



INVESTING IN FERTILIZERS – A WORLD BANK GROUP RESPONSE TO THE GLOBAL FOOD PRICE CRISIS

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Investing in Fertilizers - A World Bank Group Response to the Global Food Price Crisis

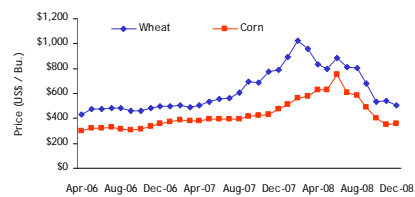
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FABIANA FELD

CONFIDENTIAL

Solving the *Real* "Global Food Crisis" ...

- While it is true that grain prices have come down after their peak in the first half of 2008, ...



- ..the long-term challenge of how to feed the growing global population remains.
- Three key factors drive long-term demand for agricultural products:
 - **Demographics:** The world's population has increased at a compound annual growth rate (CAGR) of 1.7% since 1950, and is expected to continue to increase in the future. Meanwhile, the supply of land is fixed.
 - **Protein Consumption:** Consumption of protein rich foods, such as meat and poultry increase with income, and a large amount of crops are needed to raise farm animals. Average annual protein demand in the developed world is 82 kg per person vs. 30 kg in the developing world. As nations become more prosperous, this gap is likely to close.
 - **Alternative Fuels:** An environmental as well as a political issue.

"Food Security is the greatest threat to human well-being today". Financial Times editorial April 17, 2009

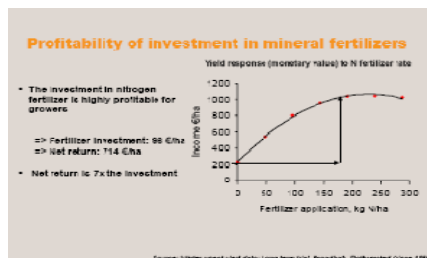
...Will Require Multiple Solutions, ...

How can we increase the output of agricultural products?

- Increase the area of productive land
- Increase the yield per unit area of land
- Maintain soil productivity and reverse the nutrient mining of soil
- Improve agriculture sustainability through better resource management (e.g. erosion control, improved water-use efficiency)
- Breed new crop varieties with higher yield potential and improved tolerance to pests, diseases, drought and other stress factors
- Promote and expand agriculture research and advisory services to help improve farmers' practices

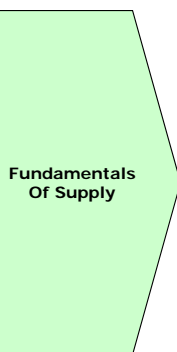
...And Chemical Fertilizers Must Be Part of the Answer

- Chemical fertilizer industry can address key areas of focus in agricultural productivity
 - Increase the yield per unit area of land
 - Maintain soil productivity and reverse the nutrient mining of soil
 - Outreach to farmers to improve the use of fertilizers
- Proper usage of fertilizer can lead to a 700% return on investment



IFC's FERTILIZER STRATEGY

FERTILIZER STRATEGY FIT WITH AGRIBUSINESS STRATEGY



1. **Productive land strategy**
 - Bring land into sustainable production
 - Work with **World Bank** to improve land titling reform
 - Improve productivity/practices (seeds, fertilizer, chemicals, methods)
2. **Vertically integrated Agri Supply Chain Infrastructure**
 - Strengthen and support the development of
 - Bulk ports and Terminals (Timbues, Aguirre, Bakhresa)
 - Land, Rail and Sea Transport (UABL, TransAmerica)
 - Logistics and Warehousing (Merec, Trio, Ransa)
 - Modern retail (Rubliovskiy, EvroTech, Agrokor)
3. **Water Efficiency and Irrigation Infrastructure (especially through PPPs and Municipalities)**
4. **Wholesaling Facilities with Financial Institutions, Processors and Traders** to increase rural credit to farmers and MSMEs.
5. **Explore the systematic development of Financial Instruments related to Agriculture** that deepen markets and allow for efficient intermediation of financing and risk management (e.g. warehouse receipts, GIRIF parametric insurance, weather-index insurance)

