SULPHUR AND MINERALS LIMITED

Business Proposal & Feasibility Study




Project: Developing and Operating Sulphur Dust (Powder) Manufacturing Factory

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Introduction Summary

This information is a feasibility study prepared by Sulphur and Minerals Limited with the purpose for investment application into agro-chemical and mineral processing sectors in Tanzania under the Tanzania Investment Center-TIC. The business report has been prepared to introduce the Company's investment proposition and to provide a general overview as well as specific idea of industries' aspects to support the intended project implementation. Although, the material included in this document is based on data information gathered from various reliable sources and owners' experience; however, it is likewise based upon certain assumptions, which may differ from case to case to some extent.

The supplied information is therefore meant to provide a vision and detailed information for intended stake-holders with respect to proposed projects of agro-chemical/implements as well as mineral processing sectors. Specifically, the intention is to present a case study on business opportunities in agro-based implements with focus on ***Sulphur Dust Powder Manufacturing*** and or ***Blending*** as well as ***Mineral Processing*** sector in Tanzania and investors' prospect to reach a wider regional and global markets alike. The presented data and information are based on current market information in both domestic and global out-look as gathered by the project developers. Thus this particular pre-feasibility study and business plan report provides the basic information for analyzing the potential investment opportunities with respect to given sectors.

An Overview to Sulphur and Minerals Limited's Project

Sulphur and Minerals Limited is a private company limited by shares; incorporated in Tanzania on 06th Day of July 2022 as a foreign-owned business venture (Certificate of Incorporation No. 156714739 issued by Business Registration and Licensing Agency-BRELA). The Company has been established with the purpose of investing into agro-implements and pesticides sub-sector in the domestic economy but also to include branching into mineral processing industry afterwards.

The project's main objectives are including but not limited ***to carry on the business of import of Sulphur and build a factory/plant for manufacturing of Sulphur dust/powder for agriculture use. Also to carry on the business of minerals processing (Copper ore and Processed Copper powder) for export*** **markets**. The company is therefore looking forward to set-up domestic factory unit(s) to carry out long-term projects that include an ***industrial plant/factory for grinding and packaging of Sulphur Dust (Powder), Bagged Sulphur Lumps & Granules*** which are important chemical blending (e.g. for making of fertilizer - NPK) as well as pesticides for agriculture sector. The project is envisioned to have major positive impact for agriculture and agro-business (pesticides) sector in Africa region where the majority of the product will be sold. The domestic market is projected to absorb 75% while export to other regional markets in Africa will be 25% of the total output.

The initial capital investment is an equity finance set at ***USD 0.68 Million*** for the Sulphur Dust Powder plant set up with maximum production capacity of ***5,000 MTs per Month*** (Approx. 60,000 MTs per annum). The identified capital expenditure will be spent directly in acquisition of necessary Company

assets to establish the factory (Land & Buildings; Plant & Machinery; Transport & Logistics; Miscellaneous) as well as start-up Working Capital.

The company is prepared to have a successful long-term business establishment producing Sulphur Dust Powder and other associated products but at the same time implementing a corporate plan to expand its product portfolio by investing in ***processing of other minerals elements (especially Copper Ore and Processed Copper Powder***) for export markets in the near future.

The Company Shareholding Structure

Sulphur and Minerals Limited is registered in Tanzania under BRELA as per the Company's Act of 2002. It is however a 100% foreign owned business entity with the following shareholding arrangement:

Shareholders	***Nationality***	***% of Shares***
Aseem Jain	India	80
Gaurav Sharma	India	20
Total Shares (%)		**100**

Proposed Factory/Project Location and Its Strategic Importance

The ideal location for the business set-up has been decided to be in Kibaha District, Coastal Region where the Company will purchase 5,649 Square Meters of Land following agreement with Kamaka Industrial Park management. The final efforts are being made by the Company to finalize the necessary processes to this effect in order to have tangible land documents.

The choice of plant/processing factory location to be established in Coastal Region is an ideal and strategic in this regard to have agro-implements and pesticides readily available to the domestic farmers-predominantly cashew and other agro-business units in Southern part of the country. The site is also an ideal because of having reliable transportation and logistics networks that makes it possible for ease importation of raw materials from abroad as well as export destinations.

Apart from domestic and East African Community customers, the Southern regions of Tanzania (such as Mtwara, Lindi and others) are in close proximity to Southern Africa Development Countries (SADC) with potential markets for Company's agro-implements and pesticide products in countries such as Mozambique, Zambia, Malawi, Zimbabwe and other Central African Countries.

