum North Spinning mill was commissioned to produce combed yarn for export.

Since 1987 up to the present time the production of all the public mills is very low. This low production is caused by the poor conditions of machines due to lack of spare parts and consumables, inadequate maintenance, incorrect settings and the lack of managerial control.

In the context of the economic recovery and structural adjustment programme undertaken by the Government, it is planned that the textile sector would be rehabilitated. This includes the reorganization of the textile mills regarding structural set-up, staffing, improvement of production systems and maintenance, and ensuring effective management.

Due to the lack of foreign currency during the last ten years, and consequently lack of spare parts and consumables, the state of the machinery and equipment in the public sector is very poor.

To bring back the factories to normal technical standards, the General Spinning and Weaving Company applied for a loan of US\$16 million from the Arab Fund. The loan was approved and the Arab Fund released US\$2.5 million in 1989 which allowed the General Spinning and Weaving Company to purchase urgently needed spare parts for the mills. The spare parts arrived at the end of 1990 and an emergency rehabilitation programme started immediately.

1. RECOMMENDATIONS

1. Technical Assistance

The textile mills of the General Spinning and Weaving Company are suffering from the emigration of qualified personnel seeking jobs abroad or in the private industry at higher remuneration. One result is that those remaining tend to be placed in positions where the scope of their duties and responsibilities are greater than that for which their training and especially their experience have prepared them.

a. The textile consultant

The improvement of productivity, of technical and financial performance in the textile industry demands the establishment of targets and standards, and the assessment of the current position in relation to them so that progress can be monitored.

Many managers lack sufficient experience in efficiently operated textile manufacturing enterprises to cope adequately with these tasks in the difficult conditions prevailing in Sudan. There is thus a need to use the available expertise and experience in the most efficient way.

An efficient way of sharing such scarce resources is the provision of consultancy services. It is highly desirable for managerial staff to gain further experience by working with expatriate experts who possess the necessary experience.

The expert is necessary for a long term period to assist the management to use modern management tools and to establish sound mill management with leadership.

b. UN Volunteers

The availability of adequately trained middle management and skilled employees capable of applying their skills and knowledge is a serious problem at all levels. It is necessary to secure the services of UN Volunteers for long periods to train the personnel in the mills of the General Spinning and Weaving Company.

The training should be carried out in the following fields:

- Spinning technology
- Weaving technology
- Maintenance of machinery and equipment
- Organization of the activities of supporting work shops in all the mills
- Establishment and introduction of suitable cost accounting systems in all the mills.

2. Adequate and appropriate number of personnel of the General Spinning and Weaving Company

The General Spinning and Weaving Company is hopelessly understaffed. Therefore it is impossible for the company to fulfill its task, namely, to monitor the operations and help improve the economic performance of the mills.

a. Technical Department

The technical department is operating with 5 persons instead of 12 requested by the consultant. The present five are one technical manager, one spinning expert, one weaving expert, one cotton expert, and one engineer for spare parts requirement. To increase the performance of the mills, it is imperative to employ adequate and appropriate number of persons in the technical department, a proposal by the UNIDO consultant in his final report of the previous assignment of 13 August 1990.

b. Economic Research, Planning and Training Department

Their department should be extended with a time study section integrated into the training section.

The author proposed in his Technical Report under "Technical Department" the establishment of a time study section to elaborate workloads of labour force of the mills and introduce the incentive wage systems in every mill.

Because of the absence of a study section the UNIDO expert had to carry out all the activities, which resulted in delays in the introduction of an incentive wage system at the mills.

It is essential to establish the time study section to introduce incentive wage systems as early as possible in all the mills at the General Spinning and Weaving Company.

3. Establishing Labour Training Section at all Mills

The mills do not have any labour training facilities. Newly hired personnel try to fulfill activities for which they are not trained and prepared beforehand. They come from the "street" into the mills and instead of performing duties they are in effect damaging the machinery and causing poor quality in production. It is recommended to establish a labour training section at every mill, to select, train and retrain the personnel to achieve better results.

4. Computerization

The General Spinning and Weaving Company and the mills do not have any computers and so all financial books and records which are sufficient to maintain basic daily accounting information are dealt with.

The consultant recommends the computerization of the company and the mills which will allow, not only better and faster financial reporting, but also the use of information and data for effective management.

The computerization should occur in two steps. The first step is the computerization of the General Spinning and Weaving Company, and the second step is the computerization of the mills. This will also allow, besides financial and cost accounting, to monitor preventive maintenance, spare parts and consumable requirements.

5. Complete Rehabilitation of the Mills

To secure optimum performance it is imperative to complete the rehabilitation of the mills. Complete rehabilitation means not only to restore the capital equipment to a fully operational condition but also to restore stocks of spare parts and consumable stores to normal practical levels.

Purchase of additional machinery and equipment is also required to secure continuous exportation of yarn.

6. Communication

The communication between the General Spinning and Weaving Company and its mill takes place by radio. But this system of communication is unreliable and frequently out of order. A great deal of time and effort is spent in communication by messenger and vehicle, often very long distances because the radio is out of order.

It is necessary to improve the communication system with modern equipment to allow better cooperation between the General Spinning and Weaving Company and its mills.

II. ACCOMPLISHED WORKS

A. Consultant in Textile Management

The low production levels of the mill which were caused not only by lack of spare parts and consumables, but also by the lack of suitable organizational set-up and staffing of the company and the mills.

Lack of prompt action at the company and the mills to solve problems as they arise were missing completely. This is ascribed to an inadequate flow of prompt information between the Company and the mills, poor or inadequate analysis of information, that problems and required action are not addressed.

To strengthen the managerial and supervisory function of the General Spinning and Weaving Company, and to strengthen the efficiency and production capability of the textile mills the Government requested UNIDO to provide the assistance of a highly experienced consultant in textile management. UNIDO approved this request and the author started the assignment on 13 July 1989 under a short-term consultancy with a duration of six months.

After the termination of the six months period, the Government requested UNIDO to extend the stay of the consultant in Sudan. A further contract was then approved by UNIDO for a period of one year which ended on 31 March 1991.

1. Job Description

- Project : AA/SUD/90/605/11-01/J.1220/
 Post Title : Consultant in Textile Management
 Duration : 12 months
 Duty Station: Khartoum, Sudan
 Purpose of Project : The purpose of the project is to strengthen the efficiency and production capability of the textile factories which come under the responsibility of the General Spinning and Weaving Company through the introduction of a better organizational set-up and incentive wage system.
- Duties : In cooperation with the national staff, the consultant will be expected to carry out the following duties:
1. Establish stronger linkage between the CSWC and the factories through the establishment of better monitoring systems.
 2. Undertake a work study and help in the establishment of a work study section within the company.
 3. Undertake job analyses for the posts of the textile mills and prepare relevant job description.
 4. Set up appropriate standards for machine utilization, and establish a section for this purpose within the company: this would include proper maintenance.
 5. Carry out on-the-job training for national staff of the factories in their specific activities.
 6. Prepare and introduce an incentive wage system in the Spinning and Weaving factories which would be based on individual performance.
 7. Prepare a final report setting out the findings of the mission and recommendations to the Government for further action which might be taken.
- Qualifications: University degree in textile engineering with extensive experience in production management.

2. Working method

The consultant was working closely with the management of the General Spinning and Weaving Company and the personnel of the mills. They elaborated and introduced together all proposed improvements. In this way the personnel had the opportunity to gradually become familiar with the new procedures, and after the assignment, they will be able to manage and lead the mills.

Thus, the realization of improvements is a result of a team work between the consultant, the General Spinning and Weaving Company, and the management and personnel of the mills.

B. Work Accomplished

During the consultant's assignment the following were accomplished:

- Increase in efficiency and production of Hag Abdalla Spinning mill and secure its operation during the rainy season.
- Elaboration and introduction of standards such as machine performance, quality, technological, maintenance, waste and personnel.
- On-the-job training for national staff of the factories in their specific activities.
- Elaboration of time study and workload of personnel of the factories and implementation of standard personnel according to workload requirement.
- Elaboration and introduction of the Incentive Wage System at Khartoum North Spinning Mill and Hag Abdalla Spinning Mill.

III. INCREASING THE EFFICIENCY AND PRODUCTION OF HAG ABDALLA SPINNING MILL AND SECURE ITS OPERATION DURING THE RAINY SEASON

As Hag Abdalla Spinning Mill is the yarn supplier for the five weaving mills of the General Spinning and Weaving Company, the company asked the consultant to concentrate his activities first in this mill.

The problem of Hag Abdalla Spinning Mill is low efficiency and production. The reasons for low performance according to the management of the mill are as follows:

- The state and condition of the machinery and equipment due to lack of spare parts.
- Inadequate number of personnel and high absenteeism.
- The honey dew contamination of cottons Acala and Baracat which can be processed only under 40% relative humidity. Especially in the rainy season since the mill cannot achieve this low relative humidity, it has to be closed.

A. Modification of the organizational set-up of the mill

The organizational set-up of the mill was not up-to-date. What were missing were the production management and the mill control section. These are the most important management tools of modern mill management.

1. Establishment of Production Management

The main objectives of production management is careful planning and effective control. Planning involves the determination of what is to be achieved and how it is to be achieved, while control refers to the checking, recording and comparing of the actual with the planned accomplishments.

As Hag Abdalla did not have production management to monitor and control production, consequently production was very low. For this low production, nobody was made responsible. Instead of analyzing the reasons for the low performance, management was producing excuses to justify the situation.

The consultant established production management with corresponding duties and responsibilities and trained the personnel to carry out specific activities.