IFC's Fertilizer Strategy

- **Objective:** promote long-term growth in agricultural productivity in Africa, China, India, Latin America and the CIS. Soil fertility is central to crop growth.
- **Strategy:**
 1. Invest in fertilizer **production and cost reduction**
 - Invest in fertilizer production in target regions.
 - Emphasis on NPK fertilizers.
 - Invest in production of micronutrient and/ or control release fertilizers.
 - Lower production costs by financing second hand plants and energy efficiency projects.
 - Promote small plant technology like LCA (low cost ammonia), especially in land locked countries in Africa with limited gas.
 - Develop phosphate reserves with IFC Mining Department.
 2. **Joint-ventures** with IFC's Agribusiness, Infrastructure, Financial Markets and industry players to strengthen the distribution channels
 - J-V with IFC Agribusiness: strengthen distributor network to increase farmers' access and knowledge of fertilizers through joint-ventures.
 - J-V with IFC Financial Markets: micro-credit facilities for distributors and farmers.
 - J-V with IFC Infrastructure: invest in captive ports and terminals for fertilizer clients.
 3. Promote use of fertilizer for **optimized usage**
 - Technical Assistance: encourage distributor training and support by fertilizer producers.
 - Support industry initiatives to improve distribution in Africa.



Elements of IFC's Fertilizer Strategy

1. PRODUCTION AND COST REDUCTION

- Long-term financing: equity and loans that are not available in countries that have comparative advantages in nitrogen and phosphate production:
 - **Nitrogen:** China, Algeria, Egypt, Nigeria, Peru, Russia, Brazil, Argentina, Colombia, Angola, Kazakhstan, Uzbekistan, Tanzania, Ukraine, Indonesia, Libya.
 - **Phosphate:** China, Morocco, Russia, Jordan, Tunisia, Philippines, Senegal, Egypt, Kazakhstan, South Africa.
- Support projects involving:
 - Utilization of indigenous raw materials. Priority given to projects for high volume fertilizers at locations close to the needed feedstock.
 - Backward integration.
 - Mixed NPK fertilizers.
 - Projects with strong downstream (distribution) component.
 - Installation of optimized logistic systems to bring together the different nutrients and economically distribute the fertilizer.
 - Energy efficiency components to reduce production cash costs.
 - Second-hand plants, with lower investment costs after revamping and competitive economics.
 - Fewer greenfield risks with mostly incremental expansions.
 - Replacement of old plants.
 - Micronutrient suppliers with strong growth and investment needs to follow demand.
 - Switch to different production routes.
- Strengthening local players, support those who have a consolidation strategy.



Elements of IFC's Fertilizer Strategy

1. PRODUCTION AND COST REDUCTION

Regional Focus

- Europe and FSU:
 - Revamping of old plants
 - Energy efficiency
 - Terminals and ports
 - Phosphate
- China:
 - Second hand plants
 - More blended, mixed, compound fertilizers
 - South-south investments with local companies
 - Phosphate
- Sub-Saharan Africa
 - Small scale technology
 - Projects to compound NPK in smaller units close to the farmers
 - Greenfield in Nigeria and Angola
- Latin America:
 - Opportunistic investments in Venezuela and Trinidad & Tobago, Argentina, Colombia (Chuchupa field)
 - Greenfields in Peru and Colombia
 - South-South in Brazil
- MENA:
 - Phosphate
 - Low cost gas utilization
- South Africa:
 - South-South
 - Don't pursue domestic market due to subsidies



Elements of IFC's Fertilizer Strategy

1- PRODUCTION AND COST REDUCTION - JOINT VENTURES - MINING

- IFC Mining has focused on precious minerals and metals, not on industrial metals.
- Africa region presents several opportunities to support phosphate rock in Morocco, Senegal, Egypt, Tunisia, Togo.
- Other countries with substantial phosphate rock availability are FSU, China and Brazil.
- Example of potential partnership Chemicals- Mining: Eurochem's investment in Kazakhstan: development of phosphate rock, followed by construction of a phosphate fertilizer plant and a nitrogen and compound fertilizer plant.



Elements of IFC's Fertilizer Strategy

2. JOINT VENTURES - AGRIBUSINESS

- Joint venture initiatives with Agribusiness to support small farmers to increase productivity and income.
 - Include fertilizer companies in Agribusiness Credit Lines or Microcredit structures
 - Fertilizer extension services
 - Soil testing
 - General advice

Elements of IFC's Fertilizer Strategy

2. JOINT VENTURES - FINANCIAL MARKETS

- Focus on Africa
- Wholesale financing activities should be used as an entry point into countries where direct investment opportunities may be limited.
- Fertilizer value chain involves SME's that could be reached through Financial Intermediaries.
- Instruments include:
 - Trade Finance: pre-export finance supporting fertilizer exports and import finance of agricultural products including fertilizers
 - Credit lines to banks for onlending to SMEs
 - Risk participation Facilities
 - Microfinancing to small farmers to pre-finance fertilizer purchases

Elements of IFC's Fertilizer Strategy

2. JOINT VENTURES - INFRASTRUCTURE

- Financing downstream logistics (dedicated ports, bulk terminals, storage facilities).
- Partner with MNCs in terminals and distribution.

