



Information as an alternative to mineral rights taxation

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Synopsis

A new system for granting access to mineral rights is proposed in the recently released White Paper, 'A Minerals and Mining Policy for South Africa'. Official policy states that 'Government's long-term objective is for all mineral rights to vest in the State for the benefit of and on behalf of all the people of South Africa'. In order to achieve this objective, government is presently investigating the feasibility of imposing a financial or tax-related disincentive to holding mineral rights.

The paper aims to present the pros and cons and to examine the alternatives which will cause minimal disruption to the minerals industry in the period during which mineral rights are transferred to the State. South Africa is a country whose economic and political history is embedded in the development of its mineral resources and has inherited a system which cannot simply be wished away. Hasty or radical decisions will compound the problem, rather than provide a lasting and widely acceptable solution.

Mineral rights ownership and its impact on access to mineral deposits are discussed. Taxation as a possible economic disincentive is also evaluated. Finally, the value of mineral resource related information as a prerequisite to mineral policy decisions and as an alternative to mineral rights taxation is emphasized.

Introduction

Mineral rights ownership and mineral interests have been identified as the key issues in opening access to potential economic mineral resources. The White Paper⁴ on a Minerals and Mining Policy for South Africa proposes a transformation in mineral rights ownership. Exclusive State ownership of mineral rights is the most significant proposal. How the transfer of mineral rights from the present mix of private and State ownership to the State can be initiated and motivated remains to be decided, but the White Paper considers the imposition of a financial disincentive, that is mineral rights tax, to be a preferred instrument.

A distinction exists between holders (owners) of mineral rights and the holders of mineral interests (e.g. mining or prospecting permissions). The subtleties of this distinction are not explored in this paper which is written specifically with mineral rights ownership in view because the much publicized mineral

rights tax will be levied on the holders (owners) of mineral rights and not the holders of mineral interests. In this paper we use the term 'holders,' which definition includes mineral rights registered at the deeds office in the name of the owner. Some have argued that the holders of mineral rights and the holders of mineral interests restrict access to land, but in truth investors rank the stability and workability of the legal system more highly than ownership of mineral rights. Ultimately the law determines the definition of property rights as well as the degree of exclusivity, transferability and enforceability associated with these rights¹.

Furthermore, it seems that the environmental and indigenous rights movements² are largely responsible for initiating lobbies that have led to the withdrawal of land from exploration and development, regardless of mineral rights title. It is essential that policy makers be aware of these evolving issues in order to plan for the future and not become bound in historic bureaucracy.

South Africa's policy makers now have the rare, but enormously responsible, opportunity of rewriting the country's system of mineral rights ownership. Long-term, stable and workable solutions should be 'searched for' and not be traded for the radical and hasty decisions, which would appeal to the electorate. The most crucial factor in finding lasting solutions will be the access that decision-makers have to an up-to-date and comprehensive information system. The value of information in the decision-making process is still not appreciated fully in many developing countries and South Africa is no exception. In an article entitled *The Role of Public Policy in Exploration* by Eggert¹, the

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two most important public policy issues are the definition of property rights and the gathering of data. He argued that 'companies are not likely to capture all the benefits of the basic geologic information they collect' and 'other companies ... benefit from the knowledge that a particular drillhole is successful or unsuccessful' (p. 8). This situation leads to market failures resulting in suboptimal depletion of mineral resources. In regard to resource access policies, Cox³ and others argued that most of the current conflict over resource use in the world could have been avoided if governments understood the value of information in reducing the risk for potential investors. They summarized the need for information by saying '...the ability to make sensible and efficient decisions on alternative land uses depends critically on the availability and quality of information...' (p. 85).

It is only after the available information relating to resources, land, economics, geography and administration has been compiled in an intelligent format, that suitable policy instruments, not necessarily a tax, can be evaluated in terms of their effectiveness in improving access to unutilized mineral rights.

Mineral rights ownership and access

Events leading to a mineral rights tax

The statement from the White Paper that '*...Government's long-term objective is for all mineral rights to vest in the State...*' indicates public intent with regard to the future of mineral rights ownership in South Africa⁴. Inequitable distribution and restrictions on access to mineral rights are proffered as the underlying reasons for the proposed changes. Furthermore, the fiscal instrument government intends employing to achieve this outcome is described as follows in the White Paper⁴. '*Government will investigate the feasibility of imposing disincentives which would be intended to discourage the non-utilisation of privately owned mineral rights.*'

The imposition of a tax to achieve the transfer of mineral rights from private to public ownership has been debated since 1992. Following their investigation into taxation of mineral rights, the Katz Commission into Taxation concluded that such a tax would be undesirable⁵. The tax has no revenue potential and a realistic market-related valuation of the mineral rights covering the wide range of ore deposit types would be very difficult. It seems that this conclusion is not in line with present thoughts because tenders calling for the appointment of a '*consultant for the implementation of a mineral rights tax*'⁶ were published shortly after the findings of the Commission were made public. This created the impression that government had decided unilaterally to introduce the tax, thereby pre-empting the mineral policy process. However, it turned out later that the purpose of the tender was to appoint a consultant with a mandate to investigate the feasibility of the tax and to determine whether implementing such a tax would achieve the objectives outlined in the Green Paper (the precursor to the White Paper).

