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## AN INVESTIGATION OF THE FACTORS CONTRIBUTING TO THE UNDER-UTILIZATION OF MANPOWER IN THE BUILDING INDUSTRY

submitted to

## NATIONAL FEDERATION OF BUILDING

TRADE EMPLOYERS IN SOUTH AFRICA.


APPLIED SOCIAL PSYCHOLOGY DIVISION NATIONAL INSTITUTE FOR PERSONNEL RESEARCH COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

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The stricy was planned and supervised by $B$. von Mayer.

Interviews were conducted and the data was analysed by H. Kozma anc. E. Eksteen.

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    We thant Ir.T.J. Tarchand an: Iirs. E. de Jager
of the Industrial Council for the Duilding Industry for the
help and co-operation which they bave us.
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I. BACKGROJND_ TO THE STVD:.

The resent study arose out of certain findings of the "Statistical
Ctudy of Manpower in the Eui ?ding Industry". The manpower study nointed to the lack of full manpower utilization in the private contracting sector of the Industry in the witwatersrand-Pretoria region. The table below is taken from the report on this study and shows the total and average weeks worked in the Building Industry in the area during the period 1955-1951:

$$
\text { TABLE } 1 .
$$

Total and Average Weeks Worked in the
Building Industry - Wits.Pta. Region, Period 1955-1961.

| Year | 1955 | 1956 | 1957 | 1958 | 1959 | 1950 | 1961 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total man- <br> weeks | 501,315 | 508,538 | 483,918 | 512,340 | 496,532 | 513,710 | 445,287 |
| Average man- <br> weeks | 31.12 | 29.97 | 27.43 | 29.15 | 29.37 | 32.44 | $27-63$ |

The conclusion drawn was that, on the average, over the period 1955-1961, approximately 20 weeks per man year were not used by the private sontracting sector of the Industry within the Witwatersrand-Pretoria region. The nature of the data in the manpower study was such that it was impossible to determine the factors accounting for this under-utilization of labour. In the present study, the aim is to determine precisely the movements of artisans who had not worked for the full 49 weeks within the private contracting sector. More specifically, the aim is to account for those man-weeks which were not worked in this sector of the Building Industry.
2. HOW THE STUDY WAS CONDUCTED.

It was assumed that for every week a man had worked in the private contracting sector, he would have received a holiday stamp. Therefore, during the week November 4th - 9th the holiday stamp books of men calling at Labour House were examined. Those men who did not have a full complement of stamps in their books (i.e. 49 stamps) were asked what they had done during the weeks for which stamps were missing.

A total sample of 187 men were interviewed, (being only men who did not have the full number of stamps in their books).

Information for the year 1963 only was obtained. The trades were represented as follows :

| Trade | No. of artisans <br> interviewed | $\%$ of <br> sample. |
| :--- | :---: | :---: |
| Pricklayers | 60 | 32.1 |
| Woodworkers | 42 | 22.5 |
| Painters | 32 | 17.1 |
| Plasterers | 30 | 16.0 |
| Plumbers | 6 | 3.2 |
| Minor Trades | 17 | 9.1 |
|  | 187 | 100.0 |

3. FINDINGS.

The findings may be taken to be representative of those persons who had not worked a full year in the private contracting sector of the Building Industry during 1963. Our first need is to establish how many weeks were worked within and without
the Building Industry by the sample during this year. Tables
2 and 3 give this information.

TABLE 2.

Total and Average Man-Weeks worked in the
Building Industry by present sample.

| Year | 1963 |
| :--- | ---: |
| Total man-weeks worked | 5605 |
| Average man-weeks worked | 29.973 |

TABLE 3.

Total and Average Man-Weeks for which no
Holiday Stamps were received by present sample.

| Year | 1963 |
| :---: | :---: |
| Total man-weeks for which no stamps <br> were received. <br> Average man-weeks for which no stamps <br> were received. | 3558 |

It should be noted that only those artisans who did not have the full number of holiday stamps were interviewed. Because of the biased nature of the sample, therefore, the figures in Table 3 are not comparable with the figures quoted in Table l, although they approximate closely to them.

The information given in Tables 2 and 3 is presented in another way in Table 4 which shows proportions of artisans in the
sample according to the percentage of time they worked in the Building Industry (i.e. those weeks for which they received holiday stamps).

## TABLE 4.

Distribution of Men (Converted to Percentages)

According to Percentage of time worked. (Average
Number of weeks worked per year as a percentage

$$
\text { of } 50 \text { weeks). }
$$

| $\%$ of Time | $0-20 \%$ <br> $(0-10 \mathrm{wks})$ | $21-50 \%$ <br> $(11-25 \mathrm{wks})$ | $51-80 \%$ <br> $(26-40 \mathrm{wks})$ | $81-100 \%$ <br> $(41-50 \mathrm{wks})$ |
| :--- | :---: | :---: | :---: | :--- |
| No. of men | 21 | 49 | 72 | 45 |
| 8 of men | $11.2 \%$ | $26.2 \%$ | $38.5 \%$ | $24.1 \%$ |

The percentage of people working for more than half the year is $63 \%$ as comnared with $37 \%$ who work for less than half the year. Table 5 indicates how those man-weeks which were not worked in the Building Industry are accounted for.

