

Mining Cadastre in Tanzania

André HERNANDEZ, Denmark

Key words: Mining cadastre, Land Act, Mining Act, Tanzania.

SUMMARY

Tanzania is following modern worldwide trends to reform their Mining Act and set up a Mining Cadastre. The theory describes the Mining Cadastre as a cadastral system defining objects, subjects and rights, but overlapping other surface rights like private or state properties, reserves, farms and villages. The cadastre is then defined as a superposition of rights with interrelated rules concerning overlapping, right of construction, right of use and compensation. The Tanzania experience shows that the coordination with the National Cadastre and the Registrar is necessary to solve conflicts with possessors or holders of other rights. Localization of rights, implementing bacons on the field or solving underground disputes are new tasks for surveyors. And legal background is necessary for surveyors to negotiate with miners, villagers, local authorities and large mining industries.

RESUME

La Tanzanie poursuit ses réformes en suivant la tendance internationale récente et a promulgué un nouveau Code Minier et établi un Cadastre minier. En théorie, le Cadastre Minier est un système cadastral représentant les objets, sujets et droits enregistrés, superposant d'autres droits comme les propriétés privées ou publiques, les réserves, fermes ou villages. Le cadastre est ainsi défini comme une superposition de droits avec des règles relatives aux superpositions, droits de construire ou d'usage, et compensations. L'expérience tanzanienne démontre la nécessité de coordination avec le cadastre National et l'Enregistrement avec de résoudre les conflits entre possesseurs ou détenteurs de droits. La localisation des droits, par la mise en place de bornes ou la résolution des disputes sont de nouvelles taches pour le géomètre. Une connaissance du droit et des capacités de négocier avec mineurs, villageois, autorités locales et grandes industries est nécessaire.

