A review of the State's role in assisting gold mines in South Africa*

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SYNOPSIS

This paper is a brief record of the State's involvement in the problems that have faced low-grade mines in the South African gold-mining industry for a period of more than sixty years. Not all the recommendations made by the various commissions are recorded here, but those which are included highlight the fact that many of the problems that plagued the industry during those years, whether economic or labour matters, are still troulbing the industry today.

SAMEVATTING

Hierdie referaat is 'n kort weergawe van die Staat se betrokkenheid by die probleme waarmee die lae-graad myne in die Suid-Afrikaanse goudmynbedryf vir 'n typerk van meer as sestig jaar te kampe gehad het.

Nie al die voorstelle wat deur die verskeie kommissies gemaak is word hier genoem nie. Die wat genoem word beklemtoon die feit dat baie van die probleme wat die bedryf gedurende daardie jare geteister het, of dit ekonomies of arbeidsaangeleenthede was, nog steeds 'n probleem vir die bedryf vandag is.

Introduction

It must be emphasized from the start that this paper is merely a historical review of the State's concern in keeping gold mines operating as long as possible, and of the financial assistance rendered to certain gold mines in the Republic of South Africa in order to attain that end.

The various governments since 1910 have been very much aware of the fact that, in its gold mines, South Africa possesses a 'goose that lays golden eggs'. A glance into the past reveals that, over a period of more than sixty years, various committees and commissions have from time to time been appointed to investigate low-grade or vulnerable gold mines in order to keep them operating.

An outline is given of some of the committees and commissions with their terms of reference and some of their recommendations, culminating in the Gold Mines Assistance Act, 1968.

The Select Committee of 1918

On 31st January, 1918, a Select Committee of the House of Assembly was appointed to report on the economic and labour conditions relating to the gold-mining industry in the Union of South Africa.

On 5th April, 1918, the Committee reported that it had been unable to carry out an inquiry of the far-reaching character indicated by the terms of reference, and had confined itself in the main to a consideration of certain suggestions that had been made to enable mines to continue production that were in danger of closure, owing to the low grade of their ore and the higher working costs resulting from war conditions. Of these suggestions, the Committee was unable to recommend any advocating direct financial assistance from public funds, but approved of steps being taken to control the amount of development work and the allocation of stores and Black labour to the various mines. The effect of the recommendations was apparently minimal.

* Presented at the Colloquium on 'The Influence of a Fluctuating Gold Price on the Potential Mining of Low-grade Areas', which was held in Randburg by the South African Institute of Mining and Metallurgy on 5th June, 1981.

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The Low Grade Mines Commission

On 18th June, 1919, a Commission, styled the Low Grade Mines Commission, was appointed to report upon

(a) the position of the gold mines of the Witwatersrand working at a loss and of those workings at small and diminishing profit;

(b) the effect the closing down of such mines would have generally, especially in regard to unemployment;

(c) the steps that could be taken by the Government
  (i) to obviate the closing down of any or all of these mines;
  (ii) to alleviate the position that would be created by the closing down of any such mines;

(d) the position in the mining industry of the Black and Coloured workmen;

(e) the more efficient utilization of the Black labour force available.

On 8th September, 1919, this Commission issued an interim report, and, on 27th April, 1920, its final report. It reported that, since the date of its appointment, the position of the low-grade mines had been materially altered by the restoration of a practically free market for gold bullion, which, coupled with the depreciation in the value of South African currency, resulted in gold being sold at such a substantial premium that most of the formerly unpayable low-grade mines had been able to make ends meet, while those which had been making small profits had substantially increased those profits.

Although the urgency of remedial measures had largely disappeared, the Commission had no doubt that, when the price of gold returned to normal, the position of the low-grade mines would be worse than it was prior to August 1919, since the cost of labour and stores would have risen in the meantime and would not fall again as rapidly as would the premium on gold.