Investment Phase I: Sulphur Dust (Powder) Factory Unit

- **Understanding Sulphur Dust (Powder) Business Proposition**

As explained above, the first-leg of the project to be carried out by Sulphur and Minerals Limited is that of setting up an industrial plant/factory for grinding and packaging of ***Sulphur Dust (Powder)*** as well as other associated product items-including ***Bagged Sulphur Lumps*** and ***Granules***.

In terms of the value-chains attached to this investment proposition; Sulphur powder is widely used in agricultural insecticides and fungicide in the dust forms or in the form wet-table sulphur in spray mixture along with other insecticides. Sulphur powder is also used in the manufacture of industrial fertilizers (such as NPK), rubber vulcanization, medicines and explosives and in the manufacture of other chemicals. Sulphur powder is applied as insecticides and fungicide in crops like cashew, tobacco, rubber, groundnuts, chilies, cumin seeds and so on.

On the other hand, Sulphur has been used since ancient times to treat certain medical conditions. It is used for its cleansing properties in the treatment of infections. Other medical uses include the elimination of parasites like ticks and fleas. The treatment of certain skin problems such as scabies and dermatitis and the treatment of bacterial infections. Sulphur drugs are available as lotions, ointment creams and soap. Oral medications called sulphonamides, are administered in tablet or syrup form.

Sulphur powder is used in industry for the manufacture of numerous products. For example it is used to make tyres. It is added during manufacturing process to make the rubber hard and to prevent it from melting during warmer temperature. Other rubber products include latex gloves, pencil erasers and automobile bumpers. Sulphur powder is used in process of manufacturing other common items such as matches, adhesives, synthetic fibres, paper products, plastics, water treatment chemicals and storage batteries.

So, basically with respect to the ongoing elaboration it is evident that there are various economic value attached to this kind of business/investment that is being proposed by Sulphur and Minerals Limited in Coastal Region - Tanzania and that it could potentially attract a series of other inter-dependent investment ventures in the region by interested partners in the medium and longer-terms.

Fig. Sulphur dust powder & granules

Market Potential for Sulphur Dust Powder and Other Agro-Industrial Blending

The need of insecticides and pesticides in Tanzania; East Africa and other SADC countries can be visualized from the size of land devoted to the production of crops, especial in Cashew. In countries where modern agriculture is being practiced, the amount of chemicals needed for the crop is enormous. To improve the productivity of agriculture exactly on cashew more fertilizers and more

pesticides and other chemicals are needed. To improve the supply of agro chemicals to the country and regional's agriculture sector, one option would be to produce the essential chemicals here at home because the demand for the major chemical input is sufficient to absorb the production volume of medium agro-implements and pesticides such as sulphur dust powder which is widely used in modern agro-farming activities.

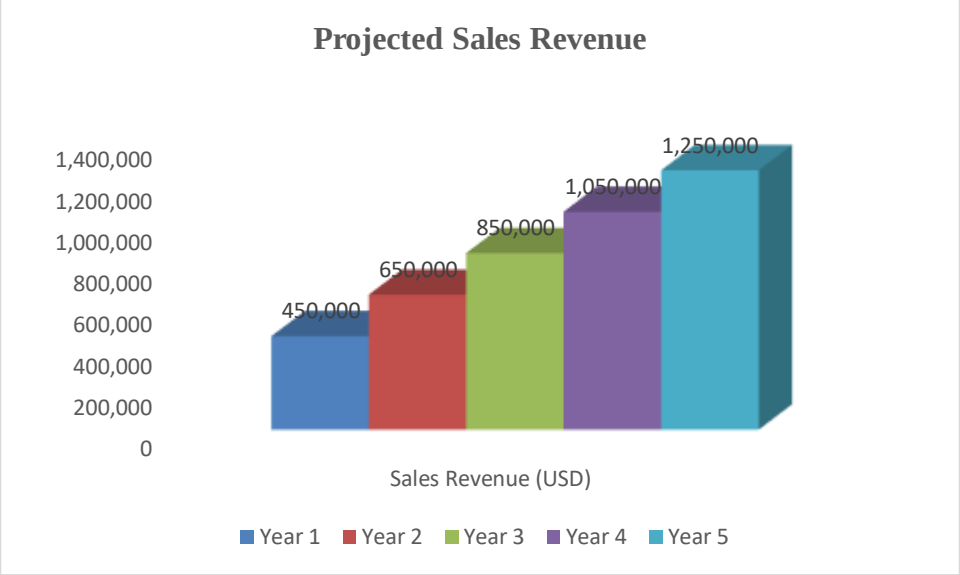
For example, the raw material for Sulphur Powder is any kind of sulphur which is imported . The unit can be set up in Tanzania as proposed by Sulphur and Minerals Limited as there is a good concentration of cashew industry especially in the Southern region in areas like Mtwara; Lindi; Liwale and bordering country of Mozambique. Now the raw material of sulphur powder could easily be imported and undertake Sulphur dust powder processing at locally based factory unit-which in essence will cut the overhead costs for agro-chemical implements for farmers.