2. Establishment of Mill Control Section

The aim of the Mill Control Section is to secure and maintain optimum machine performance based on "Management by Exceptions" reporting only the out of standard conditions. As Hag Abdalla Spinning Mill did not have the mill control section which controls machine performance, most of the machines, especially in the coarse mill, preparations were laid down instead of making new settings based on textile technological standards and fibers properties.

The consultant established a mill control section with the following functions:

- Elaboration and introduction of standards for production, quality, machine performance and wastes.
- Maintenance of standards through performance tests and controls at strategic points from blowroom to winding in order to detect any faulty conditions at the source and as soon as they arise.
- Reporting every situation which is out of the established standard with a view to eliminating it.

The consultant elaborated and introduced tests and controls at strategic points with standards, purpose of tests, frequency of tests and method of test. He prepared detailed job descriptions for every person in the new section and trained the personnel to carry out their work according to the job description.

B. Introduction of machine maintenance programme

The state and conditions of machines and equipment were not so bad as the management asserted. The problem was the lack of maintenance due to lack of sufficient knowledge by the maintenance personnel.

The consultant elaborated and introduced maintenance programmes for the machinery such as card grinding and settings. He also trained the maintenance personnel

Under the control of the consultant the maintenance personnel grounded the cards which were not working for 8 months, made new settings, and set the machines to production. These machines have been working constantly without requiring any rehabilitation or additional spare parts since their maintenance in May 1990.

C. Introduction of the operation of the mill during the rainy season

The mill was working with cottons Acala and Baracat and, as it is well known, both types of cotton are contaminated with honey dew which can be processed only under 40% relative humidity. This low relative humidity percentage cannot be achieved in the rainy season (from mid-May till the end of September). Therefore, the entire mill stopped the operation for 4.5 months every year since its erection in 1980.

The consultant introduced a new cotton Shambat instead of Acala and Baracat, which is less contaminated with honey dew and allows to process it during the rainy season at 56% relative humidity. The mill management rejected this cotton 3 years ago in 1987 after a test run on the ground that it was not suited for the mill. The mill still had 2,000 bales (400,000 kgs) cotton Shambat from 1987 in the cotton store.

The consultant elaborated standards for every machine such as settings, break drafts, pressure of drafting rolls, twist per meters etc., based on fibre properties of the rejected cotton Shambat, and set to production the old stock of 400,000 kgs Shambat.

Under the control of the consultant, within three weeks the mill was operating blowroom till winding only with old stock cotton Shambat. Thus, the consultant convinced the management and made the mill operate for the first time of its existence during the rainy season in addition to the other seasons, thereby enabling it to operate through out the year.

D. Quantity and Quality of labour

The situation of the labour force was not so critical as the management asserted. There was no shortage of operating personnel. The opposite, namely, considerable overstaffing in the rank-and-file of production personnel was the case. Workloads in every production stages were too low. Consequently, at any given time, many of the operators "enjoyed" spare time, left their work place and were sitting or moving around idly. Such under-utilization of work force has a negative psychological effect. It does not lead to increased care, control and efficiency, but to more machine stoppages and absenteeism.

The consultant, together with the management, elaborated and introduced a temporary personnel standard which was based on his experience. According to this personnel plan the number of persons was reduced by 20%.

IV. ELABORATION AND INTRODUCTION OF STANDARDS

The need to improve production, productivity, technical and financial performance in the mills demand the establishment of targets, standards, and the assessment of the current position so that progress can be monitored. Targets and standards were missing in all the mills of the General Spinning and Weaving Company, and the performance of the mills was poor or insufficient. This was always accepted by the management as facts.

The poor technical state and condition of the machinery and equipment caused by inadequate maintenance. It is evident that for years a systematic practice in comparable factories, has either been grossly neglected or has not taken place at all.

A. Standards for the mills

The consultant elaborated and introduced the following standards in the mills:

- Standards for machine performance such as speed, settings twist, idle spindles percentage, percentage of faulty bobbins, yarn tension, sliver and yarn traverse motion.
- Textile technological standards such as break draft, sliver and yarn breakages per unit, weight and size of bobbins, calculations of change gears for twist, winding length, traveller changing frequencies.
- Quality standards such as evenness of sliver and yarn, imperfection of yarn and count of sliver and yarn.
- Standards for preventive maintenance for every type of machinery with frequencies, description of work to be done, required personnel and the duration of maintenance.
- Waste standards for every production stage.
- Production plan which is based on the above-mentioned standards.

V. ON-THE-JOB TRAINING OF NATIONAL STAFF

Availability of adequately trained staff capable of applying their skills and knowledge is a serious problem at all levels and in all the mills. Several positions had to be filled by promoting loyal men to higher posts. They were assigned to jobs and tasks for which they were not trained, and for which they lacked the practical experience to cope with. They were not guided by appropriate control systems and targets set by the management.

The consultant carried out on-the-job training of national staff in the following fields:

- Cleaning the machines with roll picker
- Preventive maintenance personnel
- Middle management of production such as head of shift technicians and supervisors.
- Production management
- Mill control personnel

The training included theoretical and practical training to fit the elaborated job description.

VI. ELABORATION OF TIME STUDY, WORKLOAD AND STANDARD PERSONNEL

The consultant elaborated time study, workload and standard personnel for the spinning mills and for the weaving mills. The activities consumed much more time as it was foreseen.

The reasons were as follows:

- State of machinery. To carry out the time study it was essential to secure optimum operating conditions for the machines. This was not the case, especially at Khartoum North Spinning Mill. Before the time study, the consultant had to prepare and introduce emergency maintenance programmes for the different machines. Alone for ring spinning machines, the emergency programme included 10 different changes per machine and on 48 machines, which took three weeks. After the termination of the emergency programme the consultant was able to carry out the time study activities.
- Unavailability of time study experts. It was foreseen that there would be the establishment of a centralized Time study section with five time study experts, at the company, and the consultant would carry out the time study activities at the mills with the help of the experts. As the General Spinning and Weaving Company did not establish till to date the centralized Time Study section with the five experts, the consultant had to carry out alone all the activities which such as time measurement, calculation of workload, and calculation and distribution of standard personnel.

Nevertheless, the consultant completed the above-mentioned activities, but this took much more time that was foreseen.

VII. ELABORATION AND INTRODUCTION OF AN INCENTIVE WAGE SYSTEM

Elaboration of the Incentive Wage System was completed for the Spinning and Weaving mills, but introduced only at the spinning mills at Khartoum North Spinning Mill and Hag Abdalla Spinning Mill. The Incentive Wage System was introduced first at Khartoum North Spinning Mill on 1 November 1990. Because of the reasons mentioned under Chapter VI, the introduction took more time than was foreseen.

The Incentive Wage System was introduced at Hag Abdalla on 15 January 1991.

The Incentive Wage System is based on two factors: Factor 1 is based on personal performance, while factor 2 is based on the average performance of the ring spinning section. The addition of the two factors gives the total bonus per work place. The average monthly salary of an operator is Sf400 and the maximum bonus can amount to Sf890 per month and operator.

The Incentive Wage System covers all the employees of the mills from steeper to general manager.

The Incentive Wage System of Khartoum North Spinning Mill is attached as an Annex.

VIII. RESULTS ACHIEVED AND THEIR UTILIZATION

The results achieved and their utilization are the outcome of a fruitful cooperation between the consultant, the General Spinning and Weaving Company, and the personnel of the mills. All the necessary changes and programmes were elaborated, decided, introduced and controlled together, in consideration of the actual and local facts.

A. Results which already have been utilized

The results which have already been utilized are as follows:

- Operation of Hag Abdalla Spinning Mill
- Operation of Khartoum North Spinning Mill

1. Operation of Hag Abdalla Spinning

As explained before, Hag Abdalla Spinning Mill is the most important mill of the General Spinning and Weaving Company, and its coarse spinning section is supplying yarn to the five weaving mills.

a. Utilization of cotton Shambat

With the utilization of cotton Shambat, instead of Acala, the management was able, for the first time since erection in 1930, to operate the mill during the rainy season, for 12 months a year. The achieved production in this period especially in the months of June and July in 1990 was rather moderate, because of the extreme low water level of the Nile River which consequently caused power cuts (in the month of June for 20 days, and in July for 12 days). The production

of the mill in kilos for the rainy season for the years 1988 to 1990 is shown below:

| Months | 1988 | 1989 | 1990 |
|-----------|--------|--------|--------|
| May | 12.517 | 17.925 | 34.366 |
| June | 4.266 | 2.802 | 5.551 |
| July | -- | -- | 19.551 |
| August | -- | -- | 44.775 |
| September | -- | -- | 36.331 |
| October | 12.508 | 9.909 | 44.510 |

It was more difficult to change the mentality of the personnel than to change the machines because they were accustomed to the additional 4.5 months paid vacation per year.

- b. Introduction of a three-shift operation in the coarse spinning section.

With the introduction of the Incentive Wage System and consequently the distribution of personnel, according to time study and workload calculations, the coarse spinning section went from two-shift to three-shift operation with the same number of personnel. The daily production increased from 3,800 kg to 6,150 kg.

2. Operation of Khartoum North Spinning Mill

With the introduction of the Incentive Wage System the production increased from 1,300 kg to 1,800 kg/day. It is very important because the machines were not in optimum operating condition.

The average shift efficiency increased in the month of December 1990 to 65.5% without increasing the speed of the machines.