The Commission therefore recommended

(a) greater cooperation between the management and the employees to be secured by Works Committees and Joint Committees;

(b) the re-arrangement of underground work so as to increase the effective working period of Blacks;

(c) the temporary employment, as an experiment, of Blacks from north of latitude 22° south to supplement the insufficient supply of Black labour;

(d) the establishment of a refinery and mint in the Union;
(e) the full remission of the State's share of claim licences when adequate work was done;
(f) the abolition of the Provincial Council Profits Tax;
(g) that the Government should receive at least three months' notice of the probability of closing down any mine and, in addition, one month's notice of the date on which the mine was to be closed down definitely;
(h) the abolition of the legal colour bar (subject to reservations by the three Trades Unions' representatives);
(i) the extension of the piece-work system in work performed by Blacks;
(j) the encouragement of Blacks to adopt the deferred pay system;
(k) the shortening of the periods of Black contract labour;
(l) the formation of Advisory Committees consisting of Blacks in each compound elected by themselves.

Of these recommendations, that referring to a mint and refinery had been anticipated by the passing of the Pretoria Mint Act in June 1919, and by the beginning of construction work on the Germiston Refinery.

The Troubles of the Twenties

The difficulties foreseen by the Low Grade Mines Commission eventuated when the price of gold, which in February 1920 was R13,0 per ounce, dropped to R9,50 in December 1921.

In the meantime, the expenses continued to rise more rapidly than ever, so that the working costs, which in 1914 averaged R1,71 per ton of ore milled, had increased to R2,59. The result was that many mines were working at a loss, and others showed only a marginal profit. So seriously was the situation regarded by the Government that in November 1921, after several conferences between the Prime Minister, the Minister of Mines, and workers' representatives, certain amendments were made in the Mining Regulations, which increased the effective working time of Blacks underground. The Chamber of Mines, while acknowledging these amendments to be of some assistance, maintained that other steps were essential if the industry was to benefit materially, and made proposals to the South African Industrial Federation. The proposals were as follows:

(a) an alteration in the system of underground contracts,
(b) the modification of the Status Quo Agreement of 1st September, 1918, with regard to the relative scope of employment of White and Coloured employees.
(c) A re-arrangement of underground work.

Negotiations between the two bodies failed, however and the White workmen on the mines struck on 10th January, 1922, and on 7th March a general strike was called, which came to an end on the 16th of that month

The main results of the re-organization effected after the strike were the temporary elimination of a number of Whites, a substantial reduction in wages, an increase in the scale of operations, the mining of lower-grade ore and a considerable reduction in costs as reflected in Table I.

TABLE I

COSTS ON THE LARGE MINES OF THE WITWATERSRAND (EXCLUDING SUB-NIGEL)

	1921	1923	1930
Average number of White employees (excluding medical officers)	20 825	17 666	21 735
Average annual income of all White employees (excluding medical officers), R	990	740	750
Average rate per shift for White employees paid on a shift basis, R	3,02	2,09	2,25
Mass milled, t $\times$ 10^6	21,3	24,3	28,4
Recovery per ton milled, g	11,59	11,40	11,19
Value per ton milled (including premium), R	3,96	3,34	3,06
Working costs per ton milled, R	2,83	2,20	2 ,14

In 1922, the Mining Industry Board was appointed to report on matters that were of importance to all the mines on the Witwatersrand, particularly to low-grade mines. Five years later, the Mining Industry Arbitration Board was appointed to act as arbitrator in certain matters regarding wages, rates, hours, and conditions of White labour in dispute between the South African Mine Workers' Union and the South African Reduction Workers' Association, and the gold-mining companies that were members of the Transvaal Chamber of Mines.

The Thirties

In Government Notice No. 1497, dated 14th August, 1930, it was stated that His Excellency the Governor-General had appointed a Commission 'to enquire and report upon the mining of low grade ore on the Witwatersrand and matters in connection therewith'.

Evidence was taken from some 62 persons and bodies, and a comprehensive report with supporting recommendations was submitted by this Commission. Some of the recommendations were incorporated in the Mines and Works Act as well as the Gold Law (now the Mining Rights Act, 1967) and are still in force today.

The recommendations made little impact on the stateof the mines, but many mines were saved when South Africa departed from the gold standard in December 1932.

The Fifties

Towards the middle 1950s it once again became obvious that many of the low-grade gold mines were facing a battle for survival because of the fixed price of gold ($35 per ounce) and rising working costs. The Minister of Mines convened a Round-table Conference on Vulnerable Mines, consisting of representatives of the Government, the Gold Producers' Committee of the Chamber of Mines, and various associations and unions connected with the gold-mining industry. Certain recommendations and proposals were made by the Conference in order to reduce working costs but very little relief could be offered, and a number of mines were forced to close while others barely managed to survive.

