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### 1. NEW PILOT PROJECT UNDERWAY IN THE DEMOCRATIC REPUBLIC OF THE CONGO



*Dr. Andrew Green (Director, ZNI), Deo Mwamba (Agricultural Director, MMG), Rob White (Consultant, IZA), and Michel Santos (Social Development Manager, MMG)*

**MMG and IZA** have launched a new pilot zinc-crops project in the Katanga Province of the Democratic Republic of the Congo (DRC) to improve food security and malnutrition. The project will work with local farmers associated with MMG's farming program at the Kinsevere Mine near Lumbumbashi, DRC. The objectives for the zinc pilot agronomic project funded by MMG are:

- Conduct pilot program providing “proof of principle” on the use of zinc to improve agronomic practices
- Identify the optimal fertilizer practice using zinc for the Kinsevere site
- Capacity building by participating staff and farmers

The project adds to the recently initiated zinc agronomic program in the Katanga province of the DRC with the Lundin Foundation, expanding the overall scope and potential for impact through the use of zinc to improve food and nutrition security in the country.

In the DRC, an estimated 57% of the population is at risk for zinc deficiency with over 147,000 children under the age of 5 dying each year due to pneumonia and diarrhea – two leading diseases related to zinc deficiency.

For more information on this new initiative, please contact Dr. Andrew Green at [agreen@zinc.org](mailto:agreen@zinc.org).

## 2. THIRD ROUND: 2016 UPDATE OF CHINESE IZA--TECK--NASTESC--MOA PROJECT



*Dr. Ming Fan (China Program Director, ZNI), local farmer, Professor Qiu Zhi Jun (MOA), Professor Zhou (Chong Qing Soil and Fertilizer Station), and a staff member from a local county agricultural extension service.*

After the successful launch and second-round completion of the IZA-TECK-MOA China Collaborative Project, the program will continue into a third phase to accelerate the production and use of Zn fertilizer in Chinese agriculture. The initiative's key achievements to-date are summarized as follows:

### **Research and Demonstration Programs:**

- Implementation of 33 field demonstrations in 20 provinces on 8 types of crops (including grain, vegetable, and fruits)
- Organized one 'National Training Workshop' on zinc fertilization in Haikou, Hainan as well as 18 provincial demonstration and promotional activities (such as field days and tours on zinc deficiency and zinc fertilizer technologies)
- Scheduled the 'National Workshop on Zinc Fertilization' for August 31st to September 2nd in Yinchuan, Ningxia
- 15 provinces have now included Zn fertilizer into soil testing and fertilizer recommendation program activities – this has aided the development of 10 Zn-containing fertilizer formulas
- Zn fertilizer was included into “2016 National Fertilizer Recommendation Guidelines” for major crop production (spring crops) for the second time



*Crops that have not been zinc treated*



*Zinc treated crops*

**Promotion and Education Programs:**

- 10 more fertilizer companies will produce Zn containing compound fertilizers
- Currently conducting a survey on Zn fertilizer application areas, crop production, Zn fertilizer consumption and Zn uses in China
- 2 national news reports were published online about Zn fertilizer demonstration activities in agriculture
- 10 articles were published in the Special Edition of Farmer's Daily (May 26, 2016) discussing Zn nutrition and Zn fertilizer; reached over 500,000 farmers
- Promotional brochure produced 5000 copies; distributed highlighting project results and the recent MOA Fertilizer Recommendation Guidelines for Crop production in China
- Provided an online course in MOA agricultural communication college on Zn fertilizer use in fertigation; over 1800 agricultural extension workers participated

**Program Impact on Market:**

- The joint IZA-Teck-MOU program has added 60,000 tpy of zinc to the fertilizer market in China
- The successful completion of the 2016 program is expected to add 20,000 tpy for zinc use in fertilizers

For more information on the China Collaborative Project, please contact Dr. Ming Fan at [mfan@zinc.org](mailto:mfan@zinc.org).



*Project collaborators visit zinc fertilizer demonstration site in Shizong County, Yunnan Province*

### 3. ZINC REQUIREMENT, DEFICIT, AND ZN FERTILIZER USE IN CHINA

China, home to world's largest population, suffers from a large zinc deficient both in plants and humans as the result of limited land resources and unbalanced fertilization. This shortage, however, opens opportunities for the agricultural and fertilizer industry to explore the vast food production and fertilizer market potential.