INVESTORS' CONSIDERATIONS IN THE FERTILIZER INDUSTRY

Fertilizers – Key Success Factors

- Low cost feedstock
- Proximity to consumer markets
 - Important as shipping costs are increasing
- Large operations (economies of scale)
- Modern technology
 - Improve gas utilization rate
- Business environment
- Appropriate infrastructure
- Solid contractual structure
 - EPC, offtake and gas supply agreement, technology/license agreement, insurance

Financing Concerns

- Strength and commitment of the Sponsor (pre & post-completion)
- Project Funds Agreement (PFA): limited recourse to sponsors with caps for project completion.
- Share Retention Agreement to ensure owner continuity
- Good Geographical location and transportation system
- EPC contracts
 - Subject to lenders' approval.
 - Ability of selected technologies and processes to "scale up" to world-scale production
- Feedstock supply: feedstock at agreed formulae.
- Strong market/sales arrangements
 - Off take agreements for up to full plant output.
- Security structure incl. covenants, ratios, dividends, new indebtedness, CAPEX, mergers, guarantees, liens, leases, derivative transactions, etc.
- Sustainability of environmental, social and safety management

Investors Increasingly Focused on Sustainability Issues

Focus on environmental, social & governance issues inescapable

- ✓ Public attitude shifting on environmental issues
- ✓ Strong anti-globalization sentiment
- ✓ Corporate governance scandals
- ✓ NGO network bring remote areas to everyone's attention

Public attitudes are changing rules of the game

- ✓ Changing customer behavior
- ✓ Changing supply chain relationships (*what isn't your fault can hurt you*)
- ✓ Changing investor behavior (*green funds, Equator Principles, governance*)

Increasing risk for private investors/companies

- ✓ New issues emerge continuously
- ✓ Not highly predictable
- ✓ Asset and reputational risk appear with greater frequency
- ✓ Issues are complex and not easily managed



CREDIBILITY AND ABILITY TO RESPOND QUICKLY ARE KEY TO MANAGING THESE NEW RISKS

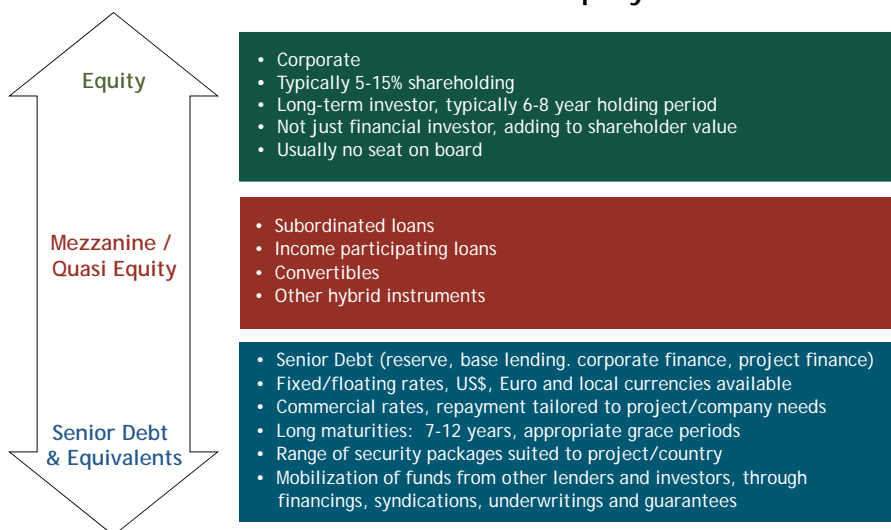
HOW CAN IFC HELP THE FERTILIZER INDUSTRY ?