The efficiency decreased in the following months, because of transportation difficulties of the mill. Out of the four buses utilized for the transportation of personnel only two were available. Consequently, part of the personnel could not come to work. The average absenteeism achieved a high level of 40-50% which had an adverse effect on the production and efficiency of the mill. The management of the mill could not find a transport company till now to solve the transportation problem of the personnel.

B. Results which will be utilized in the future

1. Hag Abdalla Spinning Mill

a. Capacity utilization

As the consultant spent a lot of time at Hag Abdalla Spinning Mill, this mill is expected to make the best improvement in capacity utilization.

The results of the preventive maintenance programme helped to modify the organization and introduction of the Incentive Wage System. It is expected that the capacity utilization will reach within two months 94% in both spinning sections.

In the coarse spinning section 42 machines were operating out of 69, and the fine spinning section with 60 out of 75 machines beginning to operate.

It seems that within 2 months the daily production will reach about 10,000 kg in the coarse spinning section, and about 6,000 kg per day in the fine spinning section.

b. Foreign exchange earning from the export of yarn

The fine spinning section planned to produce yarn for export. But because of the difficulties in the coarse spinning section, the fine spinning section had to assist the coarse spinning section. Therefore, the fine spinning section did not export yarn for the last five years, since 1985.

The fine spinning section went into operation for export at the beginning of January 1991 with 45 machines in a two shift operation. Within two months this section will operate 70 machines in a three shift operation according to the elaborated production plan.

The consultant already contacted several yarn importers in Europe who are willing to import yarn from Hag Abdalla Spinning Mill.

2. Khartoum North Spinning Mill

a. Capacity Utilization

As mentioned before, because of the transport problem of the operators, the mill is operating with only limited machines which vary from day to day, and not more than 30 machines out of 58 machines in the ring spinning section.

The production plan was elaborated to operate in the ring spinning section with 48 machines, because of the limited production of the installed low capacity of the drawing section.

If the management could solve the transport problem the mill would operate with 48 machines.

b. Foreign exchange earning from the export of yarn

Khartoum North Spinning Mill has been producing yarn for export, since the introduction of the Incentive Wage System, and has already exported 20.000 kg of yarn to Europe.

Here, also the transport problem has influenced the quantity to be exported.

If the management could solve the transport problem and the mill could operate according to the production plan, the mill would be able to export 50.000 kg of yarn per month. Khartoum North Spinning Mill did not export yarn before.

3. General

According to the experience of the consultant, with the introduction of the Incentive Wage System at the mills, the following results will be achieved additionally:

- Reduced fluctuation of personnel:
As the achievable bonus per month amounts more than twice the salary of the personnel, the fluctuation of personnel leaving the mills will be reduced to a minimum. The monthly earning would be nearly equal that of the privately owned mills.
- Reduced absenteeism of personnel:
The bonus is paid only for worked days and hours. Absenteeism - hours or days - will be deducted from the bonus. To get the maximum bonus, besides the two factors mentioned under chapter VII, absenteeism also influences the amount of bonus.
- Introduction of the Incentive Wage System in the weaving mills.
The consultant elaborated the Incentive Wage System also for the weaving mills. Because of reasons mentioned before, he could not introduce it.

It is the interest of the General Spinning and Weaving Company and the weaving mills to introduce it as soon as possible to increase production and productivity, and reduce absenteeism and fluctuation of personnel.

IX. SUMMARY

The majority of the textile mills which come under the responsibility of the General Spinning and Weaving Company are characterized by low levels of efficiency and of capacity utilization.

As the results of the assignment of the consultant show, it is possible to increase the efficiency and capacity utilization of the mills, provided that the recommendations of the consultant made in this report are introduced.

But to secure optimum performance, it is imperative that there should be complete rehabilitation of the mills. Complete rehabilitation means not only restoring the capital equipment to a fully operational condition, but also restoring stocks of spare parts and consumable stores to a normal standard level.

The standard of skills of the personnel at almost every level is lower than satisfactory. Investment in machinery therefore must be accompanied by investment in development of human resources in the upgrading of management skills, technicians and workers at all levels.

The personnel of the mills, from sweeper through the general manager, should be willing and ready to cooperate to achieve better results.

Demand trends show that if the mills were to achieve the planned production, the General Spinning and Weaving Company would be able to market successfully the extra output locally and outside Sudan.

The existing management of the General Spinning and Weaving Company, and generally of the mills, is willing and ready to fulfill the target set by the Government, namely, to turn the mills in the public sector profitable, provided there is sufficient support and assistance from the Government.

As Sudan is one of the most important cotton producing countries, and the demand for cotton yarn and articles increases rapidly, the Ministry of Industry and the Ministry of Finance and Economic Planning should support more the General Spinning and Weaving Company and its mills.

ANNEX

INCENTIVE WAGE SYSTEM
AT
KHARTOUM NORTH SPINNING MILL
KHARTOUM NORTH
SUDAN

PREPARED BY:
JOSEPH SAARY
DIPL. TEXTILE AND INDUSTRIAL ENGINEER
UNIDO TEXTILE MANAGEMENT CONSULTANT

INDEX

1. GENERAL
2. FACTORS OF THE INCENTIVE WAGE SYSTEM
 - 2.1 Personal Performance Factor
 - 2.2 Average Performance of the Mill
3. PAYMENT OF THE INCENTIVE WAGE BONUS
4. RATIO OF THE TOTAL PAID BONUS AND THE TOTAL NET REVENUE BY INCREASED PRODUCTION ON MONTHLY BASIS
 - 4.1 Calculation of the monthly sales revenue
 - 4.2 Calculation of the monthly Incentive Wage Bonus
 - 4.3 Calculation of the production costs
 - 4.4 Total Net Revenue
 - 4.5 Projected Productivity %
5. WORKLOAD OF LABOUR FORCE
6. FACTORS OF THE INCENTIVE WAGE BONUS IN THE DIFFERENT SECTIONS
 - 6.1 Sections: Opening, Carding and Combing
 - 6.2 Drawing and Speed Frame Sections
 - 6.3 Ring Spinning and Twisting Sections
 - 6.4 Ring Spinning Section: Doffers
 - 6.5 Winding Section
 - 6.6 Maintenance, Air conditioning, Electrical and Workshops
 - 6.7 Technical and Administrative Personnel
 - 6.8 Indirect Labour in the Production
7. CALCULATION OF THE INCENTIVE WAGE BONUS
 - 7.1 Person absent for some days or some hours.
 - 7.2 Factor 1 above standard performance but factor 2 is under standard performance
 - 7.3 Factor 1. under standard and Factor 2 is above standard
 - 7.4 Person in different working places during the month

1. GENERAL

The Incentive Wage System is the basis in every industry for a fair payment of the labour force and employees, because it is based on increased production, quality and higher performance of the labour force above an established standard performance.

The aim of the Incentive Wage System is to decide on higher production and better quality as well as to reduce absenteeism and the fluctuation of personnel.

The standard performance of an operator was elaborated according to International Time Study Standards in accordance with the actual machine conditions.

The established low value standard performance was based on the working rhythm of an average Sudanese labour - which is 30% lower than that of European labor, and the unsatisfactory condition of the machines due to lack of spare parts.

For example, in the ring spinning section, the average efficiency (production) in March 1990 was 31% and an operator had 1 - 1.5 machines to survey.

The established standard performance is 64% efficiency and an operator should survey 3 - 3.5 machines.

It means that the operators in the ring spinning section have not sufficient workload and they are working far below the standard performance. To get incentive wage bonus an operator must have 3 - 3.5 machines (depending on the yarn count) and has to achieve an average machine efficiency above 64% on monthly basis.

The mill has to increase the production and machine efficiency from the actual 31% to the established standard efficiency of 64% without any incentive wage bonus. The incentive wage bonus begins above the standard efficiency, thus from 65% efficiency.

All personnel employed by the mill will participate in the Incentive Wage System. The incentive wage bonus will be paid only for effective worked time and on a monthly basis.

2. FACTORS OF THE INCENTIVE WAGE SYSTEM

The Incentive Wage System is based on two factors:

- Personal performance which is based on individually achieved efficiencies on the surveyed machines:
- Average performance of the mill which is based on the production and efficiency of the average ring spinning performance.

Both factors are very important and directly influencing the amount of incentive wage bonus.

2.1 Personal Performance Factor

The Personal Performance Factor is based on machine efficiency and production of a work place achieved by an individual in a given period.

This factor is increasing in linear proportion by increase in machine efficiency and production, and will be calculated per operator and work place on shiftly, weekly and monthly terms.

The Personal Performance Factor is the basis of the Incentive Wage System and bonus will be paid only if the performance of a person is above the established standard performance. This factor will be explained in detail in every section.

2.2 Average Performance of the Mill

The average performance of the mill is based on the achieved average production and efficiency of the ring spinning section.

This factor represents 50% of the incentive wage bonus. The established standard efficiency of the ring spinning section is 64% and the factor increased in linear proportion by increased ring spinning efficiency.

This bonus will be paid only if the average ring spinning efficiency is above the established standard efficiency. This is valid if the mill is operating with profit.

This factor will be calculated also on shiftly, weekly and monthly terms.

The addition of the two factors gives the total incentive wage bonus of a person.

3. PAYMENT OF THE INCENTIVE WAGE BONUS

The incentive wage bonus will be paid once a month, but will be calculated for every shift and week, and so every person will get the possibility to analyze and increase it during the month.