The International Zinc Association's (IZA) "Plant Nutrient Zinc Database" has been monitoring and tracking zinc fertilizer market potential worldwide and, according to the latest estimates for China, the annual Zn nutrient requirement and Zn fertilizer use in 2015 was 310,000 tons and 55,000 tons Zn – resulting in a Zn deficit (or demand) of 255,000 tons (Figure 1).

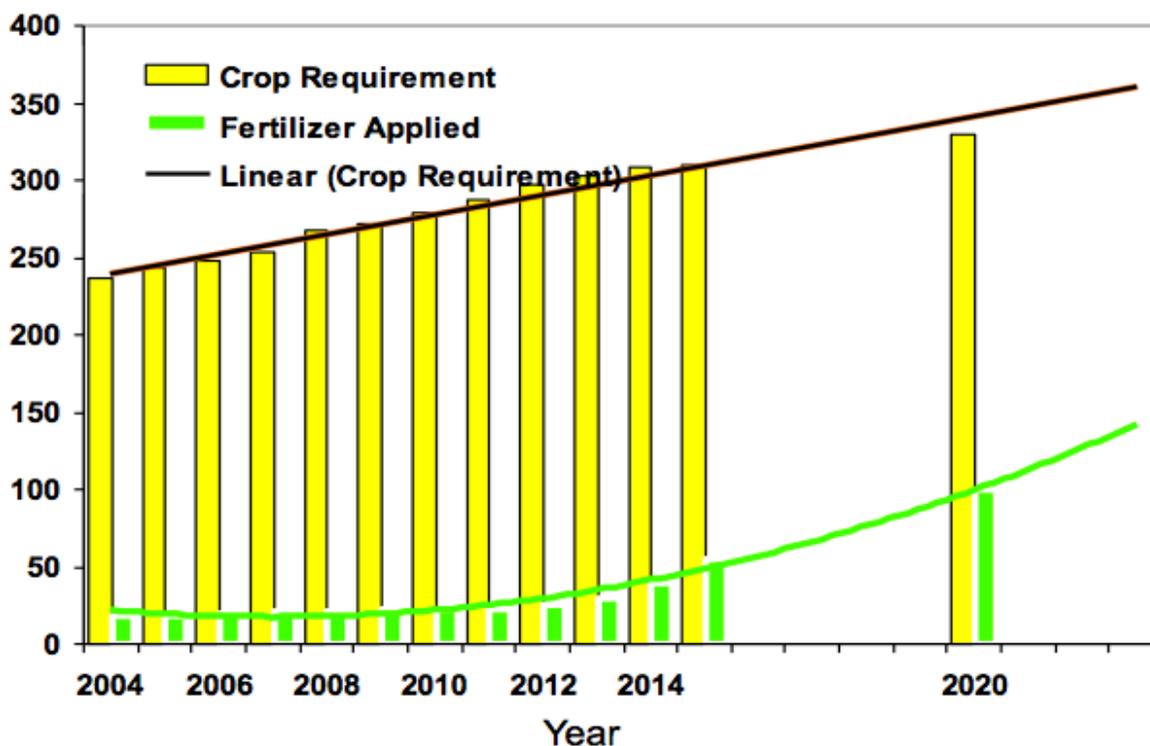


Figure 1, Plant Zinc Nutrient Requirement, Zn Fertilizer Use and Deficit (1000 tons) in China

Since IZA's launch of China Collaborative Project in 2010, Zn fertilizer use in China has increased by 144% - approximately 22,500 tons to 55,000 tons in 2015. Continuing at this rate, the "Plant Nutrient Zinc Database" predicts that the Zn deficit in China will decrease to 230,000 tons by 2020. To capture this market potential, it is recommended that the fertilizer industry invest in strong educational and promotion programs to further accelerate the production and use of zinc in fertilizers.