For instance; the market potential for the NPK fertilizer in the region is also characterized by the need and growing demand for fertilizers, insecticides and pesticides in Tanzania, other East Africa countries and the SADC region. This positive demand aspect for agro-industrial blending can be visualized from the annually increased size of land devoted to the production of crops, especially cashew, cotton and other agro-products with high demand in global market to date.

As stated before; in countries where modern agriculture is being practiced, the amount of chemicals needed for the crop is enormous. To improve the productivity of agriculture yields such as on cashew, more fertilizers and more pesticides and other chemicals are needed. To improve the supply of agro chemicals to the country's agriculture sector, one option would be to produce the essential chemicals domestically so as to reduce direct importation costs.

Likewise, the demand for the major agro-chemical input is sufficient domestically and in neighboring countries to absorb the production volume of medium agro-chemicals implements such as pesticides, NPK fertilizers and so on. For instance, the raw material for manufacturing of NPK fertilizer-intermediaries is referred to any kind of requisite material which is imported or that could be sourced locally based on its availability as well as affordability. The factory units for such agro-sector inputs can be set up in Tanzania as there is a good concentration of cashew industry and other agro-based activities. With establishment of such industrial units, some of the raw material of NPK fertilizer for example, could be imported as supplement for domestic manufacturing of much needed agro-inputs-fertilizers and other implements.

In retrospect of the ongoing analysis, Sulphur and Minerals Limited's products (i.e. Sulphur Dust Powder and related implements) will be produced and sold domestically at least by *75%* and remaining balance of *25%* for regional export markets in Africa.



Basis & Pre-sumptions for the Proposed Project

a. The estimates are drawn for a production capacity generally considered techno- economically viable for model type of manufacturing activity.
b. The information supplied is based on a standard type of manufacturing activity utilizing conventional techniques of production at optimum levels of performance.
c. The calculated incestment costs in respect of land & building, machinery and equipment, raw materials and the selling prices of the finished products etc. are those generally prevailing at the time of preparation of the project profiles and may vary depending upon various factors.

Quality Specification / Standards for Sulphur Dust Powder Manufacturing

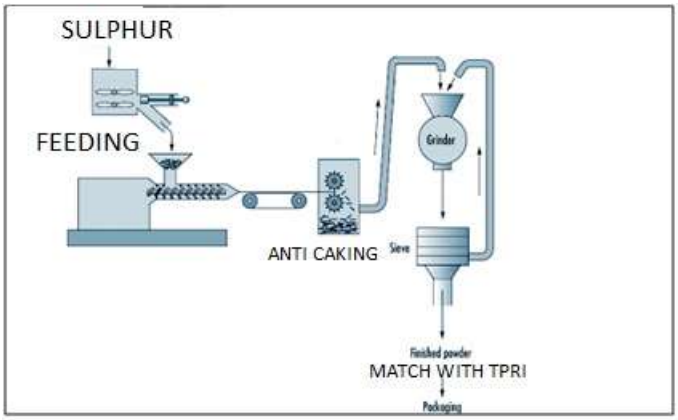
Products containing sulfur can be dusts, wettable powders, liquids, or fumigant gas cartridges. They are used in **field crops, root crops, tree fruits, nuts, berries, vegetables, ornamentals, and turf**. They are also used in outdoor residential areas and on food and non-food crops.

Tropical Pesticides Research Institute (TPRI) in Tanzania has laid-down Specification for Sulphur Powder which is using in cashew for instance. The same quality specification/standards are to be utilized in the manufacturing process by Sulphur and Minerals Limited. Other stakeholders including Ministry of Agriculture, Tanzania Bureau of Standards (TBS) and the like will equally be consulted during the course of project implementation in order to have their valuable inputs for the intended final products' quality assurance.