4. RATIO OF THE TOTAL PAID BONUS AND THE TOTAL NET REVENUE BY INCREASED PRODUCTION ON MONTHLY BASIS

The ratio of the total paid bonus and the total net revenue by increased production on monthly basis is shown on Table No. 1 and explained hereunder:

As the sales revenue and the incentive wage bonus are based on the yarn production in the ring spinning section, the horizontal line represents the ring spinning production in efficiency percentage and the vertical line Sudanese Pounds in 1,000.

The actual efficiency in the ring spinning section was 31% which represents a sales revenue of Sf1,372,000 and paid salaries of Sf268,000.

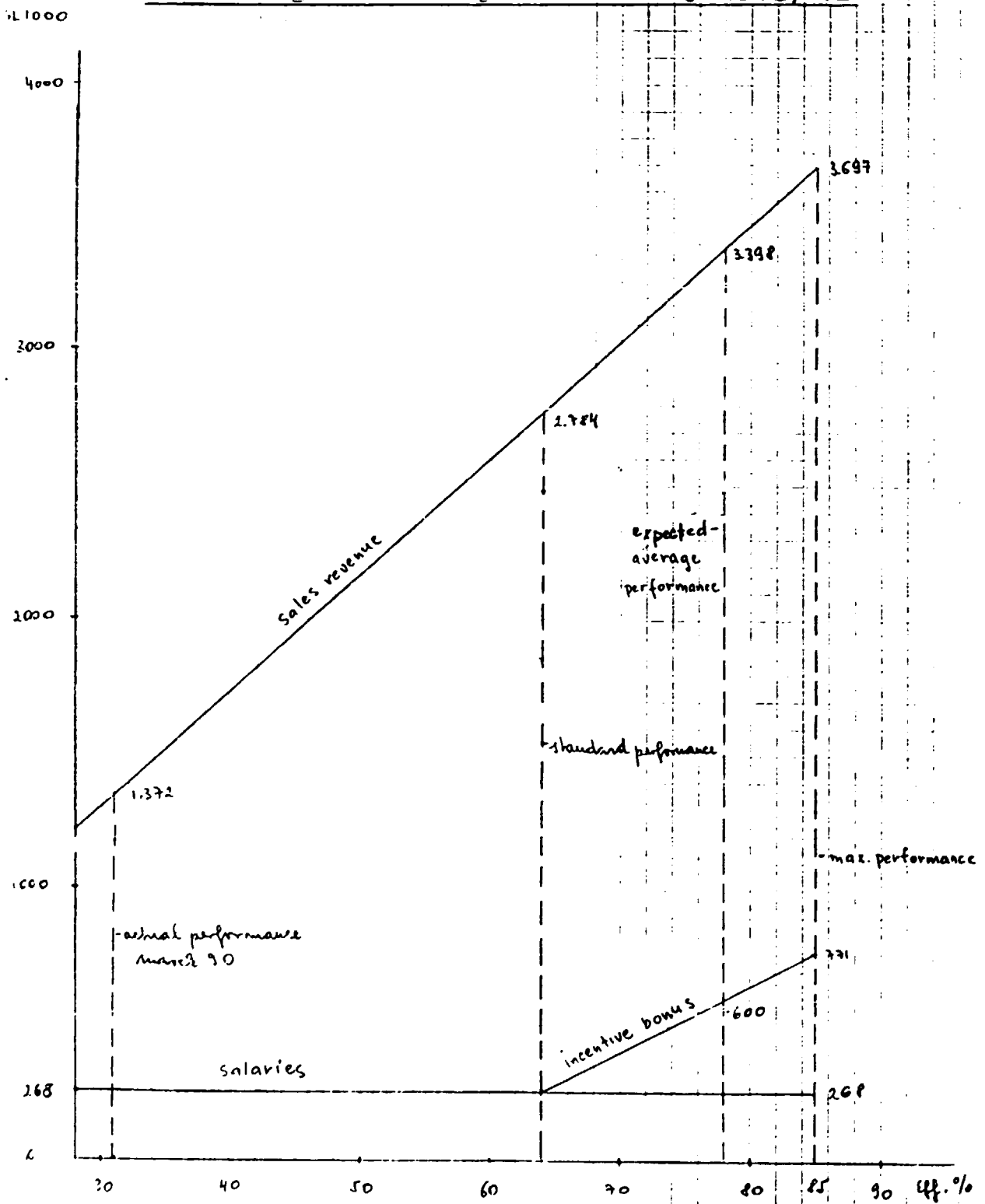
The standard performance of the ring spinning 64% which means that the mill has to increase production and efficiency up to 64%, more than twice the actual production, without paying any incentive wage bonus. In other words the mill has to increase the sales revenue per month from Sf1,372,000 up to Sf2,784,000 without paying incentive wage bonus.

The incentive wage bonus begins from 65% efficiency and increased linearly up to 85% efficiency.

If the mill reaches the maximum average efficiency the total sales revenue will be Sf3,697,000 against a total salary and bonus of Sf771,000 (salary Sf268,000 and incentive wage bonus Sf503,000). The expected average performance of the mill is 78% efficiency, which represents a sales revenue of Sf3,398,000 against salary and incentive wage bonus of Sf1,600,000.

Table No 1

TOTAL PAID BONUS AND TOTAL SALES REVENUE



4.1 Calculation of the monthly sales revenue

The new production programme of Khartoum North Spinning Mill shown on the Spinning Plan Table No. 2. This production programme per section was elaborated with the management of the mill and based on the actual machine condition, based on the production of 15 cards (8 cards are stopped because of damaged clothing). The sales prices were provided by the marketing department of the General Spinning and Weaving Company.

The sales prices of one kg yarn are as follows:

| | |
|---------|----------|
| № 30: | Sf 39.50 |
| № 36: | Sf 42.50 |
| № 30/2: | Sf 51.50 |

The sales revenue from different wastes are not calculated.

4.2 Calculation of the monthly Incentive Wage Bonus

The total monthly incentive wage bonus contains all personnel employed in the mill in March 1990 namely 565 persons.

The projection of the total incentive wage bonus was based also on the above mentioned personnel, and it did not take into consideration the reduction of the labour force through the elaboration and introduction of justified workloads, and through the incentive wage bonus reduced absenteeism and fluctuation of personnel.

The incentive wage bonus begins above the standard performance with a minimum of Sf30 per month and person, and ending with a maximum of Sf890 per month and person. The composition and factors of the incentive wage bonus in the different sections, production stages shown in detail under point 5.

SPINNING PLAN FOR KHARTOUM NORTH SPINNING MILL Table No.2

20.4.90

| Section | Ne | Draft | T/m | Spindle n.p.m. | Delivery ml/min. | Thro prod per unit 19.6/19.6 | Eff. in. % | Real prod. per unit 19.6/19.6 | Waste % | Required prod. kg | Required unit | Required machine |
|-----------------|------|-------|----------------|-------------------|---------------------|------------------------------------|---------------|-------------------------------------|------------|-------------------------|------------------|---------------------|
| Winding | 30/2 | | | | 650 | 1534.22 | 75 | 1150.66 | 0.1 | 78.58 | 67 | 1 |
| Twisting | 30/2 | | 17.42 686.7 | 9000 | 13.10 | 30.94 | 85 | 26.19 | 0.1 | 78.66 | 2992 | 9 |
| Doubling | 30/2 | 2 | | | 650 | 1534.22 | 77 | 1181.34 | 0.1 | 78.73 | 67 | 1 |
| Winding | 36 | | | | 650 | 639.34 | 70 | 447.53 | 0.1 | 145.71 | 326 | 3.40 |
| Winding | 30 | | | | 650 | 767.71 | 70 | 537.39 | 0.1 | 78.76 | 147 | 1.53 |
| Ring spinning | 36 | | 23.4 922 | 11.500 | 12.47 | 12.18 | 85 | 10.42 | 3 | 145.86 | 13.998 | 34 |
| Ring spinning | 30 | | 21.36 842 | 11.500 | 13.65 | 16.12 | 84.7 | 13.65 | 3 | 78.80 | 5773 | 14 |
| Speed frame | 1:17 | | 128 50.3 | 1000 | 19.88 | 601.51 | 75 | 451.13 | 1 | 231.61 | 514 | 6 |
| Drawing 2nd | 0.14 | 8 | | | 225 | 56.96 | 70 | 39.87 | 0.6 | 233.95 | 5.25 | 8 |
| Drawing 1st | 0.14 | 8 | | | 225 | 56.96 | 70 | 39.87 | 0.6 | 235.37 | 5.9 | 3 |
| Catching | 0.14 | 100 | | | 65 | 16.15 | 90 | 14.80 | 5 | 236.8 | 16 | 16 |
| Opening | | | | | | 200 | 90 | 180 | 5 | 249.26 | 1538 | 2 |
| Requires cotton | | | | | | | | | | 262.38 | | |

4.3 Calculation of the production costs

The calculation of the production costs was carried out with the cost accounting section of the mill and based on the actual dates achieved in March 1990.

The base of the calculation was the actual mill performance namely 31% efficiency. The projected production costs for expected average performance - 78% efficiency and maximum performance 85% efficiency were computed from the 31% efficiency. The production cost in Sf are as follows:

| | 31% eff. March 1990 | 78% eff. | 85% eff. |
|----------------|------------------------|---------------|---------------|
| Raw material | 430.014 | 1.081.970 | 1.179.070 |
| Salaries | 266.732 | 268.732 | 268.732 |
| Bonus | --- | 364.990 | 502.850 |
| Consumable | 162.476 | 409.062 | 445.772 |
| Cash from Bank | 150.910 | 150.910 | 150.910 |
| Depreciation | 201.506 | 201.506 | 201.506 |
| Insurance | <u>10.448</u> | <u>10.448</u> | <u>10.448</u> |
| Total | 1.224.188 | 2.487.618 | 2.759.288 |

The cash position from the bank, depreciation, and insurance are lump sums and do not change with increased production and efficiency.

