CROSSROADS ASIA PACIFIC

PRODUCTION & INTERNATIONAL TRADE

SINGAPORE

25-27 OCTOBER 2016

ifa INTERNATIONAL FERTILIZER ASSOCIATION

Central Asia: The area of growth
Focus: Mineral Fertilizers

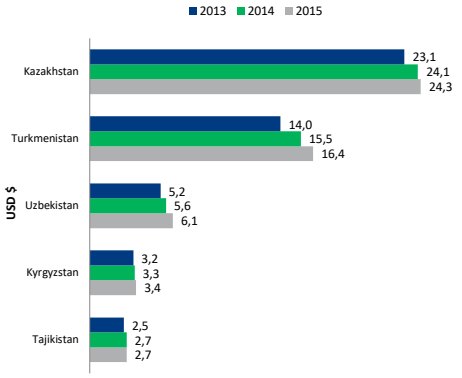
Nina Khangaldyan
URALCHEM

URALCHEM
mineral fertilizers

Contents

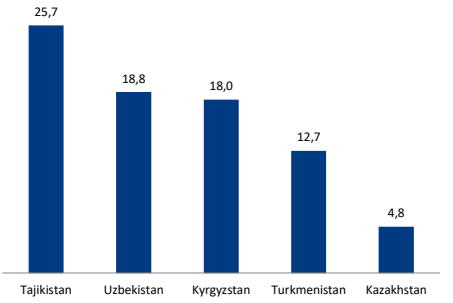
| GDP and the Share of Agriculture

GDP per capita



Source: IMF

Agricultural sector share in the GDP , %

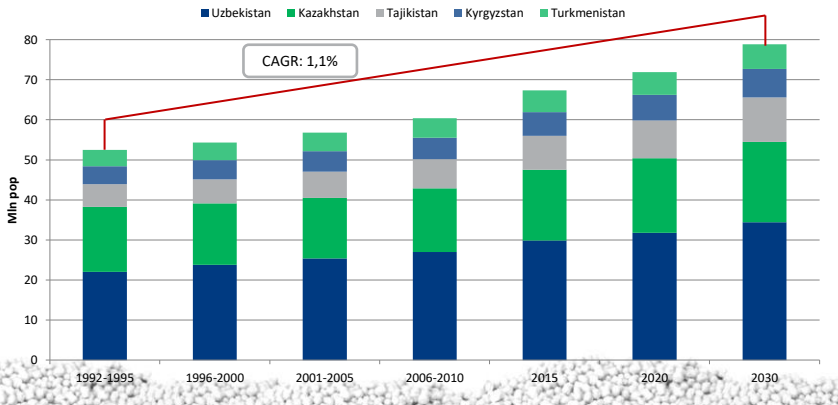


Source: CIA The World Factbook

- Uneven level of development in different countries of this region. Kazakhstan and Turkmenistan are the countries with the highest level of GDP per capita
- The growth of GDP per capita is marked almost in all countries of the region
- It is agricultural region. The role of agriculture is high in all countries of the region, except Kazakhstan. In Tajikistan this share exceeds ¼ of GDP per capita

3

| Population: High Rates of Growth



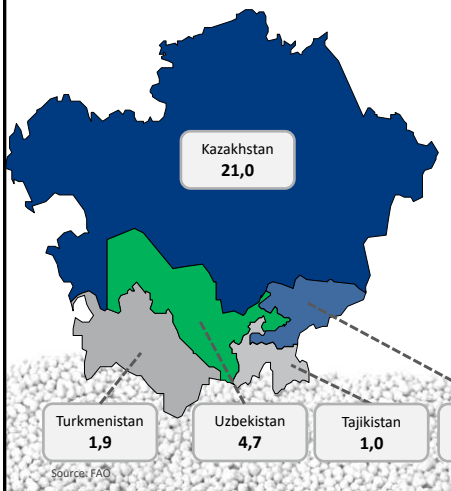
Source: UNDESA

- The region demonstrates rapid population growth. Since 1991 the year of the Soviet Union collapse, the population has grown by almost 30%, especially in Tajikistan and Uzbekistan
- It forecasted that the trend of high growth of population will maintain in the future