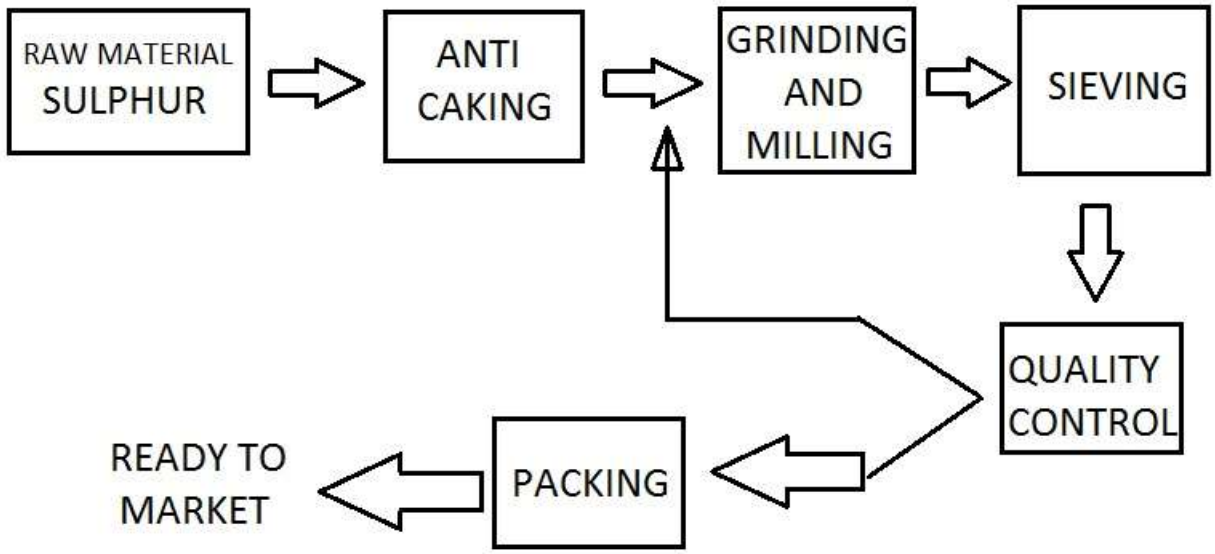
Technical Aspects Related to Sulphur Dust Powder Manufacturing

- **Process of Manufacture:**

The process of manufacturing sulphur powder requires equipment mainly size reduction and material handling equipments. The size reduction equipment mainly used are jaw crusher and the Raymond mill. The other accessories are feed hopper, a bucket elevator and screening equipment. The raw sulphur is feed into the hopper of the jaw crusher where it is crushed to the feed size required by the crushing roll mill. The crushed material coming out of the jaw crusher is to be fed to the roll mill for further grinding. Two important factors basically determine explicability.



Value-Extraction Process & End-Product



Production unit and Sulphur dust powder output

Table: Equipments Set for Sulphur Powder Factory

S/No.	Equipment Description	Quantity
1	Jaw crusher and the Raymond mill	2
2	Anti-Caking machine	4
3	Screen Machine	2
4	Feeding packet	1
5	Mobile Screw Conveyor	4
6	Fixed Screw Conveyor	8
7	Packing Machine	2
8	Air Compressor	1
9	Bag Stitching machine	4
10	Stretch Machine	1
11	Trans Pallet	2
12	Bascule	4
13	Conveyor band	6
14	Fork lift	1

15	Tele handler	1
16	Electric panel	2

Raw Material for Sulphur Factory and Procurement Sources

- **Raw Material Sources:**

The plant will utilize both domestic and imported raw materials from different parts of the world based on availability and affordability. This projection and raw material sourcing is done with purpose of saving working capital and re-generating investment capital for longer-term business existence, profitability and expansion.

Any kind of Sulphur could be raw material of this plant. These materials includes raw Sulphur, polythene lined jute bags, etc. In order to meet intended factory production capacities each year, Sulphur and Minerals Limited management will meet domestic deficit by having raw material imports from other countries such as United Arab Emitares (UAE), Saudi Arabia , Iraq, India, Bahrain, Kuwait, Oman and Tunisia and others.

Environmental, Health and Safety Guidelines for Sulphur Dust Powder Manufacturing

- **Pollution and Safety Control Measures**

This industry does not create any kind of pollution and as such there is no need to take any preventive measure for pollution control. In terms of potential health effects; Sulphur is relatively non-toxic to humans, causing only mild local irritation to the eyes, nose, throat and upper airways. However, under certain circumstances it may release toxic hydrogen sulphide and/or sulphur dioxide gases. But also, it is not listed as a carcinogen by Occupational Safety and Health Authority (OSHA).

However, due to the inherent explosive nature of Sulphur Powder manufacturing process; strict measures to install quality fire-fighting equipment and obtain the certificate for fire safety from the Authorities are to be observed.