The Sixties

In the 1960s, history began repeating itself, and many mines were reaching the stage where they were extremely vulnerable as grade dropped, costs rose, and the price of gold remained static.

State Aid for Pumping out Water

Once again the Government was asked to act, and in 1963 the Minister of Mines made the following statement in Parliament:

> One of the greatest difficulties those mines on the East Rand and the Central Rand to-day have to cope with is the problem of water. When a certain mine closes, the problem is that its water, after a certain time, overflows to the neighbouring mine, and there is a chain reaction: later on more and more mines are affected and will have to close down owing to the increased costs involved in pumping the extra water flowing from the closed mines.
>
> The Government has decided that it is going to start with this aspect in giving assistance, and so I should like to announce to-day that the Government has decided that for the financial year 1 July 1963 to 30 June 1964 *it will allot to the Central Rand and the nearby East Rand Group of mines an amount of not more than R1 000 000 per annum to meet the cost of pumping out the water threatening them from the neighbouring closed-mines, on the* understanding that (1) only current expenses - no capital expenditure - are taken into consideration; (2) the Government Mining Engineer will control the expenditure and approve it; (3) only mines threatened with closure within five years of every annual allotment of aid will be considered; and (4) the Government does not commit itself for any period of time, but will review the position annually on the early submission of estimates, and in many cases if and when there is an increase in the price of gold. That is the first form of aid we are offering. We do not konw what the exact amount will be, but the Government Mining Engineer estimates that the amount will vary, until the year 1980, between R630 000 to R1,8 million. We have deicided to make available for the first year an amount of at least R1 000 000 on the conditions I have mentioned here to assist the marginal mines.
>
> We realize that it will not provide all the assistance required, and solve all the problems, and we *are now busy making a further investigation, on the basis of data we have just received, of further methods that may offer a solution to the problems of these mines.*

Since that date the State has provided assistance to certain mines to compensate them for the additional cost of pumping extraneous water. It is difficult to determine how much longer this aid will continue, but it appears that, as old mines are re-opened, the State will gradually be absolved from this responsibility. At the end of 1980, an amount of R38 million had been paid out in pumping assistance since the start of the scheme.

State Loans

The following year (1964) the Minister of Finance made the following announcement in the House of Assembly during his Budget speech:

> Last year the Government announced a scheme to assist certain vulnerable gold mines which were threatened with premature closure because of the heavy cost of pumping water flowing into them from adjoining mines which had already closed down. I propose that this scheme be continued and under the Revenue Vote I shall ask for an additional R600 000 in 1964-5 for this purpose. There are, however, other marginal mines where other types of assistance seem to be justified, and after close study of the problem the Government proposes to grant loans to such mines to assist them to keep going. My colleague the Minister of Mines will give details of the scheme in due course, but broadly speaking the idea is to grant loans to approved mines to cover working losses (up to 10 per cent of revenue) and to meet approved capital expenditure; such loans would be repayable out of profits as and when they arise and would be written off when the mines concerned are forced to cease underground operations. Interest charged would be 5 per cent, of which 3 per cent would be capitalized. The amount required in 1964-5 would be R3 000 000.
>
> The principal object of both schemes is to lengthen the lives of the mines concerned. This will not only help the mine employees but also give more time to the communities serving these mines to adapt themselves to changing conditions. It will per mit a considerable quantity of gold to be mined which would otherwise be lost to the country, and will enable the relevant mines to resume full and profitable production if and when the price of gold is increased.

Although the scheme did help to a certain degree, it did not serve the purpose for which it was intended. It was almost a case of too little too late, and it was obvious that, although the scheme might succeed in prolonging the lives of certain mines for a while, they were doomed in any case. Furthermore, it was certainly not in the shareholder's interest to keep a mine going under this scheme. In many cases, the longer the life of the mine was prolonged, the less the break-up value became.

State Assistance

From the lessons learnt from the unsuccessful loan scheme, a new scheme had to be devised if low-grade mines were to be kept operating.

The representatives of the gold-mining industry who served on the Prime Minister's Economic Advisory Council (EAC) painted a very gloomy picture of the state of the industry. Costs were continually rising while gold remained at a fixed price. The industry was therefore asked to investigate the matter and to submit a report to the EAC. Towards the end of 1966, the gold-mining industry presented an all-embracing memorandum entitled 'The role of the gold mining industry in the future of South Africa', in which suggestions and recommendations for greater State assistance were made.