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TABLE 5.

| Reasons why stamps were not received. | No. of wks. | Average No. of wks. per artisan. | \% of total no. of wks. for which no stamps were received. |
| :---: | :---: | :---: | :---: |
| Worked for orpanization outside the Building Industry. | 973. | 5.203 | 27.3 |
| 'Sic' or injured | 779 | 4.166 | 21.9 |
| Unemployed | 597 | 3.192 | 16.8 |
| Self employed | 457 | 2.444 | 12.8 |
| Holiday-unpaid leave | 247 | 1.321 | 6.9 |
| Norked outside the Tvl. | 130 | . 695 | 3.7 |
| TWorked for small <br> contractor who did not issue stamps | 97 | . 519 | 2.7 |
| Salaried Staff | 89 | . 476 | 2.5 |
| Employer refused stamps | 88 | , 471 | 2.5 |
| Worked in small town in Transvaal | 60 | . 321 | 1.7 |
| Worked outside the Renublic | 41 | . 219 | 1.2 |
|  | 3558 | 19.027 | 100.0 |

We notice from Table 5 that the largest number of weeks during which no holiday stamps were received were accounted for by artisans working for organizations outside the Building Industry, (27.3\% of the total number of weeks for which no stamps were received). Other important categories are "sick or injured" (21.9\%), "unemployed" (16.8\%) and
"self-employed" (12.8\%). Arising from Table 5, it is of interest to know the number of discrete periods making up the number of weeks for which no stamps were received and the average length of period in each category. We define a "period" in this context as a continuous space of time during which no stamps were received; it could consist of one or more weeks. The total number of 3558 weeks during which no stamps were received was made up of 325 separate periods. The overall average lenfth of ar riod was 10.332 weeks. Using this average length of period as a basis for comparison, it is useful to look at the average length of the periods in each category. This information is given in Table 6. (The average length of period in each category was calculated as follows : the total number of weeks spent by the sample in a certain way, e.g., working for an organization outside the Building Industry, was divided by the total number of periods so spent.

TABLE 6. / ...

## TABLE 6.

Average Length of Periods spent by Artisans under the various headings listed in

Table 5.

| Reasons why stamps not received. | No. of | No. of periods. | Average Le of period |
| :---: | :---: | :---: | :---: |
| Worked for organization outside |  |  |  |
| Building Industry. | 973 | 40 | 24.325 |
| Sick or injured. | 779 | 85 | 9.165 |
| Nnemployed | 597 | 100 | 5.970 |
| Self-employed | 457 | 30 | 15.233 |
| Holiday/unpaid leave | 247 | 31 | 7.958 |
| Torked outside Transvaal. | 130 | 8 | 16.250 |
| Worked for small contractor | 97 | 9 | 10.778 |
| 'Saleried staff | 89 | 4 | 22.250 |
| Employer refused stamps | 88 | 12 | 7.333 |
| Worked in small town in Transvaal. | 60 | 3 | 20.000 |
| Worked outside the Republic. | 41 | 3 | 13.567 |
| Total | 3558 | 325 |  |
| Overall average length of period. |  |  | 10.332 |

* The figures in this column are taken from Table 5 (Page 5).

Eight people in the sample gave the information not in terms of the number of periods and length of each period, but in terms of the tot.al number of weeks, under a certain category, for which they
did not receive stamps. This tends to slightly inflate the overall average length of deriod. If the combined number of weeks accounted for by these individuals ( 158 weeks) are subtracted from the total, the remaining 3,400 weeks give an averace length of period of 10.726 weeks. This does not differ appreciably from the average obtained if these 8 individuals are included in the calculation.

In studying Table 6, it is worth noting that the periods worked for organizations outside the Building Industry were relatively long periods (average length of period - 24.3 weeks). Other periods, such as "unemployed", "sick", "self-employed", etc., were usually short periods interspersed over the year.

Table 7 shows the distribution of individuals in the sample according to the number of artisans in the various categories.

TABLE 7./...

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TAELE 7.
Numbers and nercentages of Artisans as they are
distributed under the various headings listed in

$$
\text { Table } 5
$$

| Reasons why stamps were not received. | No. of Artisans | \% of Sample |
| :---: | :---: | :---: |
| Organizati on outside the Industry | 39 | 20.8 |
| Sick or Injured | 61 | 32.6 |
| Unemoloyed | 64 | 34.2 |
| Self-employed | 26 | 13.9 |
| Holiday-unpaid leave | 30 | 16.0 |
| Worked outside the Transvaal | 8 | 4.3 |
| Wrorked for small contractor | 9 | 4.8 |
| Salaried staff | 4 | 2.1 |
| Employer refused stamps | 12 | 6.4 |
| Worked in small town in Transvaal | 3 | 1.6 |
| Norked outside the Republic | 3 | 1.6 |

(Note: It is possible for one individual to be included under two or more headings).