The design process for mineral rights tax that can achieve the objectives of the White Paper is complex. Experimentation with fiscal instruments without understanding their impact on the economy is dangerous.

Anticipated outcomes may not be manifest. Failure to understand how policy linkages in an economy can transfer impact means that policies aimed at achieving one goal may affect something entirely different. Political eagerness to shape the future, without due consideration of the evolution of the current fiscal and mineral policy frameworks could probably lead to new policies which are even more complex and more expensive to administer.

Options in mineral rights ownership

The White Paper identifies restricted access to potentially economic mineral resources as the main stumbling block to the way in which mineral rights are owned in South Africa. A detailed discussion of relative proportions in South Africa's mix of private- and State-owned mineral rights is beyond the scope of this paper⁽ⁱ⁾. It is, however, advisable to look at the broad categories under which mineral rights can be owned and administered.

Private ownership means that the mineral rights belong to any party other than the State, e.g. an individual, a community, a trust or a mineral company. The State has no claim to compensation for the depletion of privately-owned mineral rights. Examples of this type of ownership are common in the USA and South Africa. State, Crown or Public ownership means that the right to the minerals in the ground is vested in the State on behalf of the people. Exploitation of minerals held in this way entitles the State to levy a royalty, which is then distributed among the people in the form of services. This type of mineral rights ownership is the international norm, particularly in the developing world.

Administrative control or licensing can rest with national, provincial or local governments. In South Africa, administrative control of mineral rights is at a **national level**. It is government's belief that national administration of mineral resources lends itself to better co-operation with neighbouring countries, particularly when orebodies extend across international boundaries. This approach agrees with SADC's⁽ⁱⁱ⁾ objective to increase economic and political integration among member States. The recent negotiations on the Sea Concession Boundary between South Africa and Namibia is a case in point. Mining companies favour national administrative control because they prefer to operate under a set of rules applied uniformly throughout the country. The White Paper (page 63) also proposes that the minerals industry should be governed at national level through the Department of Minerals and Energy.

On the other hand, the **provincial** governments are looking for ways to increase their revenue from commerce and industry. One way would be by controlling mineral rights which would then entitle them to charge mineral royalties. Australia, Canada and Argentina have systems in which the responsibility is shared between federal and provincial governments. Administration of mineral rights at **municipal**

(i) A detailed discussion of the historical developments in mineral rights ownership and the mineral policy process following the 1994 elections, appears in a paper by Cawood and Minnitt (1998)⁷.

(ii) Southern African Development Community (SADC) is the most advanced regional organization in Africa. Its members include Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Its main objective is to increase economic and political integration among member States.

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level is a notable exception from the norm. Local authorities benefit by rendering services, charging property taxes and collecting regional service council levies.

Arguments in favour of State-owned mineral rights

The arguments that are usually offered in defence of State ownership include:

- ▶ A mineral resource is a national asset belonging to present and future citizens of a country. Government, as custodian of the national patrimony, should have control over the rights to minerals in order to meet national objectives.
- ▶ State ownership of mineral rights is the norm in developing countries and is one reason why they successfully attract a significant share of the world's mineral exploration funds. These countries have demonstrated that State-held mineral rights have not prevented investment in, and development of high-cost, long-life mining projects. Control of mineral rights by the State considerably simplifies licensing procedures because mining companies need only deal through one authority.
- ▶ It is frequently alleged that mining companies, in order to mitigate shortfall in supply or to exclude potential competitors, delay the development of their potentially profitable investment opportunities. In the process economically viable deposits remain unexploited and these *'frozen rights'* create a barrier to entry for new investors. State ownership would improve the availability of these rights and encourage exploration, thereby increasing the probability that prospects could be developed into producing mines.
- ▶ Cadastral boundaries bear no relationship to underlying geology and mineral resources. Where resources extend across farm boundaries the consent of more than one holder is required before mining can commence. The risk of mining investment is increased considerably as the number of holders increase, as is the case in the current dispensation. This argument can be carried further by saying that State ownership would enhance SADC's aspirations to exploit mineral resources across the region's national and international boundaries.
- ▶ The fragmentation of land and the subdivision of mineral rights into undivided shares among two or more persons has been practised traditionally in the case of family farms. Farmers bequeathed shares in mineral rights to their heirs, who in turn subdivided it among their inheritors⁸. This action has resulted in ownership over very small areas of land and insignificant shareholding in mineral rights⁽ⁱⁱⁱ⁾. Prior to exploration all holders must be persuaded to consolidate their portion so that a prospecting or mining authorization in terms of Sections 6 or 9 of the Mineral Act can be obtained. The extremely time-consuming process of tracing holders in order to secure mineral rights has resulted in the sterilization of large tracts of land. This is clearly an unfavourable situation