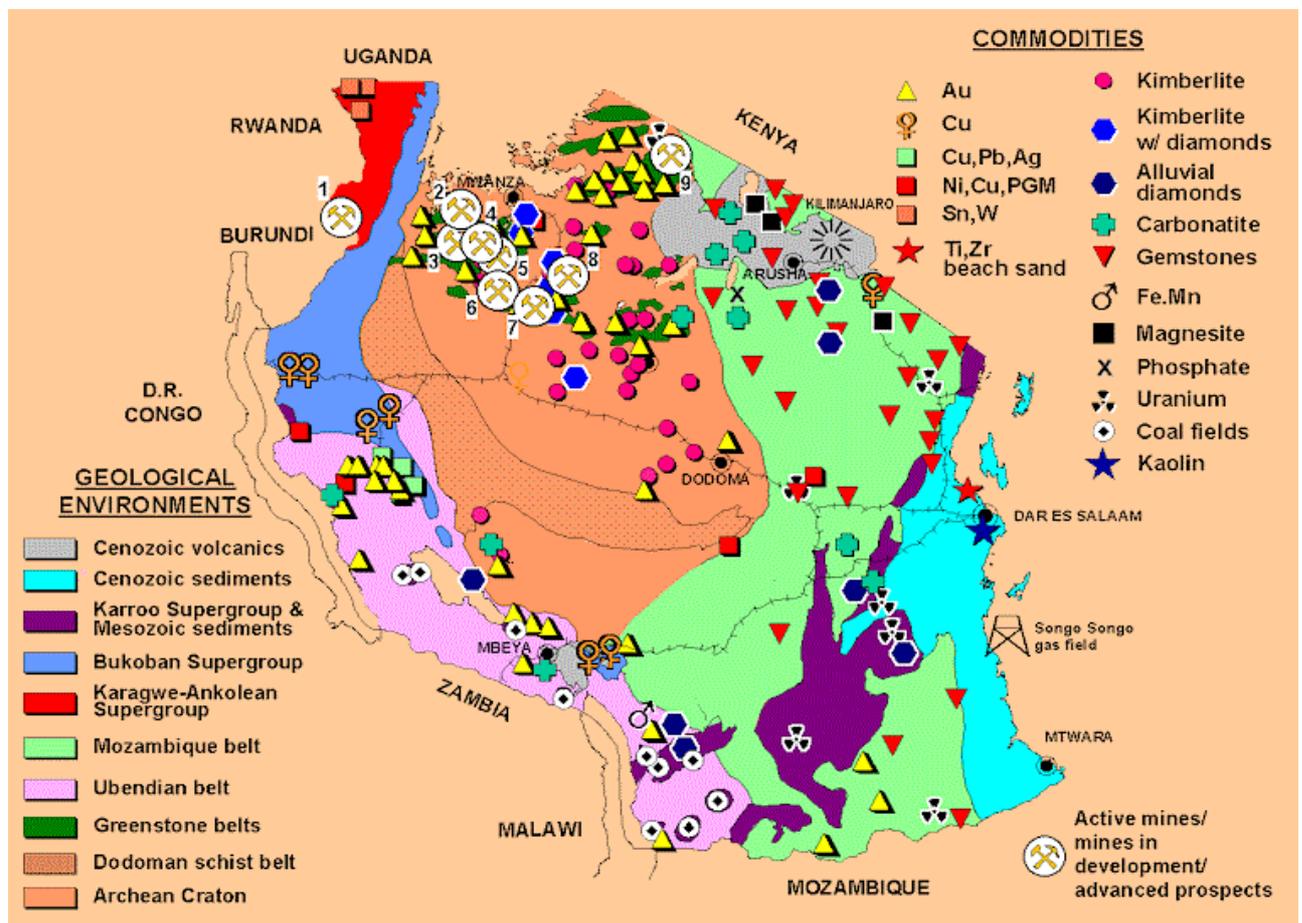
Mining Cadastre in Tanzania

André HERNANDEZ, Denmark

1. MINING SECTOR IN TANZANIA AND INTERNATIONAL TREND

1.1 Tanzanian Mineral sector

An overview of the Tanzanian Mining sector shows the potential importance of this activity in the development of the country. These favorable conditions are the consequence of the geology of the region. The importance of the identified commodities is an attracting factor for investors.



But the importance of the mining sector in the national economy is depending on an efficient legal and regulatory framework, proper to attract foreign investors, secure artisanal miners, and stop tax evasion.

1.2 Mineral Policy

The National Mineral Policy, 1997 defined a vision for 25-30 years based on a well-organized private sector; a large and small-scale mining industry conducted in a safe and environmentally sound manner and contributing in excess of 10% of the GDP, a well-developed gemstone cutting and jewellery industry, providing dependable employment. This ambitious vision is expected to be reached by an approach that is summarized in the following statements:

- Harmonization of all statutes with clear, transparent procedures for granting rights and transfers,
- Harmonization of small- and large scale mining ensuring transparency and fairness practiced by applying "first come, first served" principles,
- Ensuring exclusivity of the licensed areas,
- Encouraging active exploration, discouraging hoarding for speculation,
- Grouping minerals in categories for facilitating targeting of incentives, penalties, skill development and administration,
- Harmonizing the Mining Act with other statutes administrated by other institutions.

1.3 International Trend

Tanzania is not the only country to define new Mineral Policies. There is an international Trend, supported by many donors, to revise existing Mining Laws. The following table shows that many countries have revised their Mining Act in the recent decade:

Country	Mining Act	Country	Mining Act
Argentina	1997	Ghana	1986
Bolivia	1997	Guinea	1995
Botswana	1999	Indonesia	1967
Brazil	1996	Madagascar	1999
Burkina Faso	1997	Mozambique	1986
Chile	1983	Namibia	1992
China	1986	Peru	1992
Columbia	1987	Philippines	1995
Algeria	2001	Mauritania	1999
Cameroon	2001	Congo Kinshasa	under prep.
		Tanzania	1998

All these Mining Acts refer to similar basic principles: provide a modern and open mining cadastre and title registry, granting licenses on objective criteria, apply "first come, first served" rule, exclusivity of the rights, security of the tenure, free transferability of mining titles, environmental protection and clear and simple financial requirements.

2. MINING AND LAND ACTS

2.1 Mining Act, 1998

Tanzania has enacted a new Mining Act in 1998, providing the security of tenure, the progression from Prospecting to Mining license (mineral right) almost automatically, streamlining licensing procedures by introducing a Mineral Titles Register, stabilizing fiscal package by including basic rates, like royalties and standardizing environmental guideline.

There is a standard separation between rights of Prospecting (or Prospecting License), less environmental destructive because related to the searching of minerals, and the right of Mining (or Mining License) related to the exploitation of minerals. Minerals are divided into building materials, gemstones (diamonds, ruby, tanzanite...) and other minerals not included in gemstones (raw gold...). Without entering into more details, this classification is complex and subject to discussion for simplification. Exploitation can be made at the surface (building materials for example), underground in mines that are often more than 100 meters under the surface, or in the rivers like the searching of raw gold (see picture).