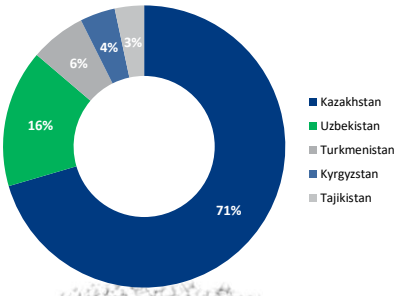
4

Agriculture: Area Harvested

Area harvested, Mln ha



Area harvested, %



- Kazakhstan is on the first place by the area harvested: it accounts for more than 70% of all area harvested in the region
- The area harvested remains unchanged in other countries because of geographical constrains (desert, mountains)

5

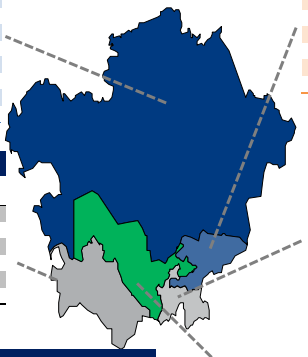
Agriculture: Changes in Acreage of Main Crops

Kazakhstan, Mln ha

	1992	1996-2000	2006-2010	2013
Wheat	13,7	10,0	13,0	13,0
Barley	5,6	2,2	1,7	1,8
Sunflower	0,3	0,2	0,5	0,8
Flax	0,0	0,0	0,1	0,4
Rape	0,1	0,0	0,2	0,3
Oats	0,4	0,3	0,2	0,2
Potatoes	0,2	0,2	0,2	0,2
Cotton	0,1	0,1	0,2	0,1

Turkmenitan, Mln ha

	1992	1996-2000	2006-2010	2013
Wheat	0,2	0,6	0,6	0,6
Cotton	0,6	0,0	0,04	0,1
Rice	0,0	0,05	0,03	0,1
Barley	0,1	0,01	0,03	0,0
Potatoes	0,0	0,0	0,0	0,0
Corn	0,1	0,02	0,02	0,03



Kyrgyztan, Mln ha

	1992	1996-2000	2006-2010	2013
Wheat	0,2	0,5	0,4	0,3
Barley	0,3	0,1	0,1	0,1
Corn	0,1	0,0	0,1	0,1
Potatoes	0,0	0,1	0,1	0,1
Beans	0,0	0,0	0,0	0,1
Sunflower	0,0	0,0	0,1	0,0

Tajikistan, Mln ha

	1992	1996-2000	2006-2010	2013
Wheat	0,2	0,3	0,3	0,3
Cotton	0,3	0,2	0,04	0,2
Barley	0,1	0,03	0,05	0,1
Apples	0,03	0,03	0,03	0,1
Feed crops	0,1	0,1	0,0	0,0
Potatoes	0,01	0,02	0,03	0,04

Uzbekistan, Mln ha

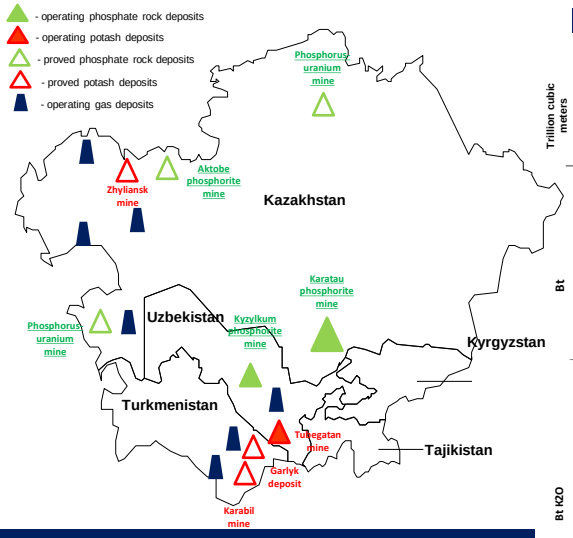
	1992	1996-2000	2006-2010	2013
Wheat	0,6	1,4	1,4	1,4
Cotton	1,7	1,5	1,4	1,3
Corn	0,2	0,2	0,1	0,1
Grapes	0,1	0,1	0,1	0,1
Apples	0,1	0,1	0,1	0,1
Barley	0,3	0,1	0,1	0,1