(iii) See Annexure A for an example of typically fragmented mineral rights. Further examples illustrating the complexity of South Africa's mineral rights system are discussed in detail by Kruger, De Witt and Levin²⁹.

with regard to mining access. Fortunately, further fragmentation by testamentary succession was limited by the enactment of the Mineral Laws Supplementary Act (No. 10 of 1975) and the Minerals Act (No. 50 of 1992), respectively. However, the practice of fragmenting mineral rights has not ended entirely because trusts and companies, often Closed Corporations, are now the means by which mineral rights are further subdivided among inheritors.

- ▶ The extreme leverage that private holders can exercise on prospective mining companies is often overlooked. Both unreasonable demands by private holders and high mineral royalties act as powerful disincentives for exploration and mining investment. Excessive payments requested by holders inflate the costs of mining, raise the cut-off grade and effectively sterilize marginal mineral discoveries⁹.
- ▶ State ownership of mineral rights would facilitate the gathering, collating, storage, retrieval and release of geological and technical information submitted to the DME during the course of exploration and prospecting activities. *'Unnecessary duplication of exploration effort, which represents a waste of taxpayers' money because exploration expenditure is tax deductible, can thus be prevented.'*⁸.

Arguments in favour of privately-held mineral rights

Those who favour a system of private mineral rights ownership usually use the following arguments

- ▶ The principles of free market economy require a minimum of interference by government in order to allow market forces to dictate the pattern of development. Since 1652 South Africa has enjoyed both State and private ownership of mineral rights. This mix of ownership introduced a flexibility which has enabled the mining industry to play a significant role in the economy.

An investigation by Eggert¹⁰ into access to public lands in the US and Canada, found that federal ownership of rights discouraged exploration and mine development. The State can utilize public land more easily for national parks, military purposes, etc. rather than opening it for exploration activity, than private land. Minerals can only be mined where they are found and if they occur in areas reserved for public uses, development is delayed. Eggert finally recommended privatization of Federal lands because *'...the private market place is more likely to allocate resources efficiently than a central planning organization'*.

- ▶ Private ownership of mineral rights provides long-term security of tenure. This is especially true for some of the high-risk, long lead-time mineral deposits found in South Africa, most of which have required substantial investment. Returning private mineral rights to the State without due compensation will be unfair because of the previous government's policy and land classification. Different layers of ownership led to inflated costs of acquisition over Alienated State Land and associated nomination agreements, previously Proclaimed Land and Trust Land⁷. Attaching a realistic market value to the rights will be another complication.

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Paying market-related prices as a necessary form of compensation would be a massive burden on the fiscus.

- ▶ Most of the mineral rights not developed actively by mining companies are held by them as future opportunities for growth. Although some 'frozen' mineral deposits may be economically viable, the additional mineral supply that would occur if these deposits were mined, could interfere with market stability. Platinum and manganese are examples of markets that are particularly sensitive to over-supply.
- ▶ Restrictions to access through private ownership of mineral rights constrain the immediate and simultaneous use of all available mineral resources. Unrestrained depletion of mineral resources could lead to environmental degradation that would undermine the principles of intergenerational equity and sustainable development. If all the economic rents from mineral resources are invested in reproducible capital, under certain circumstances, the levels of output and consumption will remain constant over time^(iv).
- ▶ Unless the administrative procedures for the granting of prospecting and mineral leases applications are streamlined, State ownership will not necessarily ensure improved access to mineral rights. The absence of standardized models for mining agreements, mineral royalty payments and mineral rights administration procedures can lead to excessive and costly delays, so-called '*administrative sterilization*'. The recent move of the directorates Minerals Bureau and Mining Economics from Braamfontein to Pretoria is intended to promote the one-stop-shop approach to mineral development.
- ▶ Finally, the mining industry's investment into research and development of more effective mineral extraction and processing methods means that submarginal orebodies may become exploitable as new technology becomes available. The holding of mineral rights over submarginal resources is a major incentive for investment in research and new technology. For example, seventy-three million rand, over the next three years, has been allocated by AngloGold, Gold Fields and Durban Roodepoort Deep for developing new technology and research into mining ultra-deep Witwatersrand gold-bearing reefs.