If you would like to contribute any information or have any questions regarding this program, please contact Dr. Ming Fan at [mfan@zinc.org](mailto:mfan@zinc.org)

## 4. HIGH-LEVEL ROUNDTABLE ON ZINC FORTIFIED FERTILIZERS HELD IN INDIA



*Dr. Andrew Green (Director, ZNI), Ms. I. Rani Kumudini (Joint Secretary, Ministry of Agriculture and Farmer's Welfare, Govt. of India), Mr. Satish Chander (Director General, Fertilizer's Association of India), Dr. Soumitra Das (ZNI, India) and Dr. Arvind K. Shukla (Project Coordinator, Micronutrients, All India Coordinated Research Project, Indian Institute of Soil Science) discuss approaches to adding more zinc to soils in India.*

**May 23, 2016** – The International Zinc Association, in collaboration with the Fertiliser Association of India (FAI), hosted a high level roundtable (Zinc Fortified Fertilizers – Challenges and Way Forward) in New Delhi, India, to discuss global and regional issues related to the Zinc Nutrient Initiative. Key participants included representatives from the Ministry of Agriculture and Farmers Welfare, the Government of India, Indian Council of Agricultural Research (ICAR), as well as international organizations and members of the fertilizer industry.

Two talking sessions were followed by an open house discussion outlining the following key recommendations:

- Zincated urea should be approved by the Government of India. It was included in the Fertiliser Control Order (FCO) in 1990s but due to a price disparity, it is not being produced or marketed by the fertilizer industry in India. Concerted efforts should be made to allow zincated urea to be developed and marketed in the severe zinc deficient states - namely, Rajasthan, Madhya Pradesh and Tamil Nadu. As a pilot, 10% urea may be fortified with say 0.5% Zn, if price doesn't support 2% Zn. Based on the success, it may be scaled up to other Zn deficient areas of the country.
- Urea should be included under the Nutrient Based Subsidy Scheme (NBSS) in order to encourage balanced fertilizer use and increase the use of zinc fertilizers.
- Quality of zinc fertilizers is a concern (e.g. low to no zinc) in some states. Stakeholders including state governments need to ensure farmers receive quality zinc fertilizers.
- Zinc fertilizers are not always readily available to farmers during the peak season. The fertilizer industry has a responsibility to make available quality fertilizers to farmers when they need it most.
- Use efficiency of applied Zn continues to be precariously low at 2-5%. Some innovative techniques (in terms of novel products) need to be developed. Lot of efforts are being made in the country in

developing Nano-Zn fertilizers. Reports indicate that possibility of Zn use efficiency entering into the double figures is a reality.

- Information on Soil - plant - animal - human continuum is not readily available in India. Concerted efforts should be made on multidisciplinary approach of research to generate site specific database on the continuum study.
- The critical level of zinc in Indian soils is currently 0.6 ppm – this should be more accurately revised to 1.0 or 1.2 ppm. If the revision takes place, it would signify that zinc deficiency levels are more widespread than thought at present.
- More needs to be done to increase the awareness level of extension and promotional workers and the farmers in order to increase use of zinc fertilizers in India.

For more information about the High-Level Roundtable Meeting, please contact [Dr. Soumitra Das](#).

## 5. MEET KAZADI ILUNGA PAUL - ZNI'S NEWEST TEAM MEMBER

**The International Zinc Association** would like to welcome Kazadi Ilunga PAUL – the most recent addition to the ZNI team. Paul will be organizing the ZNI program funded by the Lundin Foundation in the Democratic Republic of the Congo as lead Project Manager. His primary objectives are to address the issue of zinc deficiency in the soil as well as increase regional awareness and use of zinc fertilizer in agriculture to improve both crop yield and human nutrition.