In terms of potential environmental effects, this product has the potential to pose ecological risks to organisms in both aquatic and terrestrial environments. Therefore, discharge of the product to soil and water are to be prevented by appropriate industrial production measures. Moreover, the Company will commission a reputable environmental expert to conduct necessary study as per guidelines provided by the National Environmental Management Council (NEMC) in Tanzania.

Generally, the factory design, layout and set-up will be made to provide ample space for machinery set-up and production section, handling and storage facilities that adhere to generally acceptable safety control standards.

The project is also to be designed to adhere to Environmental, Health, and Safety (EHS) Guidelines, which are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These industry sector EHS guidelines are designed to be used together with the General EHS Guidelines document, which provides guidance to users on common EHS issues potentially applicable to all industry sectors around the world.

- **Environment Factors/Issues**

Generally, environmental issues associated with Sulphur Dust Powder (and NPK fertilizer) plants include the following:

a. Air emissions;
b. Waste-water;
c. Hazardous materials;
d. Wastes;
e. Noise.

- **Air Emissions**

Combustion Source Emissions

Exhaust gas emissions produced by the combustion of gas or diesel in turbines, boilers, compressors, pumps and other engines for power and heat generation, are a source of air emissions from phosphate fertilizer manufacturing facilities.

- ***Process Emissions*** *– Phosphoric Acid Production*

Two different production processes can be used in the manufacture of phosphoric acid:

- **The wet process**, which is the most commonly used in fertilizer plants, where phosphate rocks are digested with an acid (e.g. sulfuric, nitric or hydrochloric acid). The tri- calcium phosphate from the phosphate rock reacts with concentrated sulfuric acid to produce phosphoric acid and calcium sulfate (an insoluble salt); and

- **The thermal process**, where elemental phosphorous is produced from phosphate rock, coke, and silica in an electrical resistance furnace and is then oxidized and hydrated to form the acid. Thermal-generated acid is highly purified, but also expensive, and hence produced in small quantities, mainly for the manufacture of industrial phosphates.

  Process emissions include gaseous fluorides in the form of hydrofluoric acid (HF) and silicon tetra fluoride (SiF_4), released during the digestion of phosphate rock, which typically contains2-4 percent fluorine.

The emissions typically associated with the thermal production process of phosphoric acid include phosphate, fluoride, dust, cadmium (Cd), lead (Pb), zinc (Zn), and radio nuclides (Po-210 and Pb-210). Dust emissions, containing water-insoluble fluoride, may occur during the unloading, storage, handling and grinding of the phosphate rock, which is transferred to storage and grinding sections by conveyor belts or trucks.

Recommended Emission Prevention and Control Measures

- Properly select the phosphate rock material (in terms of P_2O_5- content, F-content, CaO/ P_2O_5 ratio, and physical quality) to minimize the amount of acid required in the wet production process, reduce emissions into the environment and increase the possibility of phosphor-gypsum re-use;
- Select proper size of screens and mills (e.g. roller or chain mills);
- Use covered conveyor belts and indoor storage;
- Apply good house-keeping measures (e.g. frequently cleaning / sweeping facility surfaces and the quay);
- Recover dust from phosphate rock grinding through use of properly operated and maintained fabric filters, ceramic filters, and / or cyclones;
- Treat gaseous fluoride emissions using scrubbing systems (e.g. void spray towers, packed beds, cross-flow venture, and cyclonic column scrubbers). Fluorine is recovered as fluosilicic acid, from which silica is removed through filtration. A diluted solution of fluosilicic acid (H_2SiF_6) may be used as the scrubbing liquid. Recovering of H_2SiF_6 is an additional possibility for fluoride emission reduction.

- ***Process Emissions*** – *Superphosphate Phosphate Fertilizer Production*

Dust emissions may be generated during unloading, handling, grinding, and curing of phosphate rock, in addition to granulation and crushing of superphosphates. Emissions of gaseous hydrofluoric acid (HF), silicon tetra fluoride (SiF_4), and chlorides may also generated from acidulation, granulation and drying. Ammonia (NH_3) and nitrogen oxides (NOx) may be generated during the drying and neutralization phases of ammonium nitrate fertilizers. In addition, during the reaction of phosphate rock with acid, limited amounts of organic Blendings (including mercaptans), present in the phosphate rock, are released and may cause odor.