Mineral rights ownership and its impact on access

Those in favour of and those against exclusive State ownership of mineral rights, base their arguments on the same argument, that is the belief that their administrative style will ensure optimal utilization of South Africa's mineral resources. Given the complexities of the South African mineral rights system, it seems that we are forced to retain the *status quo* which allows for both private and State ownership. State ownership of mineral rights has merits and a shift towards exclusive public ownership seems

(iv) This is known as Hartwick's rule^{11,12,13} which interprets sustainability in terms of non-declining consumption through time.

unavoidable. However, those who obtained security of tenure through purchasing mineral rights at very high cost stand to lose much. The words of Nick Segal deserve mentioning. He said that '*Despite the benefits that incontestably have accrued from private ownership, there is no denying that a realistically applied system of private utilisation of publicly owned orebodies—such as pertains for instance to iron in Australia and copper in Chile—might have served South Africa equally well.*'¹⁴

The combination of private and public mineral rights ownership that exists in South Africa is seen by some as a comfortable compromise. Similar structures are encountered in the United States of America and some countries in Europe including Germany and the United Kingdom. These structures prompted Dale¹⁵ to ask: '*Is it the mineral rights system or the implementation (administration) thereof which causes access problems?*' This is an appropriate question and deserves an answer before any decision on the taxation of mineral rights and its impact on ownership can be made.

Alternative approaches to access

Minimum activity and expenditure requirements are standard features in countries whose mineral sectors are most favoured by foreign investors¹⁶. These requirements are not currently enforced on companies undertaking exploration in South Africa. Jourdan¹⁷ proposed these measures as a means of increasing access to mineral rights as far back as 1992.

In order to resolve the access problem, Levin and Handley¹⁸ in 1993 proposed a strategy to retain the *status quo* until 31 December 2000. Thereafter, holders of mineral rights and holders of prospecting and mining rights granted in terms of whatever Act, either relinquish their rights in favour of the State, without compensation, or renew it under a new set of rules. Their suggestion, which was made prior to the 1996 Constitution of the Republic of South Africa Act, does not take account of property rights that are now protected by the Constitution.

In their efforts to increase access to mineral rights, the mining houses **first**, have reviewed their portfolios of mineral rights with the intention of making some of these rights available to smaller operators. **Second**, they have unbundled mineral rights over areas that are not viewed as essential to their survival in the medium to long term. **Third**, mineral rights swapping is becoming a popular instrument among mining houses for disposing mineral rights over unused land in exchange for ground that can be exploited using existing infrastructure.

Another possible mechanism for ensuring the return of privately-held mineral rights is for the State to enforce the sale of rights to itself, in effect expropriation. Given the current state of government finances and the difficulty of valuing mineral rights, this option is not achievable.

Mineral rights and taxation

Before a tax of any kind can be imposed the objectives and consequences of its imposition should be closely examined. The intentions of government and its objectives as defined in the mineral policy provide the ground rules as to what the tax should achieve. The objective could be to encourage private holders to hand their rights over to the State, or to increase

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exploration activities, increase access to unutilized mineral rights and increase State revenue.

The perverse outcome of imposing a mineral rights tax is illustrated in the case of Botswana. The tax was introduced in 1972 with the aim of increasing State income and encouraging exploration activities. Although the tax led to the swift return of mineral rights to the State, it did not succeed in providing either additional revenue to the government or in increasing the level of exploration¹⁹.

If the objective of a South African mineral rights tax is to encourage the transfer of private mineral rights to the State, the outcome will not necessarily be similar to that of Botswana. South African holders who do not intend exploring for minerals will probably avoid the tax by returning the rights to the State. If the holding of mineral rights is vital for the long-term survival strategy of a mining company, it would have a strong incentive to pay the tax rather than return the rights. The final outcome would be a marginal redistribution of rights and a perpetuation of the present system. It is doubtful whether increased access will be achieved by the tax.

An undesirable outcome of transference of rights over historical mining and prospecting operations to the State is that the responsibility for rehabilitating the mining sites and local environment will fall to the state by default.

Defining a mineral rights tax

No attempt has yet been made to define the details of the tax, but if taxation is the instrument, appropriate rates and allowances would have to be determined. Selection of the wrong policy instrument could undermine the competitiveness of the domestic mining industry. Presumably the rate of taxation would be based either on the area of land (per hectare) or on a percentage of the value of the mineral rights—both of which are fraught with problems. Taxation based on the area covered by the rights disregards the variability in the quality or grade of the mineral resource, while the difficulty of assigning a market value is also a serious impediment. The rate of taxation will determine the response of holders. Too low a rate will be viewed as an inconvenience, while a too high rate will imply nationalization. It is ironic that, in the absence of a definition, general consensus already requires exploration expenditure to be allowed as a deduction. The suggestion in the White Paper⁴ of waiving the tax initially where the retention of mineral rights is part of a long-term strategy in the national interest and thereafter where active exploration is taking place, contributed to the confusion. Criteria for the retention of mineral rights **in the national interest** and an unambiguous definition for **active** exploration would have to be found.

The evolution of mineral taxes

With the globalization of mining finance, governments must now 'compete' with other developing countries in attracting scarce investment capital. Developing countries are doing their best to accommodate the expectations of the multinational investor by creating an enabling environment through the implementation of more investor-friendly policies²⁰. The multinational investor now has the luxury of choosing only those targets whose policies provide substantially better

investment opportunities. Against this background the new Mineral Policy for South Africa faces many challenges if the government is serious in its attempts to attract foreign investment.