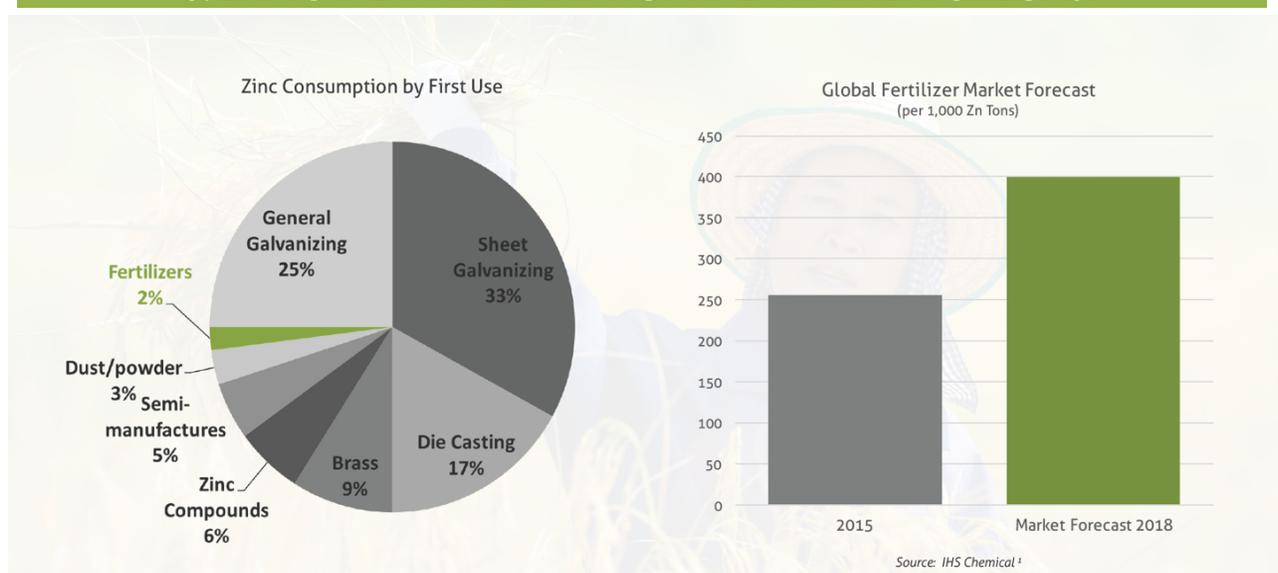
Paul holds a Master's Degree in Agriculture and Food Business (2013) from Amity University Uttar Pradesh in India, as well a degree in Agriculture and Livestock (2010) from the University of Lubumbashi.

He also possesses several years' experience operating within various roles in the agricultural industry and, from 2013 to 2015, he worked for Aquagri Processing LTD in New Delhi – first as Marketing Executive and later as Assistant Export Manager and Project Manager.

We are very pleased to have such an experienced and enthusiastic new team member advancing our efforts in the DRC. Welcome Paul!

For more information on the DRC project or to speak with Paul directly, please contact [pkazadi@zinc.org](mailto:pkazadi@zinc.org).

## 6. ZNI TOTAL MARKET IMPACT AND MARKET FORECAST



Since the ZNI initiative began in 2010, the total global market for zinc in fertilizer has increased to 255,000 TPY, or roughly 2% of overall zinc consumption. IHS Chemical forecasts the fertilizer sector will grow to consume 400,000 TPY zinc by 2018.

## WELCOMED RETURN: FRIT INDUSTRIES RE-JOINS AS IZA MEMEBER



**Frit Industries Inc.** (Frit) has recently rejoined the International Zinc Association as an Affiliate Member. Located in Ozark, AI (USA), Frit is a basic manufacturer of micronutrients for agriculture. Since its founding in 1973, Frit Industries has been actively involved in the zinc fertilizer business and is recognized around the world as a leader in micronutrient fertilizers. The company's product line consists of slow-release granular and totally-soluble powder materials, as well as an extensive list of granular single and multi-nutrient oxy-sulfate products.

Mr. David Benefield, President of Frit, states that “today's higher-yielding agricultural production requires high level soil fertility and balanced fertilization with special consideration for micronutrients. We recognize that IZA can provide value and many benefits to its members.”

Dr. Andrew Green, Director of the Zinc Nutrient Initiative Program, IZA, noted the importance of the United States in the zinc and fertilizer industries:

*“Zn deficiency is becoming a more widespread nutrient deficiency in soil, affecting severely both agriculture and human health. IZA’s Zinc Nutrient Initiative Program is in place to advocate Zn fertilizer production and use to correct Zn deficiency in both crop production and human health. I welcome Frit Industries return to IZA family like other 36 fertilizer companies worldwide and we can collectively work together to develop Zn fertilizer market.”*

Welcome back, Frit!

# ZNI AFFILIATE MEMBERS



## Membership Benefits

ZNI Members enjoy a number of exclusive benefits, including:

- Access to communications materials such as fact sheets, brochures, and flyers
- Your logo company displayed on our website, in global/local presentations, and in our newsletter
- Comprehensive zinc fertilizer training program led by IZA's ZNI team with over 50 years collective technical expertise

[VIEW FULL MEMBERSHIP BROCHURE](#)



## About this Newsletter

This newsletter is published by The International Zinc Association (IZA), a non-profit organization headquartered in Durham, North Carolina. IZA launched the Zinc Nutrient Initiative (ZNI) in response to the critical issue of zinc deficiency in soils, crops, and humans. For more information, please visit [www.zinc.org/crops](http://www.zinc.org/crops), or contact [Dr. Andrew Green](mailto:Dr.Andrew.Green@iza.org). ©2016.