Phosphate rock dust emissions should be prevented and controlled through similar measures to those discussed in the phosphoric acid production section. Additional emission prevention and control measures for the project will include the following:

- Use of direct granulation may reduce the levels of fugitive emissions compared with curing emissions from indirect granulation. If indirect granulation is used, the curing section should/will be an indoor system with vents connected to a scrubbing system or to the granulation section;

- Use of plate bank product cooling systems to reduce air flow requirements (e.g. instead of rotary drums or fluid bed coolers);

- Consider use of fabric filters or high efficiency cyclones and/or fabric filters rather than a wet scrubbing system to treat exhaust air from neutralization, granulation, drying, coating and product coolers and equipment vents, in order to avoid creation of additional wastewater. Filtered air should be recycled as dilution air to the dryer combustion system;

- Emissions from granulation are to be minimized through application of surge hoppers to product size distribution measurement systems for granulation recycle control.

- ***Process Emissions*** – *Sulphur Powder and Blending Fertilizer Production*

NPK fertilizers are typically produced from mixed acids or nitro phosphate. Air emissions from NPK fertilizers produced using the mixed acids route include ammonia emissions from the ammonization reactors; nitrogen oxides (NO_X), mainly NO andNO_2 with some nitric acid, from phosphate rock digestion in nitric acid; fluorides from the phosphate rock reactions; aerosol emissions, including ammonium nitrate (NH_4NO_3), ammonium fluoride (NH_4F), and ammonium chloride (NH_4Cl), formed in the gas-phase neutralization reaction between ammonia and acidic components, as well as by sublimation from the boiling reaction mixture; and fertilizer dust originating from drying and cooling drums, and from other sources (e.g. screens, crushers, and conveyors).

Air emissions from NPK produced using the nitro phosphate route are similar to those discussed for the mixed acids route, however they also include aerosol emissions (e.g. from thedryer and granulator) of ammonium chloride (NH_4Cl), originating from the reaction of ammonia and hydrogen chloride (HCl) when potassium chloride (KCl) is added to the powder.

Other significant air emissions include ammonia from the neutralization of nitro phosphoric acid. Ammonia emissions may also be generated from the calcium nitrate tetra hydrate (CNTH, empirical formula: $Ca(NO_3)_2*4H_2O$) conversion section, the ammonium nitrate (AN, empirical formula: NH_4NO_3) evaporation section, and the granulation or prilling sections. Aerosols of ammonium nitrate may also be formed during the different production steps, and emissions of hydrogen chloride (HCl) may be present in the exhaust gases from drum granulators, cyclones, and scrubber systems.

Recommended measures to prevent and control air emissions will include the following:

- Reduce NO_X emission from nitric acid use in phosphate rock digestion by controlling the reactor temperature, optimizing the rock / acid ratio, and adding urea solution;

- Treat gases from the digestion reactor in a spray tower scrubber to recover NO_X and fluorine Blendings. The pH may be adjusted by the addition of ammonia;

- Reduce NOx and odor emissions by selecting high grade phosphate rock with low contents of organic Blendings and ferrous salts;

- Control particulate matter emissions, as discussed in the phosphoric acid production section;

Prevention and /or control emissions from granulation and product cooling include:

- Scrubbing of gases from the granulator and the dryer in venturi scrubbers with re-circulating ammonium phosphate or ammonium sulfo-phosphate solution;
- Discharge of scrubbed gases through cyclonic columns irrigated with an acidic solution;
- Use of high efficiency cyclones to remove particulates from dryer gases prior to scrubbing;
- Recycling of the air coming from the cooling equipment as secondary air to the dryer after de-dusting;
- Treating ammonia emissions by scrubbing with acidic solutions;
- Fluoride emissions should be controlled through scrubbing systems, as discussed for phosphoric acid production; Emissions to air from phosphate rock digestion, sand washing and CNTH filtration should be reduced by applying appropriate controls (e.g. multistage scrubbing, conversion into cyanides);
- Ammonia in off-gases from the nitro phosphoric neutralization steps should be removed through counter- current scrubbers, with pH adjustment to most efficient scrubbing condition (pH 3-4), with a mixture of HNO_3 and/or H_2SO_4;
- Ammonia emissions from the granulation /drying sections should be treated by scrubbing with acidic solutions;
- Minimize contact between wastes containing NO_X and NH_3 to prevent aerosol formation in NPK nitro phosphate route.

- **Occupational Health and Safety Measures**

The occupational health and safety issues that may occur during the construction and decommissioning of phosphate fertilizer manufacturing facilities are similar to those of other industrial facilities.

The most significant occupational health and safety hazards occur during the operational phase of phosphate fertilizer manufacturing facilities and primarily include:

- Process Safety
- Chemical hazards;
- Decomposition, fires and explosions.