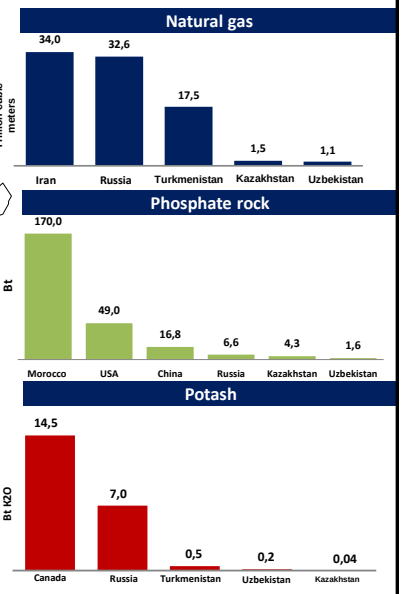
- Wheat is the main crop throughout the region
- Kazakhstan is leading in the area sown under wheat, it increased the acreage for sunflower and flax, decreased – for barley
- In other countries, besides wheat, the traditional specialization in cotton persists

Source: FAO

6

Raw materials: Rich Resources of Raw Materials

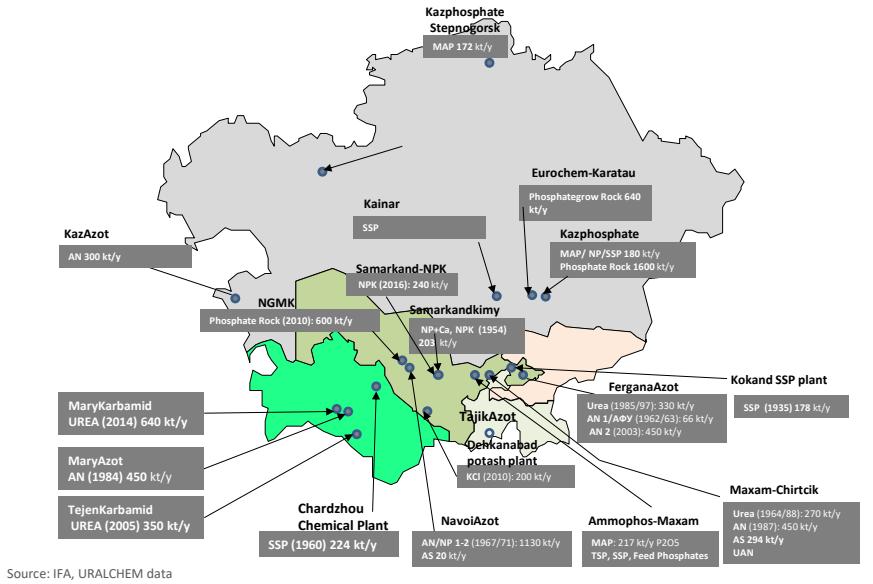




- Rich resources of raw materials are one of the main conditions for the development of fertilizer industry in the region

Source: BP, IFA, URALCHEM data

Mineral Fertilizers Industry Capacities



Source: IFA, URALCHEM data

- The region has a developed industry of mineral fertilizers, which continues to grow

New projects

Kazakhstan

Kazphosphate (phosphates) (phosphates) – realization of program: "1 mil.tons to 2010", production of PK and NPK

KazAzot (AN) – complex modernization, increase capacity up to 400 thous.tons of ammonia and Nitrogen

EuroChem-Karatau (phosphtes) - production of phosphate fert. , NPK etc.

Zhylianska deposit of potassium (Aktobe) LLP "Batis Potassium"- 800 thous.tons of MOP in 2018; joint with China

Turkmenitan

Garlyk GOK (potassium) – 1.4 mil.tons of MOP in 2017; joint with BKK

Project Kara Bogas (urea) – 1.2 mil.tons of urea; 600 thous.tons of ammonia per year; joint with Japan

Uzbekistan

Ammophos-Maxam (phosphates) - NPK 160 thous.tons per year; 500 thous.tons -sulfuric acid, PK fert.

Dehkanabad potash fertilizer plant– 600 thous.tons of MOP, joint with Russia and China

Navoi Azot (nitrogen fertilizer) – 700 thous.tons of Ammonia and 600 thous.tons of urea, joint with Japan