4.4 Total Net Revenue

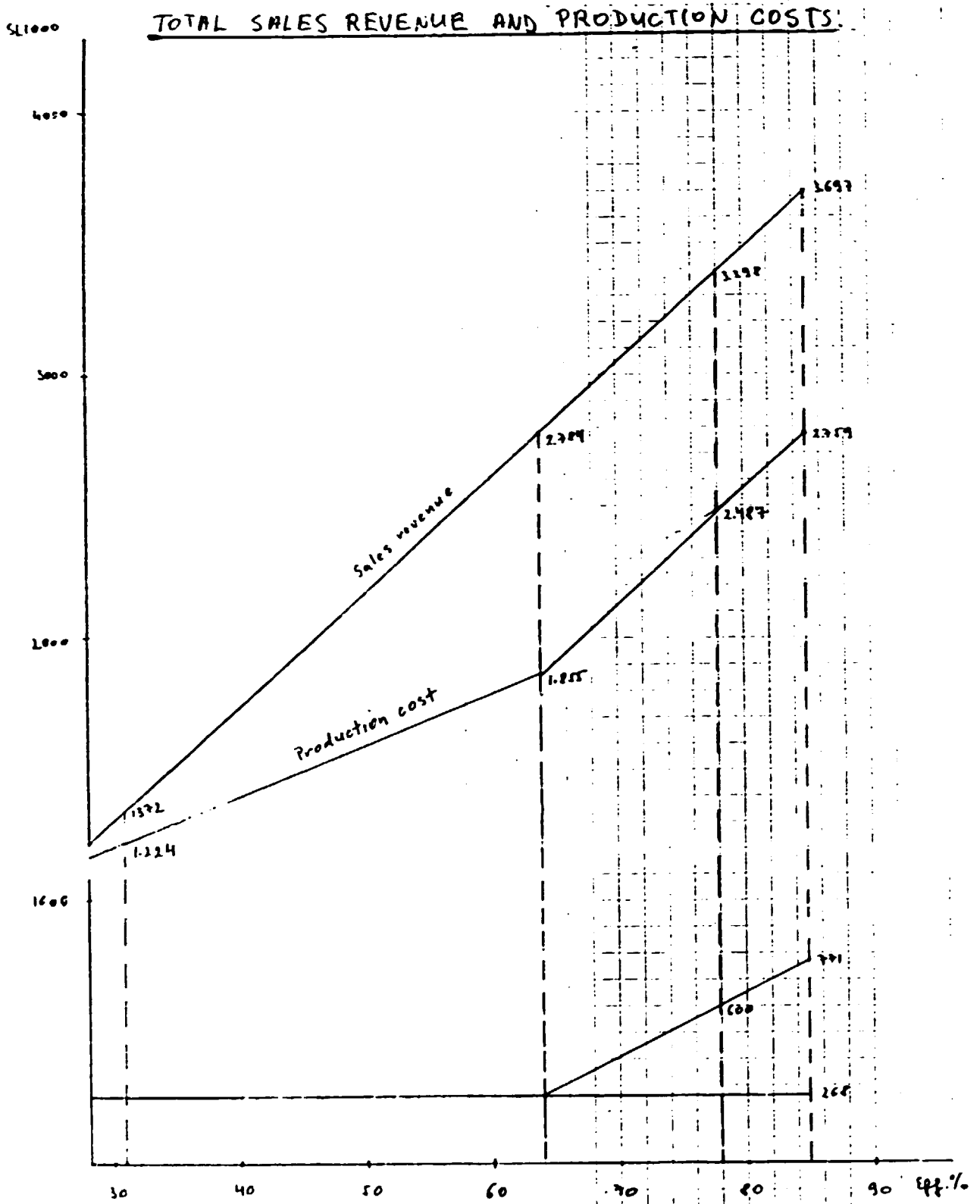
The total net revenue computed from the sales revenue and the production cost of Sf are as follows:

| | 31% March 1990 | Expected performance 78% | Maximum performance 85% |
|-----------------|-------------------|--------------------------------|-------------------------------|
| Sales Revenue | 1.372.372 | 3.398.064 | 3.697.623 |
| Production Cost | <u>1.224.188</u> | <u>2.487.618</u> | <u>2.759.288</u> |
| Net Revenue | 148.184 | 910.446 | 938.335 |

The sales revenue is calculated only from the yarn production to be sold and does not take into consideration the sales revenues of the different wastes.

The sales revenue and production costs are shown on Table No. 3.

Table No 3



4.5 Projected Productivity %

Productivity in a spinning mill means the utilized man minutes to produce one kg yarn. The calculation was made with the total personnel (565) and the achieved and projected production. The base here also are the actual data achieved in March 1990.

| | 31 st March 1990 | Expected Performance 78% | Maximum Performance 85% |
|-------------------------|--------------------------------|--------------------------------|-------------------------------|
| Man minutes/ kg yarn | 139.23 | 81.99 | 75.34 |
| Productivity % | 100.00 | 230.80 | 251.17 |

5. WORKLOAD OF LABOUR FORCE

The labour force in the mill is underutilized and consequently at any given time many of the personal "enjoy" spare time, sitting, or moving around idly.

Such underutilization of the work force has a negative psychological effect. It does not lead to increased care, control or efficiency, but to more stoppages and other problems.

It is imperative to adjust the workload of the labour force to a justified standard which is the base of increased production and productivity and a successful introduction of the Incentive Wage System.

The workload of the labour force per section has to be adjusted as follows:

| | Actual | Proposed | Remarks |
|--------------------------|--------|----------|-------------------------------|
| Opening | | | |
| Operator | 2 | 1 | |
| Feeder | 2 | 1 | |
| Mixer | 3 | 1 | |
| Carding | | | |
| Operator | 5 | 3 | 8 cards per operator |
| Combing | | | |
| Sliver lap operator | 2 | 1 | 2 machines per operator |
| Ribbon lap operator | 2 | 1 | 2 machines per operator |
| Comber operator | 6 | 3 | 4 machines per operator |
| Drawing | | | |
| Operator | 6 | 3 | 2 machines per operator |
| Speed frame | | | |
| Operator | 6 | 6 | 1 machine per operator |
| Doffer | 6 | 3 | |
| Ring spinning | | | |
| Operator ne 30 | 14 | 5 | 3 machines per operator |
| Operator ne 36 | 23 | 10 | 3.5 machines per operator |
| Doffers | 12 | 8 | |
| Cone winding | | | |
| Operator | 30 | 20 | 24 winding heads per operator |
| Doubling | | | |
| Operator | 7 | 2 | 48 heads per operator |
| Twisting | | | |
| Operator | 7 | 3 | 3 machines per operator |
| Doffers | 3 | 3 | |
| Winding for twisted yarn | | | |
| Operator | 5 | 4 | 24 winding heads per operator |
| | <hr/> | <hr/> | |
| | 141 | 78 | |

6. FACTORS OF THE INCENTIVE WAGE BONUS IN THE DIFFERENT SECTIONS

In every section (production stages) and position the Incentive Wage Bonus is based on two factors: personnel performance on the surveyed machines and the average ring spinning efficiency. The addition of these two factors gives the total amount of the Incentive Wage Bonus of a work place.

Both factors are directly influenced by the individual, whereby the quantity and quality of the performed work influences additionally the performance and the bonus of the following sections.

The factors of the Incentive Wage Bonus in the different sections defined under the following points:

6.1 Sections: Opening, Carding and Combing

Factor 1: Personnel performance per work place

- opening: efficiency of scutcher
- carding: efficiency of cards
- combing:
 - sliver lap: efficiency of sliver lap machines
 - ribbon lap: efficiency of ribbon lap machines
 - combers: efficiency of combers

In all these sections the standard performance is 75% efficiency and maximum performance is 90% efficiency.

Factor 2: Average efficiency of the ring spinning section per shift.

The standard efficiency is 64% and maximum is 85%.

The Incentive Wage Bonus is shown on Table No. 4.