The Prospecting and Mining Rights have a status close to a property status: exclusivity of Mineral rights (one holder of right in one location), secured right to progress from exploration to mining, requirements and obligations to both the holder and the government, compensation rules, transferability of the rights and possibility of mortgage.

2.2 Mining Cadastre

One of the main tools for the efficient implementation of this new Mining Act is the creation of a Mining Cadastre, including the location of the rights on the surface with attached sketch map and report on a topographic map, the identification of the holder of the right, and the

TS23 3D Cadastres

4/13

André Hernandez

TS23.4 Mining Cadastre in Tanzania

FIG Working Week 2003

Paris, France, April 13-17, 2003

description of the right. This data structure is very similar to a national cadastre and registration system.

So why not attach this prospecting or mining right as an encumbrance of a property title and use the existing Registrar Offices of the Ministry of Lands to register the mineral right on a property, like it is done in some countries?

Different reasons for this separation: the Mining Act relates exclusively to the right of exploiting minerals and is not modifying the property right defined in the Land Act; the boundaries of these rights are not linked to the limits of the "property" or use rights. Another reason is the necessity of independence of decision of the Ministry of Minerals in area proper to mining investments. Finally, and that was one of the major justification, the absence in 1998 of an appropriate Land Act in accordance with newly defined economic reforms, to be attractive to foreign investors.

2.3 Land Act, 1999 and Village Land Act, 1999

This situation is no longer valid, as a new Land Act is enacted in 1999. The existence of the Mining Act when this new Act passed, was the reason of the definition of the Land as "the surface of the earth and the earth below the surface and all substances *other than minerals and petroleum* forming part or below the surface, things naturally growing on the land, buildings and other structure permanently affixed to land."

In this definition, the holder of a right (the "owner") according to this Land Act is not the holder of any right on the minerals, defined in the Mining Act. This exclusion is defined to avoid inconsistencies and conflicts between the two Acts. However, an overview of the new Lands Act is necessary to understand that the overlapping is unavoidable.

The Lands Act is based on principles defined in the National Land: all land is vested by the President, existing occupation and customary rights are recognized and secured, an equitable access to land by all citizen with a regulated amount of land occupied is guaranteed, ensuring that the land is used productively, the interest in land has a value and full, prompt and fair rules of compensations are defined. Rights of Occupancy and leaseholds for a maximum of 99 years are the only right on land that can be registered.

The Land Act divides all land in Tanzania in three categories: general land managed by a Land Commissioner of the Ministry of Lands, subject to individual rights of occupancy or leases; Reserve Land grouping reserves managed by the Ministry of Natural Resources and public or hazardous land, and the Village Land where, within a demarcated area, Village Councils detain some power to decide on the use of the land, according to regulations defined in the Village Land Act..

The Land Act is not based on a free land market, but focuses on the control of the best use of the land by providing long-term leases, no full property, with a maximum area allocated by family, individual or group, and recognizing community "ownership" of villages.

The Minister of Lands is administrating "land" as defined in the Lands Act, while the Ministry of Minerals administrates "minerals". Minerals are defined in the Mining Act as "any substance, whether in solid, liquid or gaseous form, occurring naturally in or on the earth, or in or under the sealed formed by a subject to a geological process, but does not include petroleum or surface water". Petroleum is defined in the Petroleum Exploration and Production Act, 1980 and is not subject to this description.

3. CONFLICTS BETWEEN MINING AND LAND ACTS

The separation in the administration of "land" and "minerals" induces clearly overlapping of rights that may create disputes. The major conflicts relate to the Environmental issues, the rights of the "Surface" holder, prospecting and mining in Reserves and General Land, right of construction of plants by miners or buildings by residents, rules of compensations, payment of fees and taxes, demarcation, registration of overlapping rights.

3.1 Environmental Issues

Mining activity is environmental destructive at the surface. Regulations are strictly defined to force miners to compensate holders of rights and to repair the destructions. The environmental requirements are defined in a separate Regulation of the Mining Act. Environmental issues are discussed in inter-ministerial Committees, including Ministry of Lands and Ministry of Natural resources. Environmental Impact Reports must be provided by Miners.



The Land Act is not defining any Environmental constraint.