The global evolution of mineral taxes^(v) since 1900 can be divided into three distinct eras²¹. In the colonial era (prior to the mid-1960s) tax regimes were simple and tax burdens comparatively low. The terms and definitions of how taxes were to be levied in the second or post-colonial era were more complex and tax burdens increased significantly. In this period of nationalism, policies of state control and intervention were applied frequently throughout the developing world. Public involvement in many nationalized mineral resource operations could not be sustained and resulted in the mineral industries of the host countries being neglected and mismanaged. The modern era from the mid-1980s saw the implementation of new policies which are more favourable to the multinational investor. This global move to restructure policy, particularly among developing countries has resulted in countries with similar risk profiles having comparable tax regimes.

The process of policy reformation is likely to continue as political posturing, bargaining powers and public perceptions in developing countries change. The latest trend is for policies to be cast in very similar moulds. Jeffrey Sachs neatly summarized the economic forces that make competitive investment policy an imperative for modern governments by observing: *'For the first time in history, almost all the world's people are bound together in a global capitalist system. This momentous development forces us to think anew about the world economy. In the past, differences in policies across regions of the world resulted in vast differences in economic performance; in the future, policies are likely to be more similar'*.²² Economic concepts of this type have led to the creation of regional policies (where a number of states share the same policy) and could be extended to include a global policy for mineral investment. The powers vested in the United Nations, World Bank, International Monetary Fund and the World Trade Organisation suggest that the establishment of a universal policy is not impossible. The United Nations Law of the Sea, for example, strives for the control of deep seabed mineral rights and recently it has been suggested that mineral rights on the moon are the property of mankind²³.

South Africa holds a unique position in the evolution of mineral tax regimes. Political ideologies of the past extended the colonial era in this country until 1994. The rise in black nationalism led to the election of a democratic government in 1994, approximately thirty years after the colonial era had ended elsewhere in the world. This means that South Africa had to move directly from the colonial to the modern era. Although it could be argued that South Africa had the luxury of learning that excessive state intervention deters investment, this is small comfort for those who do not have access to the basic necessities of life. The vast majority of the electorate want visible transformation in all sectors of the economy, including mineral rights. Politicians are under considerable pressure to transfer mineral rights ownership to

(v) See Annexure B for a more detailed analysis of the evolution process.

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the State and believe that a mineral rights tax will accelerate this process. However, this is in direct conflict with modern era policies and currently evolving tax issues. On the other hand, policy-makers cannot afford to design policies that are out of step with what is happening in the developing world.

Economic evaluation of a mineral rights tax^(vi)

Over the years economists have identified five criteria for evaluating tax regimes under market conditions, that is neutrality, efficiency, equity, clarity and stability. These criteria ensure equitable sharing of resource rents between the State and investors. A tax on mineral rights should also conform to these criteria.

Neutrality

Neutrality is a measure of the influence that taxes have on final investment decisions. When a tax is neutral, all sectors in an economy have an equal chance of attracting investment. The final allocation of resources is decided entirely by economic considerations, such as least cost and maximum return on investment. Tax provisions that violate the neutrality standard should be avoided except in unusual circumstances where its influence on a particular sector can be clearly justified.

Given South Africa's unique circumstances, taxing mineral rights with the objective of increasing access to them may be justified. However, the potential influence of such a tax on the economy is unknown and experimentation could make investors nervous.

Efficiency

Governments are legitimately concerned with social, political and economic objectives. By contrast, the private sector is concerned mostly with its own interests. The market's failure to internalize private sector socio-economic costs has led governments to design policies which encourage efficient utilization of private sector resources. Governments can apply taxation to encourage employment and downstream beneficiation. The efficiency principle, therefore, accepts limited modification of the neutrality principle if these changes encourage macro-economic stability or growth.

Gaining access to proven economic mineral resources using mineral rights taxation, where the actions of private mineral rights holders are clearly in direct conflict with the national objectives, is justified in South Africa's high unemployment situation.

Equity

This standard recommends equitable allocation of tax burdens among all taxpayers. It reinforces the principle of neutrality and prefers tax instruments that reward managerial efforts and sound economic decision-making in the private sector. According to this principle, the State should not penalize the private sector by imposing a mineral rights tax if the mineral rights were purchased as part of a long-term strategy to secure future markets.

(vi) This evaluation is based largely on results of information supplied by the Institute for Global Resources Policy & Management at the Colorado School of Mines^{21,24,25}.