OPERATOR BONUS ON SWITCHER, CARDS AND COMBERS IN SL. TABLE 1/24

SCUTCHER, CARDS AND COMBERS EFFICIENCY IN %

| Ring Spinning Eff. % | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 |
| 66 | 52 | 81 | 112 | 142 | 172 | 202 | 232 | 262 | 292 | 322 | 352 | 382 | 412 | 442 |
| 67 | 74 | 104 | 134 | 164 | 194 | 224 | 254 | 284 | 314 | 344 | 374 | 404 | 434 | 464 |
| 68 | 96 | 126 | 156 | 186 | 216 | 246 | 276 | 306 | 336 | 366 | 396 | 426 | 456 | 486 |
| 69 | 118 | 148 | 178 | 208 | 238 | 268 | 298 | 328 | 358 | 388 | 418 | 448 | 478 | 508 |
| 70 | 140 | 170 | 200 | 230 | 260 | 290 | 320 | 350 | 380 | 410 | 440 | 470 | 500 | 530 |
| 71 | 162 | 192 | 222 | 252 | 282 | 312 | 342 | 372 | 402 | 432 | 462 | 492 | 522 | 552 |
| 72 | 184 | 214 | 244 | 274 | 304 | 334 | 364 | 394 | 424 | 454 | 484 | 514 | 544 | 574 |
| 73 | 206 | 236 | 266 | 296 | 326 | 356 | 386 | 416 | 446 | 476 | 506 | 536 | 566 | 596 |
| 74 | 228 | 258 | 288 | 318 | 348 | 378 | 408 | 438 | 468 | 498 | 528 | 558 | 588 | 618 |
| 75 | 250 | 280 | 310 | 340 | 370 | 400 | 430 | 460 | 490 | 520 | 550 | 580 | 610 | 640 |
| 76 | 272 | 302 | 332 | 362 | 392 | 422 | 452 | 482 | 512 | 542 | 572 | 602 | 632 | 662 |
| 77 | 294 | 324 | 354 | 384 | 414 | 444 | 474 | 504 | 534 | 564 | 594 | 624 | 654 | 684 |
| 78 | 316 | 346 | 376 | 406 | 436 | 466 | 496 | 526 | 556 | 586 | 616 | 646 | 676 | 706 |
| 79 | 338 | 368 | 398 | 428 | 458 | 488 | 518 | 548 | 578 | 608 | 638 | 668 | 698 | 728 |
| 80 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 |
| 81 | 382 | 412 | 442 | 472 | 502 | 532 | 562 | 592 | 622 | 652 | 682 | 712 | 742 | 772 |
| 82 | 404 | 434 | 464 | 494 | 524 | 554 | 584 | 614 | 644 | 674 | 704 | 734 | 764 | 794 |
| 83 | 426 | 456 | 486 | 516 | 546 | 576 | 606 | 636 | 666 | 696 | 726 | 756 | 786 | 816 |
| 84 | 448 | 478 | 508 | 538 | 568 | 598 | 628 | 658 | 688 | 718 | 748 | 778 | 808 | 838 |
| 85 | 470 | 500 | 530 | 560 | 590 | 620 | 650 | 680 | 710 | 740 | 770 | 800 | 830 | 860 |

6.2 Drawing and Speed Frame Sections

Factor 1: Personal performance per work place
- drawing: efficiency of drawing frames
- speed frame: efficiency of speed frame
The standard efficiency of these sections is 60% and the maximum efficiency is 75%.

Factor 2: Average efficiency of the ring spinning section per shift.
The standard efficiency is 64% and the maximum efficiency is 80%.

The Incentive Wage Bonus is shown on Table No. 5.

OPERATOR BONUS ON DRAWING AND SPEED FRAMES IN SL. Table No. 5

| Ring sp. Efficiency % | DRAWING AND SPEED FRAMES EFFICIENCY IN % | | | | | | | | | | | | | | |
|-----------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
| 65 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 |
| 66 | 52 | 82 | 112 | 142 | 172 | 202 | 232 | 262 | 292 | 322 | 352 | 382 | 412 | 442 | 472 |
| 67 | 74 | 104 | 134 | 164 | 194 | 224 | 254 | 284 | 314 | 344 | 374 | 404 | 434 | 464 | 494 |
| 68 | 96 | 126 | 156 | 186 | 216 | 246 | 276 | 306 | 336 | 366 | 396 | 426 | 456 | 486 | 516 |
| 69 | 118 | 148 | 178 | 208 | 238 | 268 | 298 | 328 | 358 | 388 | 418 | 448 | 478 | 508 | 538 |
| 70 | 140 | 170 | 200 | 230 | 260 | 290 | 320 | 350 | 380 | 410 | 440 | 470 | 500 | 530 | 560 |
| 71 | 162 | 192 | 222 | 252 | 282 | 312 | 342 | 372 | 402 | 432 | 462 | 492 | 522 | 552 | 582 |
| 72 | 184 | 214 | 244 | 274 | 304 | 334 | 364 | 394 | 424 | 454 | 484 | 514 | 544 | 574 | 604 |
| 73 | 206 | 236 | 266 | 296 | 326 | 356 | 386 | 416 | 446 | 476 | 506 | 536 | 566 | 596 | 626 |
| 74 | 228 | 258 | 288 | 318 | 348 | 378 | 408 | 438 | 468 | 498 | 528 | 558 | 588 | 618 | 648 |
| 75 | 250 | 280 | 310 | 340 | 370 | 400 | 430 | 460 | 490 | 520 | 550 | 580 | 610 | 640 | 670 |
| 76 | 272 | 302 | 332 | 362 | 392 | 422 | 452 | 482 | 512 | 542 | 572 | 602 | 632 | 662 | 692 |
| 77 | 294 | 324 | 354 | 384 | 414 | 444 | 474 | 504 | 534 | 564 | 594 | 624 | 654 | 684 | 714 |
| 78 | 316 | 346 | 376 | 406 | 436 | 466 | 496 | 526 | 556 | 586 | 616 | 646 | 676 | 706 | 736 |
| 79 | 338 | 368 | 398 | 428 | 458 | 488 | 518 | 548 | 578 | 608 | 638 | 668 | 698 | 728 | 758 |
| 80 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 | 780 |
| 81 | 382 | 412 | 442 | 472 | 502 | 532 | 562 | 592 | 622 | 652 | 682 | 712 | 742 | 772 | 802 |
| 82 | 404 | 434 | 464 | 494 | 524 | 554 | 584 | 614 | 644 | 674 | 704 | 734 | 764 | 794 | 824 |
| 83 | 426 | 456 | 486 | 516 | 546 | 576 | 606 | 636 | 666 | 696 | 726 | 756 | 786 | 816 | 846 |
| 84 | 448 | 478 | 508 | 538 | 568 | 598 | 628 | 658 | 688 | 718 | 748 | 778 | 808 | 838 | 868 |
| 85 | 470 | 500 | 530 | 560 | 590 | 620 | 650 | 680 | 710 | 740 | 770 | 800 | 830 | 860 | 890 |

6.3 Ring Spinning and Twisting Sections

Factor 1: Personal performance per work place

- ring spinning: efficiency of ring spinning machines

- twisting: efficiency of twisting machines.

The standard efficiency is 76% and the maximum efficiency is 91%.

Factor 2: Ring spinning: The average efficiency of the ring spinning sections per shift.

Twisting: The average efficiency of twisting section per shift.

The Incentive Wage Bonus is shown on Table No. 6.

OPERATOR BONUS ON RING SPINNING AND TWISTING MACHINES IN SL. Table M.6

| Effici. of sect. % | RING SPINNING AND TWISTING MACHINES EFFICIENCY IN % | | | | | | | | | | | | | | | | |
|--------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | | |
| 65 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | | |
| 66 | 52 | 82 | 112 | 142 | 172 | 202 | 232 | 262 | 292 | 322 | 352 | 382 | 412 | 442 | 472 | | |
| 67 | 74 | 104 | 134 | 164 | 194 | 224 | 254 | 284 | 314 | 344 | 374 | 404 | 434 | 464 | 494 | | |
| 68 | 96 | 126 | 156 | 186 | 216 | 246 | 276 | 306 | 336 | 366 | 396 | 426 | 456 | 486 | 516 | | |
| 69 | 118 | 148 | 178 | 208 | 238 | 268 | 298 | 328 | 358 | 388 | 418 | 448 | 478 | 508 | 538 | | |
| 70 | 140 | 170 | 200 | 230 | 260 | 290 | 320 | 350 | 380 | 410 | 440 | 470 | 500 | 530 | 560 | | |
| 71 | 162 | 192 | 222 | 252 | 282 | 312 | 342 | 372 | 402 | 432 | 462 | 492 | 522 | 552 | 582 | | |
| 72 | 184 | 214 | 244 | 274 | 304 | 334 | 364 | 394 | 424 | 454 | 484 | 514 | 544 | 574 | 604 | | |
| 73 | 206 | 236 | 266 | 296 | 326 | 356 | 386 | 416 | 446 | 476 | 506 | 536 | 566 | 596 | 626 | | |
| 74 | 228 | 258 | 288 | 318 | 348 | 378 | 408 | 438 | 468 | 498 | 528 | 558 | 588 | 618 | 648 | | |
| 75 | 250 | 280 | 310 | 340 | 370 | 400 | 430 | 460 | 490 | 520 | 550 | 580 | 610 | 640 | 670 | | |
| 76 | 272 | 302 | 332 | 362 | 392 | 422 | 452 | 482 | 512 | 542 | 572 | 602 | 632 | 662 | 692 | | |
| 77 | 294 | 324 | 354 | 384 | 414 | 444 | 474 | 504 | 534 | 564 | 594 | 624 | 654 | 684 | 714 | | |
| 78 | 316 | 346 | 376 | 406 | 436 | 466 | 496 | 526 | 556 | 586 | 616 | 646 | 676 | 706 | 736 | | |
| 79 | 338 | 368 | 398 | 428 | 458 | 488 | 518 | 548 | 578 | 608 | 638 | 668 | 698 | 728 | 758 | | |
| 80 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 | 780 | | |
| 81 | 382 | 412 | 442 | 472 | 502 | 532 | 562 | 592 | 622 | 652 | 682 | 712 | 742 | 772 | 802 | | |
| 82 | 404 | 434 | 464 | 494 | 524 | 554 | 584 | 614 | 644 | 674 | 704 | 734 | 764 | 794 | 824 | | |
| 83 | 426 | 456 | 486 | 516 | 546 | 576 | 606 | 636 | 666 | 696 | 726 | 756 | 786 | 816 | 846 | | |
| 84 | 448 | 478 | 508 | 538 | 568 | 598 | 628 | 658 | 688 | 718 | 748 | 778 | 808 | 838 | 868 | | |
| 85 | 470 | 500 | 530 | 560 | 590 | 620 | 650 | 680 | 710 | 740 | 770 | 800 | 830 | 860 | 890 | | |

6.4 Ring Spinning Section: Doffers

Factor 1: Personal Performance. the executed doffs per group per shift.