The proposed aid scheme was investigated thoroughly and approved in principle, and formed the basis of the Gold Mines Assistance Act (Act 82 of 1968), which was passed in 1968.

The stated purpose of the said Act was

> to provide for financial assistance in respect of certain gold mines; to provide that for the purposes of certain leases of the right to mine gold, any loss incurred during any accounting year or period in respect of an assisted mine shall not be set off against the profits of any succeeding year or period; and to provide for incidental matters.

Pertinent features of the Act are as follows

> apply to the Minister for classification as an assisted gold mine on which gold mining operations are being carried on and from which gold or uranium is being won.
>
> (b) The Minister, in consultation with the Minister of Finance and having regard to any recommendation made by the Mining Leases Board, may, on such conditions as he may impose, classify such mine as an assisted gold mine if he is satisfied—
> (i) that it is likely that such mine would, unless assisted, cease underground mining operations within eight years after the date of the application and
> (ii) that if the mine is classified as an assisted gold mine and certain conditions are observed, the life of the mine will be appreciably prolonged and there will be a significant increase in the production of gold or uranium or of both gold and uranium won from such mine.
>
> (c) Any classification made by the Minister shall be deemed to have been made on a date on or before the date of such classification determined by him.
>
> (d) The Minister may appoint the Government Mining Engineer and other suitable Government officials to inspect from time to time the underground and surface works and the plans, books, records, accounts and documents of any company carrying on mining operations as an assisted gold mine and to report to him whether the working of the mine is in satisfactory accordance with the conditions he has imposed.

(e) If the Minister, in consultation with the Minister of Finance and having regard to any recommendation of the Mining Leases Board, made after considering a report by the Government Mining Engineer in regard to—
   (a) the quantity of gold or uranium or of both gold and uranium being won or likely to be won from any assisted gold mine;
   (b) the quantities and grades of ores being mined and milled or likely to be mined and milled from such mine with a view to winning gold or uranium therefrom; and
   (c) such other relevant circumstances as the Government Mining Engineer may wish to bring to the attention of the Minister,

   is of the opinion that the classification of the mine as an assisted gold mine is no longer warranted, he may notify the company operating the mine that the mine will, with effect from the first day of a year of assessment of the company commencing at least six months after the date of such notification, cease to be classified as an assisted gold mine, and in such event such mine shall, with effect from the said day, cease to be so classified.

Assistance Provided

The nature of assistance provided for in the Assistance Act takes the form of either

(a) tax relief in the case of a mine that pays tax, or
(b) direct financial assistance in the case of a mine that does not pay tax either because it has been worked at a loss or because the margin of profit is not sufficiently high to attract liability under the prescribed formula.

Assisted gold mines that are liable for income tax will be taxed at a rate determined by either the standard

$$y = 60 - \frac{360}{x} \text{ formula}$$

(this formula was applicable at the time of the Act) or the 'small mines

$$y = 20 - 1 - \frac{6}{x} \text{ formula'}$$

properly adjusted, if the taxable income is less than R140 000, or the newly prescribed formula

$$y = 68 - \frac{601}{x},$$

whichever is the more advantageous to the mine. y and x have the usual meanings. There is no tax payable under the 68 formula when the ratio of taxable income from mining to gross revenue from mining, expressed as a percentage, P/R, is $8\,\frac{57}{68}$ per cent or lower.

Usually, an assisted gold mine, which is not liable for normal income tax under the 68 formula, entitled to direct financial assistance under the Assistance Act.

The amount of the assistance payable is calculated as follows:

Assistance = 6,01 per cent of gross mining income less 68 per cent of mining profit,

or

6,01 per cent of gross mining income plus 68 per cent of mining loss.

Details of the scheme were published in this *Journal* in May 1968 and February 1969, and it would be superfluous to repeat them.

Fig. 1 depicts the salient features of the gold mines since the year 1926, and Fig. 2 gives details of working costs, working profits, revenue, and assistance rendered to State-assisted mines since the beginning of the scheme. Table II gives additional details.