Clarity

The fundamental principle of clarity refers to unambiguous administrative rules and regulations that must be understood clearly by both taxpayers and government officials. Ambiguity in interpretation, according to Cordes 'leads to increased perceptions of risk, opportunities for tax minimization strategies, and conflict'.²¹ An important consideration in designing tax instruments is that governments must ensure that they have the capacity to administer and monitor new taxes effectively. The World Bank²⁶ identified the credibility of the tax regime as the key to success in any tax reform. Making tax changes without adequate consideration to administrative procedures undermines credibility. The issue of administrative capacity embodied in the fundamental principle of clarity would appear to be the major problem associated with a mineral rights tax. The tax will not achieve its objective if the information system, which will allow for efficient administration, is not implemented first.

Stability

Tax regimes should be stable and frequent adjustments avoided as they increase the perceived risk of investment. However, in our opinion a considered, one-off adjustment to the tax system by the introduction of a mineral rights tax as a policy instrument to achieve a specific goal will not influence the stability of the current South African tax regime or detract from the country's investment potential.

Mineral rights and information

Two positive aspects that emerge from the White Paper are the government's commitment first, to introduce an efficient mineral rights administration system and second, to increase access to mineral resource information. Efficient administration and access to information on their own will go a long way to increasing accessibility to mineral rights for potential investors. A recent study of resource access policy³ summarized the challenge faced by host governments as follows: *'The fundamental problem facing governments is how to ensure that decisions about the use, or combination of uses, to which particular areas of land are dedicated will maximize the net welfare of society over time. The issue of importance to policy makers is whether the institutional frameworks within which decisions are made about land use allow for competing values to be genuinely assessed'* (p. 81). It is argued that the ideal policy model has two key elements: transparency of the administrative process and predictability of the definitions of property rights and security of tenure, both of which depend on quality resource information.

The most formidable shortcoming is the lack of a user-friendly, mineral rights database. By and large, private holders keep records of their mineral rights holding while the State has no portfolio of its own. Clearly, a permanent solution lies in the efficient management of mineral resource information while optimal access to land will only be realised when there is access to information. This will mean a radical shift from the passive and secretive style of government administration that characterized mineral rights transactions in the past. Dynamic administration of mineral rights as well as prospecting and mining authorizations, together with the

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management of the information gathered during administration, in a well co-ordinated database, has to be a prerequisite for achieving the optimal exploitation of South Africa's mineral resources. Failure to implement this management programme would be the weakest link in any policy restructuring. Without a mineral rights register and mineral resource information it will be impossible to determine the effects of imposing a mineral rights tax.

The role of the Department of Minerals and Energy (DME)

According to the White Paper, it is government's long-term objective that all mineral rights be vested in the State. Should this become a reality, measures will be required to compensate for the reduced security of tenure that mineral rights holders will face as a consequence of private ownership being replaced by administrative law. These measures include issues, such as implementation of sensible regulations backed by efficient administration procedures for the issuing and monitoring of licences, the reduction of discretionary powers of government officials, standardized mineral royalties, standardized exploration fees and a model mining agreement. They will reduce the number of contracts presently negotiated individually while allowing for a facility to negotiate special terms and conditions for extraordinary mineral projects. Its one-stop-shop nature, staffed by informed and trained staff and backed by correct and up-to-date information will not only reduce administration time significantly, but will also allow for efficient allocation of rights.

This proposed shift in government approach demands 'a clear understanding of the economic issues involved, and the objectives of the new policy, in order for the Department to gear itself towards an effective implementation strategy'.^(vii)

Establishing a REGAL Information System

A workable, accessible, user-friendly information system is the first step towards optimal utilization of mineral resources. We propose an information system that integrates Resource, Economic, Geographic, Administrative and Land information in a single system which we refer to as the REGAL system. This is a broad, all-encompassing and seamless information system for use at national level. This system will provide the necessary linkages to allow for efficiency between the various databases, e.g. the isolated information systems in the different government departments. The REGAL system will enable equitable access to mineral rights and encourage investment by foreign multinational mining companies.

Resource information

Resource information would include all geological, prospecting, mineral reserve and mining information that will

facilitate the compilation of a national inventory of mineral resources. The information should be organized and audited before recording it in the REGAL system. This procedure will enable the system to be updated immediately prospecting and other mineral resource information is disclosed. The means by which correct and complete information is declared remains to be resolved. This means that the national exploration database suggested on page 18 of the White Paper would merely be one component of the information system. An inventory of current and abandoned mines of South Africa should also be compiled.

This database should include mine boundaries, mineral reserve information and the extent of mining as depicted on the mine plans.

In order to keep abreast with global anti-mining environmental pressure groups, information is required about past, present and alternative land uses. This desired land use database will include information about environmental attributes, land cover, conservation values, and sensitive areas. The purpose of this database would be to establish relationships between sensitive areas and mineral potential in order to classify land in detail according to the designed uses. A land use classification system, together with pre-determined conditions for resource use activities, will reduce uncertainty for both industry and government decision-making. Furthermore, it will improve resource use outcomes and reduce potential land use conflict significantly. Perhaps the biggest advantage would be that the database will provide early information where potential conflict may be expected and '....precipitate the process of consultation and negotiation for resolution while the issue at stake is still in its infancy.'³

Economic information

An economic database will retrieve up-to-date market information on mineral prices, extraction costs, environmental control costs, land values, mineral right values, local unemployment, population density and socio-economic indicators. It will provide bottom-line information for cost-benefit exercises necessary for efficient allocation of land and mineral resources over a period of time.