The standard performance is 100% and is equal to 24 doffs per shift and group. and maximum performance is 115% and is equal to 30 doffs per shift and group.

| | | doffs per shift per group |
|------|------|---------------------------|
| 100% | 24 | |
| 101 | 24.4 | " |
| 102 | 24.8 | " |
| 103 | 25.2 | " |
| 104 | 25.6 | " |
| 105 | 26.0 | " |
| 106 | 26.4 | " |
| 107 | 26.8 | " |
| 108 | 27.2 | " |
| 109 | 27.6 | " |
| 110 | 28.0 | " |
| 111 | 28.4 | " |
| 112 | 28.8 | " |
| 113 | 29.2 | " |
| 114 | 29.6 | " |
| 115 | 30.0 | " |

Factor 2: The average efficiency of the ring spinning section per shift.

The standard efficiency is 64% and the maximum efficiency is 85%.

The Incentive Wage Bonus is shown on Table No. 7.

RINGS SPINNING DOFFERS BOXES IN SL. Table No. 7

| Ring # Effic. % | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 25 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 |
| 26 | 52 | 82 | 112 | 142 | 172 | 202 | 232 | 262 | 292 | 322 | 352 | 382 | 412 | 442 | 472 |
| 67 | 74 | 104 | 134 | 164 | 194 | 224 | 254 | 284 | 314 | 344 | 374 | 404 | 434 | 464 | 494 |
| 68 | 96 | 126 | 156 | 186 | 216 | 246 | 276 | 306 | 336 | 366 | 396 | 426 | 456 | 486 | 516 |
| 69 | 118 | 148 | 178 | 208 | 238 | 268 | 298 | 328 | 358 | 388 | 418 | 448 | 478 | 508 | 538 |
| 70 | 140 | 170 | 200 | 230 | 260 | 290 | 320 | 350 | 380 | 410 | 440 | 470 | 500 | 530 | 560 |
| 71 | 162 | 192 | 222 | 252 | 282 | 312 | 342 | 372 | 402 | 432 | 462 | 492 | 522 | 552 | 582 |
| 72 | 184 | 214 | 244 | 274 | 304 | 334 | 364 | 394 | 424 | 454 | 484 | 514 | 544 | 574 | 604 |
| 73 | 206 | 236 | 266 | 296 | 326 | 356 | 386 | 416 | 446 | 476 | 506 | 536 | 566 | 596 | 626 |
| 74 | 228 | 258 | 288 | 318 | 348 | 378 | 408 | 438 | 468 | 498 | 528 | 558 | 588 | 618 | 648 |
| 75 | 250 | 280 | 310 | 340 | 370 | 400 | 430 | 460 | 490 | 520 | 550 | 580 | 610 | 640 | 670 |
| 76 | 272 | 302 | 332 | 362 | 392 | 422 | 452 | 482 | 512 | 542 | 572 | 602 | 632 | 662 | 692 |
| 77 | 294 | 324 | 354 | 384 | 414 | 444 | 474 | 504 | 534 | 564 | 594 | 624 | 654 | 684 | 714 |
| 78 | 316 | 346 | 376 | 406 | 436 | 466 | 496 | 526 | 556 | 586 | 616 | 646 | 676 | 706 | 736 |
| 79 | 338 | 368 | 398 | 428 | 458 | 488 | 518 | 548 | 578 | 608 | 638 | 668 | 698 | 728 | 758 |
| 80 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 | 780 |
| 81 | 382 | 412 | 442 | 472 | 502 | 532 | 562 | 592 | 622 | 652 | 682 | 712 | 742 | 772 | 802 |
| 82 | 404 | 434 | 464 | 494 | 524 | 554 | 584 | 614 | 644 | 674 | 704 | 734 | 764 | 794 | 824 |
| 83 | 426 | 456 | 486 | 516 | 546 | 576 | 606 | 636 | 666 | 696 | 726 | 756 | 786 | 816 | 846 |
| 84 | 448 | 478 | 508 | 538 | 568 | 598 | 628 | 658 | 688 | 718 | 748 | 778 | 808 | 838 | 868 |
| 85 | 470 | 500 | 530 | 560 | 590 | 620 | 650 | 680 | 710 | 740 | 770 | 800 | 830 | 860 | 890 |

6.5 Winding Section

Factor 1: Personal performance per work place, efficiency of winding machines.

The standard efficiency is 65% and the maximum efficiency is 80%.

Factor 2: The average efficiency of the winding section per shift.

The standard efficiency is 64% and the maximum efficiency is 75%.

The Incentive Wage Bonus is shown on Table No. 8.

OPERATOR BONUS ON WINDING MACHINES IN ST. Table No. 2

| Section No. | WINDING MACHINES EFFICIENCY IN % | | | | | | | | | | | | | | |
|----------------|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 65 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 |
| 65.5 | 52 | 82 | 112 | 142 | 172 | 202 | 232 | 262 | 292 | 322 | 352 | 382 | 412 | 442 | 472 |
| 66 | 74 | 104 | 134 | 164 | 194 | 224 | 254 | 284 | 314 | 344 | 374 | 404 | 434 | 464 | 494 |
| 66.5 | 96 | 126 | 156 | 186 | 216 | 246 | 276 | 306 | 336 | 366 | 396 | 426 | 456 | 486 | 516 |
| 67 | 118 | 148 | 178 | 208 | 238 | 268 | 298 | 328 | 358 | 388 | 418 | 448 | 478 | 508 | 538 |
| 67.5 | 140 | 170 | 200 | 230 | 260 | 290 | 320 | 350 | 380 | 410 | 440 | 470 | 500 | 530 | 560 |
| 68 | 162 | 192 | 222 | 252 | 282 | 312 | 342 | 372 | 402 | 432 | 462 | 492 | 522 | 552 | 582 |
| 68.5 | 184 | 214 | 244 | 274 | 304 | 334 | 364 | 394 | 424 | 454 | 484 | 514 | 544 | 574 | 604 |
| 69 | 206 | 236 | 266 | 296 | 326 | 356 | 386 | 416 | 446 | 476 | 506 | 536 | 566 | 596 | 626 |
| 69.5 | 228 | 258 | 288 | 318 | 348 | 378 | 408 | 438 | 468 | 498 | 528 | 558 | 588 | 618 | 648 |
| 70 | 250 | 280 | 310 | 340 | 370 | 400 | 430 | 460 | 490 | 520 | 550 | 580 | 610 | 640 | 670 |
| 70.5 | 272 | 302 | 332 | 362 | 392 | 422 | 452 | 482 | 512 | 542 | 572 | 602 | 632 | 662 | 692 |
| 71 | 294 | 324 | 354 | 384 | 414 | 444 | 474 | 504 | 534 | 564 | 594 | 624 | 654 | 684 | 714 |
| 71.5 | 316 | 346 | 376 | 406 | 436 | 466 | 496 | 526 | 556 | 586 | 616 | 646 | 676 | 706 | 736 |
| 72 | 338 | 368 | 398 | 428 | 458 | 488 | 518 | 548 | 578 | 608 | 638 | 668 | 698 | 728 | 758 |
| 72.5 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 | 780 |
| 73 | 382 | 412 | 442 | 472 | 502 | 532 | 562 | 592 | 622 | 652 | 682 | 712 | 742 | 772 | 802 |
| 73.5 | 404 | 434 | 464 | 494 | 524 | 554 | 584 | 614 | 644 | 674 | 704 | 734 | 764 | 794 | 824 |
| 74 | 426 | 456 | 486 | 516 | 546 | 576 | 606 | 636 | 666 | 696 | 726 | 756 | 786 | 816 | 846 |
| 74.5 | 448 | 478 | 508 | 538 | 568 | 598 | 628 | 658 | 688 | 718 | 748 | 778 | 808 | 838 | 868 |
| 75 | 470 | 500 | 530 | 560 | 590 | 620 | 650 | 680 | 710 | 740 | 770 | 800 | 830 | 860 | 890 |

6.6 Maintenance, Air conditioning, Electrical and Workshops

Factor 1: The performance of machine stoppages in the ring spinning section (average of the shifts).
The standard percentage of the ring spinning machines is 10.1% and the minimum percentage is 5.05%.

Factor 2: The average ring spinning efficiency.
The standard efficiency is 64% and the maximum efficiency is 85%.

The Incentive Wage Bonus increases with the reduction of the percentage of machine stoppages. This is shown on Table No. 9.