Suffice it to say that, generally, the scheme has proved successful. Had it not been for the scheme, a number of the mines still operating would have ceased underground operations and the life of certain communities would have been seriously disrupted. It is true that, because of the rise in the price of gold, many defunct mines are being resuscitated, but in most instances at great cost. It would have been of greater benefit if the scheme had

TABLE II

STATISTICS CONCERNING STATE ASSISTANCE TO MARGINAL GOLD MINES IN TERMS OF THE GOLD MINES ASSISTANCE ACT. NO. 82 OF 1968, AS AMENDED

Yr	Classified assisted mines No.	Mines that received assistance No.	Net State assistance payments to assisted mines $R \times 10_0$	Gold produced by assisted mines		Average gold price received by assisted mines		Value of gold produced by assisted gold mines	Net State assistance paid as percentage of gold value	Average working cost of			
										Assisted gold mines		All gold mines	
				kg	Of industry's production %	R/kg	+ or − %	$R \times 10^6$	%	R/t	+ or − %	R/t	+ or − %
			1,230	Carried	over	from Loan	Scheme						
1968	16	15	6,832	100 896	10,4	852		86	9,4	6,36		6,94	
1969	19	18	8,638	108 804	11,2	882	+4	96	9,0	6,17	−3	7,07	+2
1970	20	20	15,974	120 706	12,1	853	−3	103	15,5	6,70	+9	7,34	+4
1971	20	20	16,035	137 310	14,1	940	+10	129	12,4	7,29	+9	7,88	+7
1972	18	18	9,192	109 048	12,0	1 283	+36	140	6,6	8,23	+13	8,79	+12
1973	17	10	1,176	99 015	11,6	2 100,93	+64	208	0,6	9,81	+19	10,51	+20
1974	17	5	0,820	79 312	10,5	3 436,26	+64	274	0,3	13,23	+35	13,18	+25
1975	16	13	19,560	65,929	9,2	3 650,97	+6	241	8,1	17,86	+35	16,71	+27
1976	16	15	40,943	68 874	9,7	3 327,10	−9	229	17,9	20,27	+14	19,30	+16
1977	12	9	32,340	60 857	8,7	4 091,31	+23	249	13,0	26,78	+32	23,87	+24
1978	12	8	27,529	62 619	8,9	5 570,70	+36	349	7,9	29,45	+10	27,14	+14
1979	11	5	8,929	58 880	8,4	8 322,92	+49	490	1,8	32,60	+11	30,18	+11
1980	11	1	−0,116	59 088	8,9	15 555,48	+87	919	—	38,50	+18	35,53	+18