3.2 Overlapping

Many Mines are operating in the General Land area, administrated by the State. However, farms, constructions, or any interest on land may exist in the same area. It is also notices that many minerals (gold, diamond) have been discovered in the North region of the Kilimandjaro where Natural Reserves with highly tourist activity exists. Finally some minerals are exploited within the boundaries of Villages.

The complexity of possible geographical overlap between both land and mining rights is increased by two additional factors: the boundaries of a mineral right is totally different from the boundaries of the “properties”, because following locations of discovery of minerals, pipes, rivers...Mining regulations obliges the demarcation of the mineral right at the surface and specified beacons are implemented. However, no common map exists and the existing topographic maps of the ministry of Lands are not showing the boundaries of new Licenses.

Inversely, the Ministry of Minerals is unable to provide the applicant complete and up-to-date information concerning existing rights. Different coordinate systems are used, both Ministries are working in a quasi-complete independence and the Acts are too recent to be fully implemented on the field.

Many overlapping rights disputes are solved by private agreements and negotiations where the Governmental offices, mainly the regional Mining offices, can play a role of arbitrator. But the majority of private conflicts are solved by agreement on compensations negotiated directly between the Miner and the supposed holder of land right. In many cases, the land is allocated by the State in the General Land area, where miners may found farmers or villagers they have to negotiate with. The situation is quite different with International Mining companies, who are demarcating and closing the mining area for security reasons, and have the financial capacity to buy any right to individual poor farmers or villagers.

The situation in Natural Reserves is more critical as the Act does not allow Mining in this area. Illegal artisanal mining develops, out of the control of the Government, without applying environmental and safety regulations. This illegal mining Activity is developed in many existing rush area, out of control of the Government, particularly for gemstones and gold exploitable -if not profitable - with a minimum investment.

Managing overlapping rights can be improved by a unique coordinate system that could in the future superpose both Land cadastre and a Mining cadastre systems. A MCIMS (Mining Cadastre Information Management System) is under preparation while no Project is still initiated in the Ministry of Lands.

3.3 Right of Construction



The agreement signed between the lawful occupier and the miner includes compensation rules but another issue still remains. What are the rights for the occupier to erect buildings or construction within the area allocated for mining (or prospecting) and what is the right of the miner to erect buildings, plants, drains, and pipes, appliances above and below the ground.

Some Mining licenses are using "extensively" large part of land, with just a limited area used for mining activity. Villagers may be interested to build a construction or to develop farms in the land where they have a deemed right of occupying the land, in an area where the Mining right applies.

The right of building by villagers is regulated in the Mining Act, where they need an authorization of the registered holder of the Mining right concerned that cannot be "unreasonably delayed". However, it is not easy understandable for villagers who are usually not registered to ask for an authorization to build to a miner that is not using large part of the land allocated to him. And if the right of occupancy is registered, no restriction is noticed in the Registrar concerning rights of buildings.

The situation of holders of Mineral rights is more complex, as their prospecting or mining area may include other buildings, public land, protected area, farms, villages, roads, as well as sites of drilling of a well for petroleum.

Restrictions and rights of entry are defined in the Mining Act. Consent of the responsible Minister is required for exercising his right in land dedicated to public purpose, with a security perimeter in case of buildings, aerodromes, military installation. The written consent

of the lawful occupier is required, with a security perimeter the case may be, for farms, occupied land. National Parks and Forest reserves are excluded of exploitation. Local authorities, Municipalities and villages must provide their written consent if exploitation is foreseen in their area. Finally exercising Mining right is not authorized within 100m from roads, railways, pipelines or power line, Petroleum exploitation without consent of the responsible Minister.

3.4 Compensation

The overlapping issues refer to clear compensation rules. These rules are defined in both the Lands Act and the Mining Act. The financial compensation is decided by private agreement in the majority of the cases. Sometimes, the Regional Mining Office can play a role of arbitrator or adviser, mainly to small scale farmers or miners. The Commissioner may have to decide in rare cases. Few are going to the Court, essentially for disputes on the evaluation of the amount due by large-scale Mining companies to lawful occupiers.

Compensation rules can be compared in terms of beneficiary and evaluation.