MAINTENANCE, AIR CONDITIONING, ELECTRICAL AND WORK SHOP PERSONNEL'S BEHAVIOR Table No. 9

AVERAGE MACHINE STOPS PERCENTAGE IN RING SPINNING

| Ring # | 10.5 | 9.65 | 9.30 | 8.95 | 8.60 | 8.25 | 7.90 | 7.55 | 7.20 | 6.85 | 6.45 | 6.10 | 5.75 | 5.40 | 5.05 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 65 | 34 | 68 | 102 | 136 | 170 | 204 | 238 | 272 | 306 | 340 | 374 | 408 | 442 | 476 | 510 |
| 66 | 59 | 93 | 127 | 161 | 195 | 229 | 263 | 297 | 331 | 365 | 399 | 433 | 467 | 501 | 535 |
| 67 | 84 | 118 | 152 | 186 | 220 | 254 | 288 | 322 | 356 | 390 | 424 | 458 | 492 | 526 | 560 |
| 68 | 109 | 143 | 177 | 211 | 245 | 279 | 313 | 347 | 381 | 415 | 449 | 483 | 517 | 551 | 585 |
| 69 | 134 | 168 | 202 | 236 | 270 | 304 | 338 | 372 | 406 | 440 | 474 | 508 | 542 | 576 | 610 |
| 70 | 159 | 193 | 227 | 261 | 295 | 329 | 363 | 397 | 431 | 465 | 499 | 533 | 567 | 601 | 635 |
| 71 | 184 | 218 | 252 | 286 | 320 | 354 | 388 | 422 | 456 | 490 | 524 | 558 | 592 | 626 | 660 |
| 72 | 209 | 243 | 277 | 311 | 345 | 379 | 413 | 447 | 481 | 515 | 549 | 583 | 617 | 651 | 685 |
| 73 | 234 | 268 | 302 | 336 | 370 | 404 | 438 | 472 | 506 | 540 | 574 | 608 | 642 | 676 | 710 |
| 74 | 259 | 293 | 327 | 361 | 395 | 429 | 463 | 497 | 531 | 565 | 599 | 633 | 667 | 701 | 735 |
| 75 | 284 | 318 | 352 | 386 | 420 | 454 | 488 | 522 | 556 | 590 | 624 | 658 | 692 | 726 | 760 |
| 76 | 309 | 343 | 377 | 411 | 445 | 479 | 513 | 547 | 581 | 615 | 649 | 683 | 717 | 751 | 785 |
| 77 | 334 | 368 | 402 | 436 | 470 | 504 | 538 | 572 | 606 | 640 | 674 | 708 | 742 | 776 | 810 |
| 78 | 359 | 393 | 427 | 461 | 495 | 529 | 563 | 597 | 631 | 665 | 699 | 733 | 767 | 801 | 835 |
| 79 | 384 | 418 | 452 | 486 | 520 | 554 | 588 | 622 | 656 | 690 | 724 | 758 | 792 | 826 | 860 |
| 80 | 409 | 443 | 477 | 511 | 545 | 579 | 613 | 647 | 681 | 715 | 749 | 783 | 817 | 851 | 885 |
| 81 | 434 | 468 | 502 | 536 | 570 | 604 | 638 | 672 | 706 | 740 | 774 | 808 | 842 | 876 | 910 |
| 82 | 459 | 493 | 527 | 561 | 595 | 629 | 663 | 697 | 731 | 765 | 799 | 833 | 867 | 901 | 935 |
| 83 | 484 | 518 | 552 | 586 | 620 | 654 | 688 | 722 | 756 | 790 | 824 | 858 | 892 | 926 | 960 |
| 84 | 509 | 543 | 577 | 611 | 645 | 679 | 713 | 747 | 781 | 815 | 849 | 883 | 917 | 951 | 985 |
| 85 | 534 | 568 | 602 | 636 | 670 | 704 | 738 | 772 | 806 | 840 | 874 | 908 | 942 | 976 | 1010 |

6.7 Technical and Administrative Personnel

- Shift in charge and Assistant Shift in charge. The average ring spinning efficiency per shift. The standard efficiency is 64% and the maximum efficiency is 85%.
- All other technical and administrative personnel. The average efficiency of the ring spinning section (average of the shifts). The standard efficiency is 64% and the maximum efficiency is 85%.

The Incentive Wage Bonus is shown on Table No. 10.

TECHNICAL AND ADMINISTRATIVE PERSONNEL Table No 10

| Ring Sp Efficiency % | Shift in CHARGE | Ass. Shift in CHARGE | All three + Adm. pers. Salary is the base of Salary | | | | | | | | | | | | | | | |
|----------------------------|--------------------|-------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 65 | 70 | 56 | 1/21 | | | | | | | | | | | | | | | |
| 66 | 140 | 112 | 2/21 | | | | | | | | | | | | | | | |
| 67 | 210 | 168 | 1/7 | | | | | | | | | | | | | | | |
| 68 | 280 | 224 | 4/21 | | | | | | | | | | | | | | | |
| 69 | 350 | 280 | 5/21 | | | | | | | | | | | | | | | |
| 70 | 420 | 336 | 2/7 | | | | | | | | | | | | | | | |
| 71 | 490 | 392 | 1/3 | | | | | | | | | | | | | | | |
| 72 | 560 | 448 | 8/21 | | | | | | | | | | | | | | | |
| 73 | 630 | 504 | 3/7 | | | | | | | | | | | | | | | |
| 74 | 700 | 560 | 10/21 | | | | | | | | | | | | | | | |
| 75 | 770 | 616 | 11/21 | | | | | | | | | | | | | | | |
| 76 | 840 | 672 | 4/7 | | | | | | | | | | | | | | | |
| 77 | 910 | 728 | 13/21 | | | | | | | | | | | | | | | |
| 78 | 980 | 784 | 2/3 | | | | | | | | | | | | | | | |
| 79 | 1050 | 840 | 5/7 | | | | | | | | | | | | | | | |
| 80 | 1120 | 896 | 16/21 | | | | | | | | | | | | | | | |
| 81 | 1190 | 952 | 17/21 | | | | | | | | | | | | | | | |
| 82 | 1260 | 1008 | 6/7 | | | | | | | | | | | | | | | |
| 83 | 1330 | 1064 | 19/21 | | | | | | | | | | | | | | | |
| 84 | 1400 | 1120 | 20/21 | | | | | | | | | | | | | | | |
| 85 | 1470 | 1176 | 1.- | | | | | | | | | | | | | | | |

6.8 Indirect Labour in the Production

Opening

| | |
|----------|--------------------------------------|
| Feeder: | 80% of the scutcher operator's bonus |
| Mixer : | 75% of the scutcher operator's bonus |
| Sweeper: | 65% of the scutcher operator's bonus |

Carding

| | |
|-------------|--|
| Transport: | 75% of the average operator's bonus |
| Sweeper} | |
| Filter): | 65% of average combing operator's bonus |
| Mechanic: | 110% of average combing operator's bonus |
| Supervisor: | 120% of average combing operator's bonus |

Combing

| | |
|---------------|--|
| Transport: | 75% of average combing operator's bonus |
| Sweeper Noil: | 65% of average combing operator's bonus |
| Mechanic: | 110% of average combing operator's bonus |
| Supervisor: | 120% of average combing operator's bonus |

Drawing

| | |
|------------|---------------------------------|
| Transport: | 75% of average operator's bonus |
|------------|---------------------------------|

Speed Frame

| | |
|-------------|--|
| Doffer: | 80% of average operator's bonus |
| Transport: | 75% of average operator's bonus |
| Sweeper: | 65% of average operator's bonus |
| Mechanic: | 110% of average operator's bonus on drawing and speed frame |
| Supervisor: | 120% of average operator's bonus on drawing and speed frame. |

Ring spinning

| | |
|---------------|----------------------------------|
| Transport} | |
| Roll picker): | 75% of average operator's bonus |
| Sweeper: | 65% of average operator's bonus |
| Mechanic: | 110% of average operator's bonus |
| Supervisor: | 120% of average operator's bonus |

Winding

| | |
|------------------|----------------------------------|
| Transport: | 75% of average operator's bonus |
| Sweeper | |
| Bobbin cleaner): | 65% of average operator's bonus |
| Mechanic: | 110% of average operator's bonus |
| Supervisor: | 120% of average operator's bonus |

Twisting

| | |
|------------|---------------------------------|
| Doubling} | |
| Doffers): | 80% of average operator's bonus |
| Transport: | 75% of average operator's bonus |

7. CALCULATION OF THE INCENTIVE WAGE BONUS

The Incentive Wage Bonus will be calculated according to Tables 4-10 and point 6.8 (Indirect Labour in Production), if both factors are achieved and the person was present for the whole month.

The exceptions are as follows:

7.1 Person absent for some days or some hours.

The Incentive Wage Bonus will be paid only for work days and hours.

If in a month the worked days are 24 days but a person worked only 21 days, the bonus will be as follows:

Total bonus according to table multiplied by 21 days and divided by 24 days.

If in a month the worked days are 24 days but a person was absent for 5 hours, the bonus has to be calculated as follows: Total bonus according to table multiplied by 24 days, multiplied by 7.5 hours minus 5 hours, and divided by 24 days times 7.5 hours.

7.2 Factor 1 above standard performance but factor 2 is under standard performance

If the factor 1 - personal performance factor is above standard performance, and the factor 2 - average ring spinning efficiency is under standard performance of a person, the Incentive Wage Bonus will be paid according to the first line of the table.

For example: one operator on the speed frame achieved an efficiency on her machine of 70% but the ring spinning average efficiency was only 60%.

The operator will get a bonus of SF300 per month.

The bonus will be paid only for her personal performance at 65% average ring spinning efficiency.

7.3 Factor 1, under standard and Factor 2 is above standard

If the factor 1 - personal performance is under standard, no matter how high the factor 2 - average ring spinning efficiency, the operator will not get any bonus.

For example: one operator in the speed frame achieved an efficiency on her machine of only 59%, but the average ring spinning efficiency is 74%. The operator will not get any bonus.

7.4 Person in different working places during the month

In this case, the person's bonus will be computed as follows:

For example: from the 24 working days one person was working 5 days as ring spinning operator, and 19 days as doffer.

The bonus will be: bonus on ring spinning machines plus bonus for doffer activity. The ring spinning bonus according to table, multiplied by 5 days and divided by 24 days plus the doffer bonus according to table multiplied by 19 days and divided by 24 days.