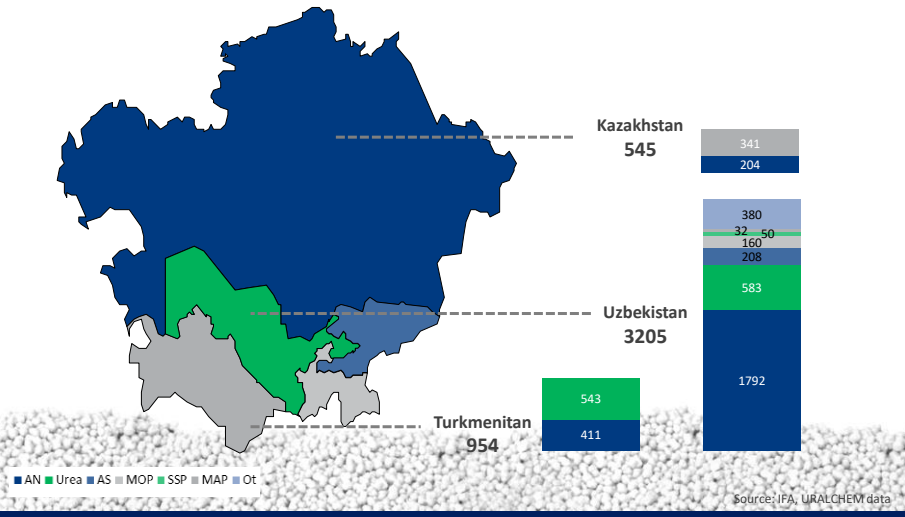
Samarkand-NPK -240 thous.tons NPK in 2016

Navoi-NPK-140 thous.tons of Phosh.fert.; 150 thous.tons of NPK; 650 thous.tons sulfuric acid in 2018; joint with China

Tajikistan

TajikAzot (nitrogen fertilizer) – 250 thous.tons of urea in 2017; joint with China

Mineral Fertilizers Production, '000 mt

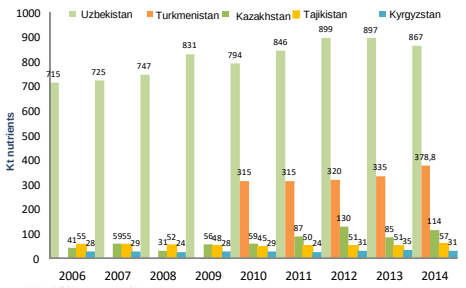


Source: IFA, URALCHEM data

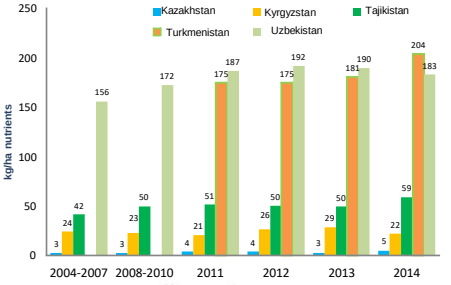
- Uzbekistan ranks first in the production of mineral fertilizers. It produces all three kinds of fertilizers – N,P and K
- Second place goes to Turkmenistan, producer of N-fertilizers. Kazakhstan is on the third place with the production of P and N fertilizers

| Mineral Fertilizers Usage

Total input of fertilizers



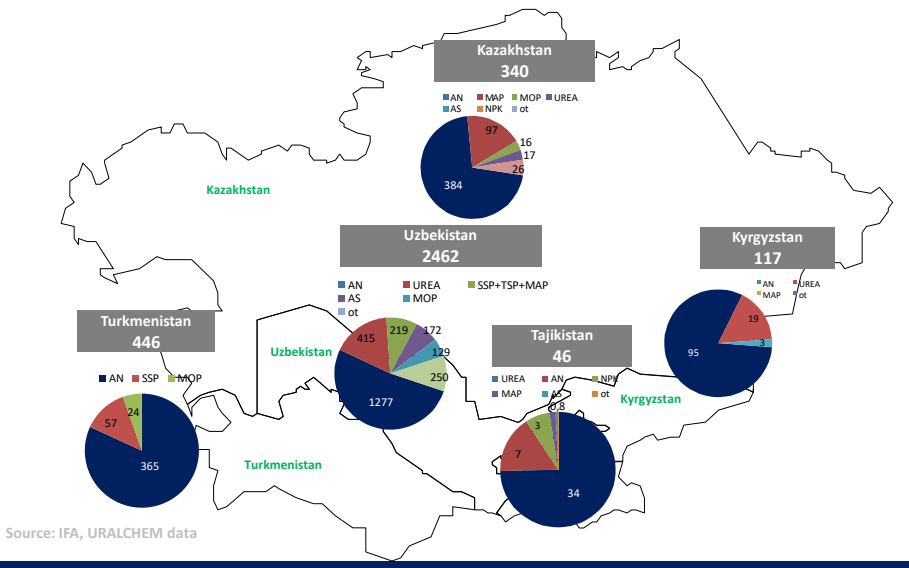
Input of fertilizers per ha



Source: FAO, Fertecon

- Has been an increase in fertilizer consumption in most countries in the region. But the picture is very different from country to country

| Fertilizer Consumption by Country and Type, '000 mt



Source: IFA, URALCHEM data

- Nitrogen fertilizers , mainly AN, traditionally dominate in the regional consumption