- **Process Safety**

Process safety programs should be implemented, due to industry-specific characteristics, including complex chemical reactions, use of hazardous materials (e.g. toxic, reactive, flammable or explosive Blendings), and multi-step reactions.

- **Process safety management includes the following actions**:
  - Physical hazard testing of materials and reactions;
  - Hazard analysis studies to review the process chemistry and engineering practices, including thermo-dynamics and kinetics;
  - Examination of preventive maintenance and mechanical integrity of the process equipment and utilities;
  - Worker training;
  - Development of operating instructions and emergency response procedures.

- **Chemical Hazards**

Ammonia and acids vapors, especially HF, are common toxic chemicals in phosphate fertilizer plants. Threshold values associated with specific health effects can be found in internationally published exposure guidelines.

The following are recommendations to prevent and control chemical exposure in this project-sector:

  - Avoid contact of acids with strong caustic substances. The resulting reaction is exothermic and may cause splashes;
  - Control fluoride gas build up in phosphoric acid storage tanks;
  - Install gas detectors in hazard areas;
  - Provide adequate ventilation (e.g. air extraction and filtration systems) in all areas where products are produced, stored, and handled;
  - Provide training and personal protection equipment for personnel as described in the General EHS Guidelines.

- **Decomposition, Fire and Explosions**

Decomposition, fire and explosion hazards may be generated from slurry pump explosions due to insufficient flow through the pump or incorrect design; slurry decompositions due to low pH, high temperature and contaminated raw materials; and hydrogen gas generation due to phosphoric acid contact with ferrous metals.

The risk of decomposition, fire and explosion can be minimized by adopting measures such the following:

  - Inventory of ammonia, nitric and sulfuric acids should be kept as low as possible. Supply by pipeline is recommended in integrated chemical complexes;

- Sulphur Dust Powder and NPK fertilizer decomposition hazard should be prevented through temperature control during production, adjustment of formulations, and reduction of impurities.
- Blending build-up on the inlet vanes in the dryer should be avoided and uniform temperature profile of the air inlet should be ensured;
- Segregating process areas, storage areas, utility areas, and safe areas, and adopting of safety distances. Implementing well controlled operation and procedures in avoiding hazardous gas and slurry mixtures;
- Sulphur Dust Powder and NPK storage should be designed according to internationally recognized guidance and requirements. Adequate fire detection and fighting system should be installed.
- Storage areas should be cleaned before any product is introduced.
- Spillage should be cleared up as soon as practicable.
- Fertilizer contamination with organic substances during storage should be prevented; and fertilizers should not be stored in proximity of sources of heat, or in direct sunlight or in conditions where temperature cycling can occur.
- Contact of phosphoric acid with ferrous metal component should be prevented. Stainless steel should be used for components possibly in contact with the acid.

- **Community Health and Safety**

The most significant community health and safety hazards during the operation of phosphate fertilizers facilities relate to the management, storage and shipping of hazardous materials and products, with potential for accidental leaks/releases of toxic and flammable gases, and the disposal of wastes (e.g. phosphor-gypsum, off-spec products, sludge). Plant design and operations should/will include safeguards to minimize and control hazards to the community, including the following measures:

- Identify reasonable design leak scenarios;
- Assess the effects of potential leaks on surrounding areas, including ground water and soil pollution;
- Assess potential risks arising from hazardous material transportation and select the most appropriate transport routes to minimize risks to communities and third parties;
- Develop an Emergency Management Plan with the participation of local authorities and potentially affected communities.

- **Environmental Monitoring**

Environmental monitoring programs for this project-sector should be implemented to address all activities that have been identified to have potentially significant impacts on the environment, during normal operations and upset conditions. Environmental monitoring activities should be based on direct or indirect indicators of emissions, effluents, and resource use applicable to the particular project.

Monitoring frequency should be sufficient to provide representative data for the parameter being monitored. Monitoring should be conducted by trained individuals following monitoring and record-keeping procedures and using properly calibrated and maintained equipment.

Financing Plan and Investment Break-down: Sulphur Dust Powder Factory

Sulphur and Minerals Limited is investing **USD 0.68 million (**i.e. foreign equity financing**)** for the first-leg venture regarding Sulphur Dust Powder Factory. As stated earlier on, the initial capital investment fund will be spent on fixed capital/business assets (which includes land purchase, building factory and offices, machinery purchase and installation) as well as working capital expenditure.