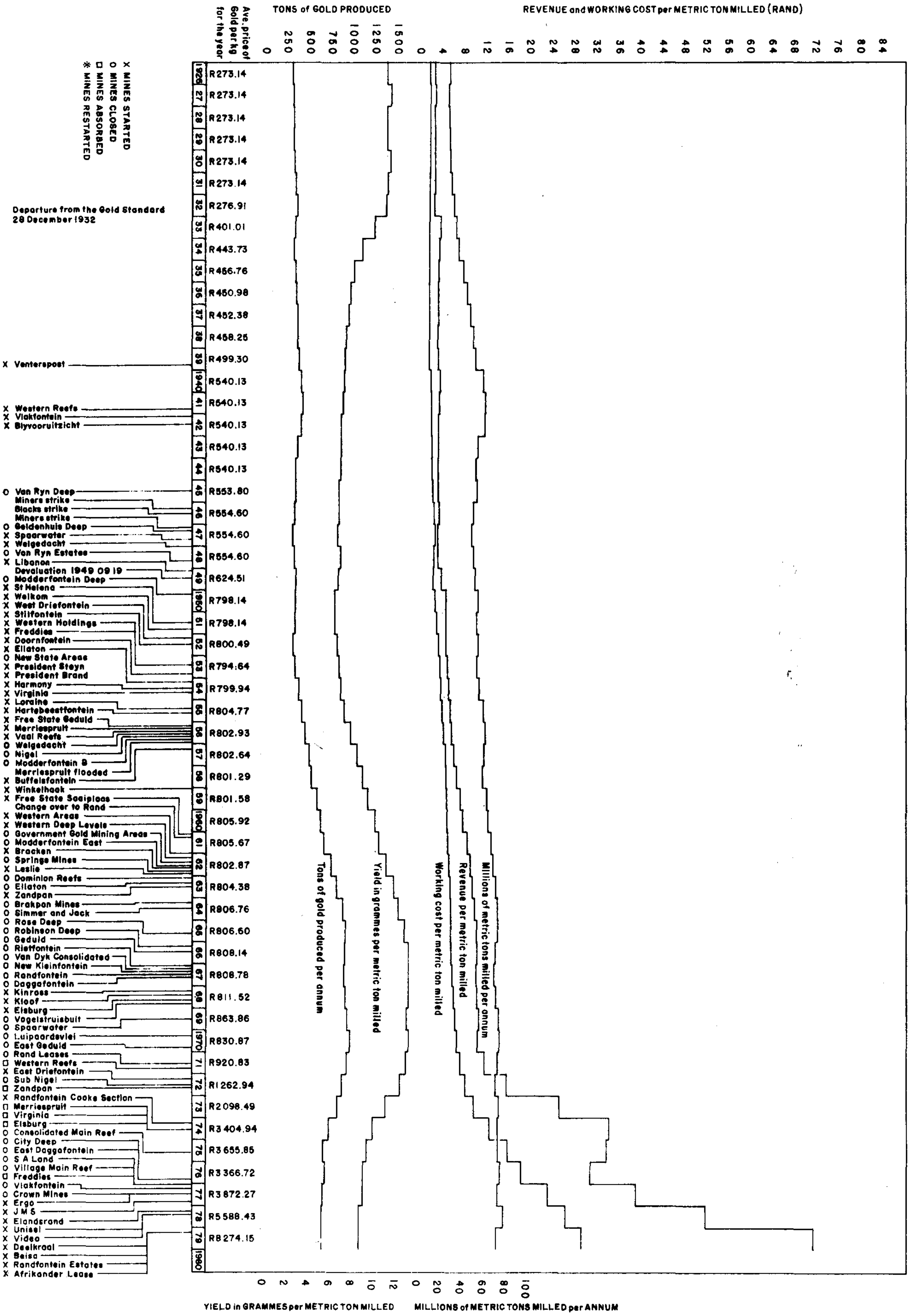

Fig. 1—Gold production for the years 1926 to 1980

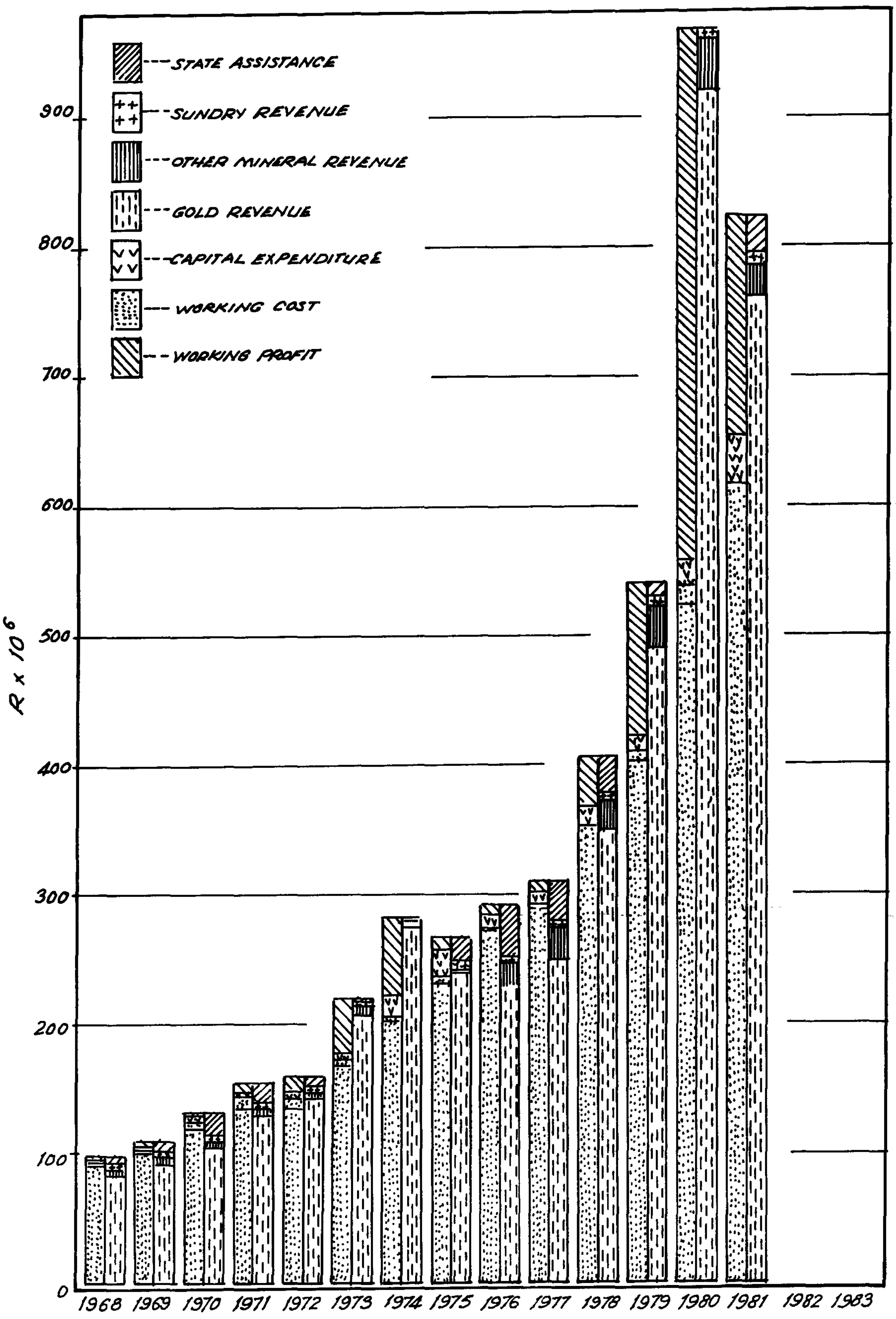

Fig. 2—Income and working costs for State-assisted gold mines from 1968 to 1981

been introduced at an earlier stage so that some of these mines could have been prevented from closing down. The anamaly of the scheme is that, when the price of gold is high and the State has a surplus of funds available,

ailing mines when the need arose. It is unlikely that any future Government will deviate from this policy. A company director said recently, 'In our capitalistic system, we mine-owners resent too much interference by

Discussion of the above paper

by D. G. KRIGE*

When the present State-aid scheme was deliberated, (and, indeed, throughout its thirteen years of implementation), there were differences of opinion within and outside the mining industry about the principle of State aid. The main argument against it is that it is a subsidy, an intervention by the State in the free-enterprise system, and a misappropriation of State funds for an uneconomic activity. Provided the concepts of economic and uneconomic activities are defined correctly on the basis of the long-term interests of the economy at large, I have no quarrel with the objections against State aid to marginal mines; that is, if a mining project is unlikely in the long term to provide a net positive contribution to the economy, it should not be assisted.

In determining the likely contribution of a mining project, the following aspects should be given due weight.

1. The project's likely direct contribution in the form of net profits shared between the State and the shareholders. A realistic view should be taken of the likely future gold-price levels in relation to mining costs over the likely life of the project. At the time when the scheme was introduced, a positive view was taken of a likely substantial increase in the price of gold. On that basis, projects that would not make direct positive contributions in the short term would be likely to do so in the longer term. It is also for this reason that only mines with substantial long-term ore potentials were considered.
2. The likely indirect contributions from such projects via employment, forward and backward linkage effects with other sectors of the economy, and foreign-exchange earnings from a readily saleable product. The recent publication by Professors Lombard and Stadler of Pretoria University provides ample evidence of these indirect contributions.
3. An aspect that has not received the attention it deserves is that, when a mine is assisted until it becomes economic, the State aid received as negative tax will effectively be repaid when the mine again becomes a taxpayer, i.e. the net receipts by the State will only have been postponed and not permanently lost.
4. A fourth important aspect is that there is inherent in the gold mines' tax formula an element of negative taxation or State aid on submarginal ores. It is generally accepted that the motivation for this aid is to provide an incentive for the extraction of the maximum potential from a wasting asset. Also, the long preproduction period for a new deep mine, gold or otherwise, should be seen as a period of negative contributions that is to be followed by a production period of positive contributions. Thus, the opening up of new projects by existing taxpayers and their partial financing by short-term reductions in the taxes paid is a form of State aid effectively similar to that given to officially-aided mines.

I therefore suggest that, when State aid as applied to certain gold mines is considered by the State, the mining industry, and other sectors of the economy, it should be done on a realistic basis taking account of all the above and allied aspects; on that basis, the scheme as a whole will be found to be well worth while.

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