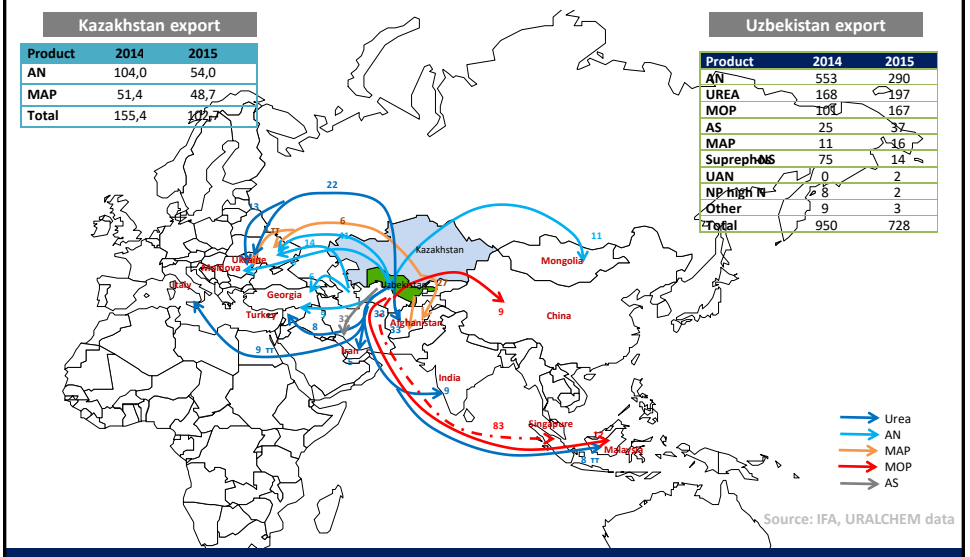
| Mineral Fertilizers Industry: Export, '000 mt

Kazakhstan export

Product	2014	2015
AN	104,0	54,0
MAP	51,4	48,7
Total	155,4	102,7

Uzbekistan export

Product	2014	2015
AN	553	290
UREA	168	197
MOP	104	167
AS	25	37
MAP	11	16
Suprephos AS	75	14
UAN	0	2
NP high N	8	2
Other	9	3
Total	950	728



Source: IFA, URALCHEM data

- Gradual decrease in outlying export of mineral fertilizers owing to the situation on the world market and the local factors

13

| Conclusions

The region has good basis for the development of fertilizer industry:

- Huge potential in natural resources. Most countries in the region (especially Turkmenistan, Kazakhstan and Uzbekistan) have significant operating and proved deposit in natural gas, phosphate rock, potash sulfur and others
- Developed production and technical facilities. Uzbekistan is among the top five producers of ammonium nitrate in CIS, Turkmenistan - of urea
- Availability of qualified labor
- Big and promising domestic market (high share of agriculture in the economy of the region)
- High rates of population growth and limited land resources - only an increase in fertilizer usage can provide the food security in the region
- High share of domestic market in the deliveries of main local companies who are the main players on the market
- State policy of active support for local agriculture and fertilizers producers (in Kazakhstan, Uzbekistan and Turkmenistan).

- All these factors make the industry attractive to local and foreign players
- We see the growing interest of foreign companies (primarily from China, Japan, Spain and Russia) to invest in a large number of new projects . It explains high investment attractiveness and good prospects of the Central Asian fertilizer industry

14

URALCHEM
www.uralchem.com

Thank you for attention

15

THIRD SESSION

Fertilizer Regional Outlook

Session Chair: Kapil MEHAN, Adventz, India
and Chairman of the IFA Agriculture Committee

- **Mike GALLAGHER**
  CRU Group, United Kingdom
- **Nina KHANGALDYAN**
  Uralchem JSC, Russia

ifa INTERNATIONAL FERTILIZER ASSOCIATION | CROSSROADS ASIA PACIFIC | PRODUCTION & INTERNATIONAL TRADE

SINGAPORE
25-27 OCT. 2016