Table: Investment Break-down:

Investment Asset	**Value in USD**
Land & Building	250,000
Plant	100,000
Vehicles	65,000
Furniture & Fittings	15,000
Pre-expenses	100,000
Others	50,000
Working Capital	100,000 (For Initial Business Set-up)
Total	**680,000**

Assets Utilization		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	
Land & Building	250,000						
Plant	100,000	10,000	10,000	10,000	10,000	10,000	50,000
Vehicles	65,000	13,000	13,000	13,000	13,000	13,000	65,000
Furniture & fittings	15,000	3,000	3,000	3,000	3,000	3,000	15,000
Total	**430,000**	**26,000**	**26,000**	**26,000**	**26,000**	**26,000**	

Project Employment Creation and Schedule

The project is expected to create about **50** direct and indirect employment opportunities when it starts production and will continue creating more jobs with business maturity. Likewise, during the factory construction stage; the project will obviously create temporary job opportunities for domestic building contractors and casual workers around the surrounding regions (especially Coastal and Dar es Salaam). A proposed employment schedule is envisaged to have at least a balanced proportion of workers as will found necessary:

Foreign	**Local**	**Total**
25	25	**50**

Sulphur and Minerals Limited is optimistic on its business prospect and foresee to expand its investment activities (doubling or tripling the amount of capital requirements) in the near future as stated before once it managed to successfully launch our product and established a commendable consumer-base. The consideration will also depend on the market situation both domestically and internationally at the moment.

Implementation Schedule for the Proposed Project

Provided that everything goes according to the plan, it is expected to take between three (3) to six (6) months to complete all the of the investment formalities including construction of the factory before starting of the commercial/mass productions. The company management is ready to initiate the process of acquiring the land for factory set-up and import necessary machinery and equipment. But also the speed and dexterity of implementation depends on timely availability of necessary documentations and authorization from the Government bodies mandated to issue such permits and licenses for instance Tanzania Investment Center (TIC) - which is in this case; our preferred investment regime for this particular project.

Corporate Social Responsibility Statement

Sulphur and Minerals Limited's Management will adopt an advanced Corporate Social Responsibility policy which is tailored towards reflecting domestic surroundings as well as international framework. The project partners agree that this policy will form an integral part of the collaboration in the proposed project and that of the future Corporative Social Responsibility policy.

The Company will do everything that is reasonable and practicable to protect the health and safety of its employees (permanent and non-permanent). Its Management recognizes and respects the freedom of employees to choose whether or not to establish, or to associate with, any organization. No form of discrimination will be tolerated especially with respect to gender. The Company's Management shall insists on honesty, integrity and respect in all aspects and expects the same treatment with regard to its wider investment engagements.

Closing Remarks

Sulphur and Minerals Limited is eagerly prepared to invest in Tanzania which is the most politically stable and fast-growing economically. The economy provides an abundant domestic market for our products but also its geographical location offers export gateway to surrounding land-locked countries as well as the SADC regional agro-implement market opportunities waiting to be tapped.

The success of this project will be the key to open and expand in other business ventures in the same agro-business industry, mineral processing, electronics and others. For instance, the future plan for Sulphur and Minerals Limited's Management is to branch-out into mineral processing sub-sector which is another investment endeavor with reliable raw materials (e.g. Copper ore, gold, etc.) in Tanzania. Thus our general plan is to invest in the domestic economy with long-term benefits for both stake-holders.

Annex: Projected Income Statement and Net Present Value Analysis

Financial Projection of Revenue and Expenses						
	Year 0	***Year 1***	***Year 2***	***Year 3***	***Year 4***	***Year 5***
Particulars						
Initial Investment	- 680,000					
Income						
Sales Revenue	-	450,000	650,000	850,000	1,050,000	1,250,000
Expenses						
Administrative expenses	-	- 247,500	- 357,500	- 467,500	- 577,500	- 687,500
Finance costs	-	- 45,000	- 65,000	- 85,000	- 105,000	- 125,000
Depreciation	-	- 26,000	- 26,000	- 26,000	- 26,000	- 26,000
Net profit before tax	-	**131,500**	**201,500**	**271,500**	**341,500**	**411,500**
Tax charge 30%	-	- 39,450	- 60,450	- 81,450	- 102,450	- 123,450
Net profit after tax	-	**92,050**	**141,050**	**190,050**	**239,050**	**288,050**
Scrap value at end of Year 5						50,000
Discount factor rate 10%	1	0.909	0.826	0.751	0.683	0.621
Present values	**- 680,000**	**83,682**	**116,570**	**142,787**	**163,274**	**209,902**
Net Present Value	36,216					