IFC Value Added

Long-term Competitive Financing	Regional Knowledge	Global Chemicals Expertise	Country Risk Mitigation	Environmental & Social Risk Management	Sustainability Toolkit
<ul style="list-style-type: none"> ✓ Equity ✓ Fixed/Floating Rates, Local Currencies ✓ Up to 15 year Loan Maturity ✓ Flexible Amortization Profile ✓ Catalyst for other Investors and Lenders ✓ Equity Participation ✓ Capital Mobilization 	<ul style="list-style-type: none"> ✓ Extensive Local Office Network ✓ Local Transaction Experience ✓ World Bank Synergies 	<ul style="list-style-type: none"> ✓ 40+ Years of Sector Expertise ✓ Greenfield ✓ Expansion/Modernization ✓ Corporate Strategy ✓ Access to International Investors ✓ Technical Advice 	<ul style="list-style-type: none"> ✓ Government Relations ✓ Neutral broker Role ✓ Reduced Risk of Expropriation, Breach of Contract, Convertibility ✓ World Bank Synergies ✓ Withholding Tax Benefit 	<ul style="list-style-type: none"> ✓ Advice on Environmental and Social Best Practices ✓ Equator Principles Modeled after IFC Standards ✓ Local Consultation and Disclosure 	<ul style="list-style-type: none"> ✓ Local Supplier Development ✓ Environmental / Social Advice ✓ Corporate Governance ✓ Local Economic Development ✓ HIV/AIDS Prevention ✓ Community Development Funding



Financial Products - From Equity to Debt



How We Finance Projects

Project Type	IFC Investment
Greenfield, total cost less than \$50 million	Up to 35% of project cost for IFC's account
Greenfield, total cost more than \$50 million	Up to 25% of project cost for IFC's account
Expansion or rehabilitation	Up to 50% of project cost for IFC's account
Greenfield, expansion, rehabilitation	100% project cost for IFC and participating banks' accounts

- Umbrella for participants in IFC's syndication program: IFC lender of record, immunity from taxation and provisioning requirements.
- IFC's total financing must be less than 25% of total company capitalization, and IFC does not manage or own largest stake.



Environmental and Social Risk Mitigation

In-house environmental and social specialists to assist clients with:


- Pollution prevention
- Cleaner production
- Socioeconomic/workplace/labor issues
- Land acquisition/resettlement/compensation
- Indigenous peoples
- Biodiversity

- Community development & consultation
- Cultural property
- Impact assessments
- E&S management systems
- Health & safety
- HIV/AIDS
- Gender empowerment



Fertilizer Projects and Companies Financed by IFC

Jordan




Indo Jordan

A-Loan US\$30m, B-Loan US\$42.2m

Construction of a 224,000 tpa phosphoric acid plant and dedicated sulfuric acid plant at a cost of US\$189m

*Mandated Lead Arranger
Phosphoric Acid*

Algeria



Fertial

Equity Investment \$24mm

Privatization of state owned fertilizer plant

*Equity Investor
Ammonia*

Egypt




Indo-Egyptian Fertilizer Co.

A-Loan-\$80mm
B-Loan-\$160mm
Parallel Loan-\$76.5mm

Construction of phosphoric acid facility

*Mandated Lead Arranger
Phosphoric Acid*

Pakistan




Engro Chemical

Various Financing Rounds

Natural gas based ammonia and urea plant

*Mandated Lead Arranger
Ammonia/Urea*

Senegal



ICS

US\$2.5m equity stake and provided US\$44m in A and B Loans

*Mandated Lead Arranger and Equity Investor
Phosphoric Acid*

Bangladesh



Kafco

Helped the company secure US\$250 m of ECA restructured debt and US\$30 m of equity infusion

*Advisor
Ammonia / Urea*



Fertilizer Projects and Companies Financed by IFC (cont'd)

Russia



KuibyshevAzot JSC

A-Loan - US\$15m, Equity - US\$20m

Upgrade and expansion of production facilities and bond refinancing

*Senior Lender
Ammonium Nitrate/Caprolactam*

China



Dazhou Koyo Fertilizer

Equity - US\$10m

Construction of ammonia/urea complex

*Equity Investor
Ammonia/Urea*

Colombia



Abonos Colombianos S.A.

A-Loan - US\$30m

Upgrade and expansion of fertilizer production facilities

*Senior Lender
Ammonium Nitrate / NPK*

Brazil



Fosfertil

A-Loan - US\$20m, B-Loan - US\$60m

Revamping of existing facilities, upgrading of port facilities, investments in productivity improvements

*Mandated Lead Arranger
SSP, TSP, MSP, DAP*

India




GNFC

A-Loan - US\$28m, B-Loan - US\$70m, and C-Loan - US\$17m

IFC assisted through the Thai crisis by providing restructuring advice and facilitating capital increase

*Mandated Lead Arranger
Ammonia/Urea*

India



Deepak Nitrate

A-Loan US\$24m, B-Loan US\$23m

Construction of a propane/propylene splitter to produce

*Mandated Lead Arranger
Ammonia, Urea, DAP*



IFC Project Team: A Combination of Fertilizer Industry Expertise and Regional Presence

Team Member	Position	Contact Info
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