The Land Act defines lawful occupier any person with right of occupancy, long-standing occupation or customary use of land. Unlawful occupiers are occupying or building without any right. The Mining Act defines a lawful occupier as the actual occupant, or responsible if the land is rent, or occupier who may identify possible damages. This definition is an extension of the one provided in the Land Act, confirmed by acceptance of "inhabited, occupied or temporarily unoccupied house or building", "land within 50 m which has been cleared, ploughed, prepared in good faith for the growing of agricultural crops", or "any land from which, during the year immediately preceding, agricultural crops have been reaped". The definition in the Land Act is more restrictive, but the definition of the Mining Act applies.

The land has a value in the new Land Act, which is a new concept in Tanzania, related to the new economic reforms. The land had no value when the Mining Act is passed. Compensation rules in the Land Act are based on market value of real property, disturbance allowance, loss of profits or accommodation, cost of acquiring. The Mining Act can only calculate compensation for the losses related of the limitation of the "property" right by a mining or prospecting right, which is not an expropriation. The Mining Act compensation evaluates damage according to the interest of the lawful occupier, not exceeding amount payable if value not enhanced by mining. In other terms, the compensation cannot include any added value due to speculation created by the discovery of minerals. But private negotiations prevail and this rule is difficult to apply in area where no-value land suddenly multiply their value - with increasing competition between applicants for mining - because of recent discovery of gemstones for example.

4. DISPUTE SOLVING

The existence of overlapping rights creates unavoidable disputes. Disputes arise between different stakeholders: artisanal local miners and villagers, Mining companies and artisanal miners or villagers, between artisanal miners, Governmental administration and miners.

4.1 The Administration and the Miners

The majority of the oppositions exist between the administration and the miners. Rush areas are expanding very quickly in areas where discoveries are deterred. These areas are often not easily accessible, the competition between local miners is without compromise and the zonal offices of the Ministry of Minerals, even informed of the situation, have poor resources and power to react immediately and force miners to register their rights. Some of these areas are included in National Parks where no mineral right can be granted. It is also difficult to regulate when miners are permanently moving in rivers where raw gold is exploited. Environmental destruction in Reserves, but also pollution created by the use of lead to extract gold, very risky for the health, are priority issues.

These no-law areas are slowly naturally self-organizing without direct intervention of the administration. They become slowly better structured as areas officially allocated to artisanal miners and registered, like Mererani where hundreds of licenses have mining rights granted for areas of 25m by 25m each. Artisanal miners contribute to finance Associations in charge of supporting their request against the administration or large-scale mining Industries, and to solve internal disputes. The majority of the disputes relate to the exploitation of a pipe which is in an area allocated to another miner.

Considering that minerals are financially exploitable when mined at a more than 100 m depth, sometimes exploiting galleries where only children can enter (illegal "snake" children), these miners are not welcoming official authorities. Reinforcing and legalizing these Associations is a possible way to better the situation.

4.2 Small Scale Miners and Large Scale Mining Industry

Conflicts between small scale miners, sometimes surrounding closed large scale foreign Companies, like in Mererani where a South African producer of Tanzanite is surrounded by poorly equipped and developed small-scale miners is a source of permanent conflict. The majority of the difficulties relate to the artisanal miners that are trying to attain underground galleries exploited by the Mining Companies in illegally expanding their own galleries by several hundred of meters out of the area defined by their Mineral right. These cases are sometimes going to the Court. Usually, Mines companies use their own lawyers to support their case.

Bettering communication and understanding between both extremes is one of the solutions. This can be done by promoting training and assistance to small-scale miners surrounding the company, proposing basic equipment or materials by the Mining Companies. But the

communication between non-legalized Associations of Miners and Large Scale Mining Industry does not exist, or is refused by them.

It is one the major issues of the National Policy to balance the objectives of supporting small-scale local miners and attracting foreign investors.

4.3 Large Scale Mining Industry and Local Authorities

The dispute is basically created by the obvious difference in financial capacity between large scale foreign mining industries and local authorities.

Bulyanhulu gold mine was during several years disputing compensations based on various accusations with the local administration and villagers. This case reveals the difficulty to reach compromise between rich Mining Industries and poor local authorities that try to get a maximum of immediate financial profit against registered Mining Industries.

But this unfair case cannot hide financial difficulties faced by local authorities. Fees and taxes are due to the Ministry of Minerals, without any return to local authorities. Mining industry creates environmental problems, develops informal human settlements necessitating additional costs to the local authority or the village without any financial compensation.