Geographic information

Geographic information relates to the spatial relationships between objects that are uniquely geo-referenced in terms of the national survey grid. For the purpose of establishing the REGAL system, geographic information would include all mining and cadastral boundaries.

Administrative information

An essential ingredient of the REGAL system is a mineral rights register. Mineral rights ownership information can be obtained either by tediously compiling a register from Deeds Office information or by encouraging private holders to declare their mineral interests to the DME. Given the urgency of the matter the first option is impractical because of government's staff and budget constraints. The second has the advantage that only privately-owned mineral rights will be declared and listed. Undeclared mineral rights will revert to the State automatically. Compilation of the mineral rights register will make it possible for the first time to determine

(vii) A detailed discussion on the relationship between management of mineral resources and administration of mineral rights is beyond the scope of this paper. These two issues have been discussed in great detail by Cronje²⁷ and the authors strongly recommend that the reader obtain a copy of his 'A functional approach to promoting investment in state-owned minerals in South Africa including those suited to the small and medium scale mining sectors.' Cronje also stressed the importance of a geographic information system in his strategy to increase access to mineral rights.

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the extent of private and public mineral rights ownership. It will also be possible to establish the relationship between mineral rights and the issuance of permits and licences over such rights. A database of mineral rights holdings was also suggested in the White Paper⁴ (p.18), but no strategy about how this should be done was offered.

Land information

A database detailing the ownership of mineral rights would be incomplete without the complementary information on land ownership. The Deeds Office which is currently compiling such information, has offered to make the data accessible to the public. This land ownership database must also take cognisance of the world-wide drive towards aboriginal empowerment. Areas in South Africa affected by land claims in terms of the Restitution of Land Rights Act No. 22 of 1994, should also be accommodated in this database. Ideally, the negotiating powers of land holders should be defined clearly in order to prevent actions that conflict with the national interest.

Financing the REGAL system

Related to the kind and quality of information necessary to support the REGAL system is the cost of obtaining, integrating and maintaining data. A literature survey of historic methods of financing information systems indicates that private sector funding and government grants are the principal choices.

Private sector funding

There is no incentive for the private sector to collect the different types of information required for the REGAL system. For example, basic information on environmentally sensitive resources gathered by the private sector may result in delays in government approval of mining and exploration licences. Another argument against private sector funding is that the level of information gathered will be less than socially optimal because of the cost involved⁵. Given the lack of incentives, any suggestion that the private sector should fund the REGAL system will be met with resistance.

Government grants

A good example of government funding for a comprehensive information system is the Colorado Resource Information System established in the early eighties. Two federal grants, equivalent to about R17,5 million in today's terms, to the Colorado Department of Natural Resources over a three year period, were provided to fund their Regional Information System. The overall system proved to be successful in promoting resource utilization and investment in the region. As a result of the significant decline in exploration investment, South Africa is now in a position similar to that of Colorado in the late nineteen seventies. We differ on the point of government's ability to fund the REGAL system. Although there is widespread recognition of the need for a system, the necessary resources required to develop and maintain it are unlikely to be met by the State.

An alternative approach

The responsibility for establishing the REGAL system should be shared by government and industry. Industry should

declare its information while government, or a minerals corporation as proposed by Kruger, De Wit and Levin²⁹ in 1991, should build and maintain the system. The wealth of information presently held by the DME and the Council for Geoscience should be integrated before requesting new information from the private sector. This will reduce gathering time, costs and industry resentment.

We recommend the establishment of a trust fund specifically for funding the REGAL system with the DME acting as trustee. This would ensure that the identified resource revenues are protected from expenditure by the government and that the benefits will be extended in perpetuity. The identified resource revenues include licence, prospecting and mineral royalty fees which are not collected by the Department of Finance but are paid to the regional offices of the DME. These revenues which constitute less than 0,02 per cent of total State revenue collections, would amount to approximately twenty million rand per annum²⁸.

Conclusions

The complex interaction between access and mineral rights ownership has been an ongoing focus of attention. The question remains on how this impasse can be resolved responsibly and without further complications. The White Paper suggests that consideration be given to using disincentives to improve access to mineral rights. However, designing an instrument that will accommodate the legitimate interests and needs of both government and investors is no easy task. It is our opinion that before introducing a disincentive, government should rather allocate resources to the REGAL system.

The REGAL system will identify conflicts between private and national interests allowing government to take corrective action using a 'horses for courses approach'. Although it is true that the REGAL system cannot make decisions, it can support and facilitate decision-makers' deliberations by providing information in ways which answer their questions about developments and its impacts. Better informed policy makers are more likely to make better policy decisions.