If one looks at individuals in the sample, quite apart from weeks worked, it is apparent that large proportions of men in the sample missed weeks because they were unemployed ( $34.2 \%$ of the artisans interviewed), or because they were sick or injured (32.6\%). (See Table 7).

From the information available we can assume that those in the "unemployed" category were out of work because of factors other
than / ...
than ill health. We al so notice from Table 7 that the percentage of artisans in the samnle who worked for organizations outside the Building Incustry (20.8") is somewhat smaller than those in the two categories mentioned above. The relatively short average duration of the periods in the two categories "unemployed" and "sick or injured", ( 5.970 weeks and 9.165 weeks respectively), (see Table 6), as compared with the longer average length of period (24.325 weeks) worked in organizations outside the Building Industry accounts for the shorter overall length of time of each of the two former categories.

We conclude from this that although the largest number of manweeks lost to the Building Industry are accounted for by artisans working for organizations outside the Building Industry, the number of men lost to such organizations is less than the number of men who are unemployed or who are not working due to ill health. In other words, $\exists$ smaller number of artisans work for long periods outside the Building Industry and a larger number of artisans are unemployed, sick or injured for shorter periods.

We have seen that for the largest number of weeks that they did not receive holiday stamps, artisans in our sample worked for organizations outside the Building Industry. Table 8 shows what types of organizations the se were :

## TABLE 8.

Total and average number of weeks worked in
Organizations outside the Building Industry.

| Organizations outside the <br> Building Industry | Total No, <br> of weeks | Average No, <br> of weeks |
| :--- | :---: | :---: |
| Factory | 292 | 1.561 |
| Engineering concern | 190 | 1.016 |
| Private concern e.g. shop | 184 | .984 |
| Mines | 105 | .561 |
| Government | 84 | .449 |
| Farming | 68 | .364 |

Of those weeks spent outside the Building Industry 507 weeks (average number of weeks - 2.711) were accounted for by persons who had not oractised their trades during this time. Of the 39 individuals (21\% of total sample) who had worked outside the Building Industry, 17 (44? of pe rsons working outside the Building Industry) had followed some entirely different occ pation.

Finally, we would like to consider the reasons why artisans left jobs in the Building Industry where they were receiving holiday stamps. Over one-third left because the contract was completed and they were laid off by their employers. Twenty-eight percen't
left through illness or because they had had an accident. A relatively small proportion (9.5\%) left to go to a better job elsewhere. This information is summarized in Table 9.

TABLE 9.

## Reasons why Artisans left jobs where they received Holiday Stamps.



CONCLUSIONS.

1. Our study showed that an average of 19.005 man-weeks were not utilized by the private contracting sector of the Building Industry during 1963. This conclusion is based on the assumption that the sample of men interviewed is representative
of those artisans who had not worked a full year in the private contracting sector during the year.
2. A significant finding emerging from this study is that the largest proportion (27.35\%) of the man-weeks lost to the Building Industry are account $\in \mathrm{d}$ f $n$ r by artisans working outsice the Industry. (See Table 5). Relatively speaking however, it does appear that many individuals. (20.8\%) are lost to outside concerns. (See Table 7). Men working for such concerns appear to do so for long periods at a stretch, this accounting for the large number of man-weeks so spent. (See Table 6). This contention is supported by the fact that a comparatively small number of artisans said they had left jobs in the Building Industry for better jobs elsewhere. The reason most frequently given by artisans for leaving their jobs was that the contract had been completed. This ties up with the fact that artisans had said they were unemployed during a fairly large number of weeks ( 597 weeks).
3. The other categories accounting for a high number of lost man-weeks are "sick/injured" (779 weeks), "self-employed" (457 weeks) and "holiday-unpaid leave" (247 weeks). The large number of weeks accounted for by the first and last of the se categories is probably due to the nature of the sample (i.e. only those artisans were included who had not worked for the full year). Because 1963 was something of a boom year for the Industry, most of the best workers - men who were strong, healthy and comnetent and who desired employment - were fully emoloyed. Those who consistently
missed weeks due to ill-health anpeared to be chronically ill or suffering from a recurring ailment. Many of those who took "holidays" appeared to work off and on merely to provide themselves with the means for taking a rest. With regard to the artisans who said they were "self-employed", Labour House employees remarked that there had been an unusually large number of men registered as sub-contractors during 1963. One possible explanation of the increased number of small subcontractors might have been the desire to avoid paying income tax on the P.A.Y.E. system.
4. That the lack of full utilization of available manpower in the private contracting sector of the Building Industry is attributable to a variety of factors, is apparent from the findings of this investigation.
$3-6$ 10.4