The solution is sometimes in a commitment of the Mining Company to invest in the regional development, upgrade road access, finance health or educational projects. But Mining Industries say that they participate in the development of the country in providing long-term employment, supply water in the area, developing business with railways and shipping activity and finally paying taxes and fees that increase the Government revenue.

A fair balance must be defined between the direct participation in local development and the financial contribution to the National Budget. Rules and financial contributions must be clearly defined and agreed before beginning mining. The communication with local authorities by the Mining Companies as well as the Central Government is a key issue for ensuring a successful and well-accepted development.

4.4 Is it a Role for Surveyors?

In summary, the major issues relate to the definition of the rights of each stakeholder and evaluation of compensations. Going to Court is an exception.

The Government and the miners should demarcate the area where the right applies, erecting beacons as defined in the Mining Act. The role of surveyors is not limited to this technical work, but induces more legal tasks, recognizing and identifying other holders of rights, lawful occupiers, negotiating compensations with villagers, farmers.

Underground measurements of boundaries are usually not possible or unsafe. They are however used when there is a dispute between small scale miners and Miner Association members are operating these measurements.

Mapping activity, using unique coordinate system and modern technology have started in the Ministry of Minerals by a Mining Cadastre project financed by NDF. Village demarcation is made by State surveyors, but it is hoped that this activity will expand to modern cadastre and registration systems.



REFERENCES

Addresses Internet

Ministry of Mines, Tanzania: <http://www.africaonline.co.tz/madini/index.html>

Chamber of Mines, Tanzania: <http://www.chamberofmines.com/>

Ghana Chamber of Mines: <http://www.ghanachamines.com/>

World Bank Land Policy Development Forum:

http://www.worldbank.org/devforum/forum_landpolicy.html

ILO Mining Policy:

<http://www.ilo.org/public/english/dialogue/sector/sectors/mining.htm>

Mineral Policy Institute: <http://mpi.org.au/>

World Mines Ministries Forum: <http://www.wmmf.org/index.htm>

Institutional Institute for Environment and Development:

<http://www.iied.org/mmsd/index.html>

Mines Ministries of the America: <http://www.camma.org/>

Mining Policy Research Initiative: <http://iipm-mpri.org/index.cfm?lang=eng>

Mining Administration in Tanzania: <http://www.tanzania.go.tz/mining.html>

Tanzania High Commission- London:

<http://www.tanzania-online.gov.uk/MiningPolicy.htm>

Tanzania Economic Reforms: <http://www.cats-net.com/tic/majec.htm>

BIOGRAPHICAL NOTES

Andre Hernandez is Technical-Engineer of Switzerland, with a State Doctorate of Orsay University - Paris. French citizen, he is the Land Management expert of COWI Denmark.

As World Bank or EU adviser, Andre Hernandez participated in appraisal, evaluation and supervision mission of Cadastre Projects in Central and Eastern Europe and Far East Asia. He was recently in charge of advising Donors on the management capacity or evaluating the progress and the efficiency of Land-related Projects in Africa. He is a co-organizing visit and study tours in Denmark for different countries for Western and Central Europe, Asia, South America and Africa land administration experts.

Andre Hernandez was a permanent adviser, assistant project manager or Team Leader for the establishment of Cadastre and Registration Projects in different countries with recent experience in Greece, Laos, Romania, El Salvador, Morocco. He is actively participating in UNDP, EU and World Bank Seminars and Workshops. He published different papers in "Etudes Foncières" (Indonesia simplified cadastre, Bulgaria project management, Greek Cadastre...).

CONTACTS

M. André Hernandez
COWI A/S
Parallelvej, 2
DK-2800 Kongens Lyngby
DENMARK
Tel. + 45 45 97 15 09
Email: ahz@cowi.dk
Web site: www.cowi.dk

M. Per Kalvig
GEUS - Geological Survey of Denmark and Greenland
Øster Voldgade 10,
DK-1350 Copenhagen K
DENMARK
Tel. + 45 38 14 20 00
Email: pk@geus.dk
Web site: www.geus.dk

M. Mayaz Mruma
Project Director
Ministry of Energy and Minerals
P.O. Box 2000, Dar es Salaam
TANZANIA
Tel. + 255 51 137142, 137138
Fax + 255 51 116719
Email: madini@africaonline.co.tz
Web site: <http://www.africaonline.co.tz/madini/index.html>

TS23 3D Cadastres
André Hernandez
TS23.4 Mining Cadastre in Tanzania

13/13