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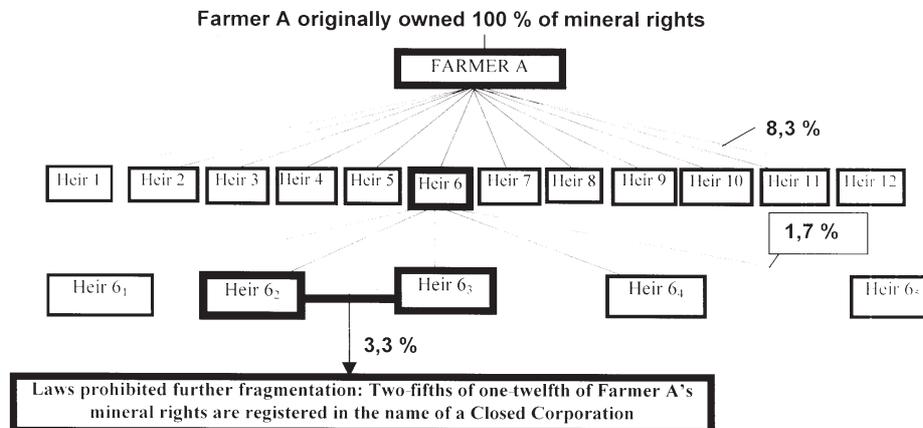
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Annexure A

Real life example showing fragmentation of mineral rights

As an example of how quickly mineral rights can be fragmented, information on a certain farm near Vereeniging in the Gauteng Province was obtained from the Pretoria Deeds Office. The Ventersdorp Contact Reef (VCR) underlies the farm at a shallow depth. There are also other Witwatersrand reefs at greater depths which need more exploratory drilling before they can be properly evaluated. Present economics classify these gold-bearing reefs as submarginal, which already limits the possibility of a mine being established on the farm. A rise in the gold price will do little to change this situation because the ownership and distribution of the mineral rights among parties are so complex that it seems unlikely that the gold in these reefs will ever be exploited.



Once the Directors of the CC are traced, the other 96,7 % of the holders must be located and persuaded to allow prospecting and mining operations!

Information as an alternative to mineral rights taxation

Annexure B

EVOLUTION OF GLOBAL MINERAL TAX REGIMES

Description	Colonial era (up to mid 1960s)	Post colonial era (1960s to 1980s)	Modern era	Evolving issues
Structure of mining industry	Oligopolistic: small number of companies.	States sought permanent sovereignty through nationalisation.	Competitive industry: - large number of private companies willing to take risks.	Competitive/private industry.
Socio-political and economic events	Undeveloped world merely seen as a source of raw materials for mother countries.	Political independence led to a desire for States to control project and investment decisions.	Falling mineral prices resulted in mine closures. Developing world desperately needs foreign investment to resurrect its mining industries.	Developing world scrambling for investment.
Bargaining power	Companies had control over technology and financial resources, which gave them strong bargaining powers.	Rise in nationalism gave the States strong bargaining powers. Investments and projects were expropriated which resulted in the establishment of either State Mining Enterprises (SMEs) or other State intervention in the private sector.	Recognition that SMEs are ineffective vehicles for mineral production. SMEs were privatised, which strengthened the bargaining power of companies to about the same level as that of the State.	Industry operates in an enabling environment created by State policies conducive to sustainable development of all natural resources.
Characteristics of mineral tax regimes	Simple tax systems; Low tax burdens; Stable policies.	Complex tax systems (introduction of resource rent instruments); High tax burdens; Significant policy experimentation resulted in dramatic changes.	Restructured tax systems (incentives to invest); Lower tax burdens; Globalisation of policies.	Increased globalisation led to competition among nations seeking investment.
Host government receipts	Host nations received little domestic retained value.	Significant increase of locally retained earnings which could not be sustained.	Reduction in taxes with the emphasis on a fair share to both parties.	Incentives to reduce tax impact in order to attract investment.
Security and continuity of tenure	High investment stability and security.	Disruption of security and stability caused serious defensive reactions from the private mineral industry.	Security and stability obtained through licences and concession agreements.	Private sector demands security and stability and regards it as non-negotiable.
Minerals administration	Little administrative control.	High State controls. Concession agreements terminated and were either renegotiated or turned into SMEs.	Balanced approach. Limited State intervention in mine management and industry economics.	Efficient mineral resource management and administration policies. Environmental revolution resulted in developing strict controls.
Access to mineral rights	Easy access at very low cost; Permitted lock-up of vast tracts of land over long periods of time; Companies stockpiled reserves for future production to preserve control over markets.	Difficult for private sector to get access; Licence periods reduced significantly; Stockpiling of reserves discouraged	Encourage private access to reserves; Policies and administrative procedures prevent lock-ups; Terms and conditions of agreements determine the extent of stockpiling.	States follow an open door (one stop shop) approach to attract investment