Developing grain supply chain in Ukraine: 
EBRD and Nibulon experience

Vasyl Hovhera, International Agribusiness Economist
Grain sector development and potential

Potential: 80-100 million tons of grain harvest

2016
66 million tons of grain harvest

Grain Production, mln t

Grain Export, mln t
Grain sector growth limitation

With increasing grain harvest and export volume in Ukraine, the issue with logistic bottlenecks is becoming more acute at two stages of grain export transportation chain which include:

1) storage capacities where grains are collected, cleaned and dried after harvest time;

2) inland transportation to port terminals by road, rail or river transport.
Grain infrastructure bottlenecks

Inland storage capacity ~ 40 mln t

Transportation (in MY 2016/17)
- 12 mln t ~ 28%
- 29 mln t ~ 67%
- 2 mln t ~ 5%

Port storage capacity ~ 3.3 mln t

Transshipment capacity ~ 57(66) mln t

Production ~ 66 mln t

Storage capacity ~ 60% of production

Export ~ 43.9 mln t

WB Logistics Performance Index (International shipments)
- 2.59 of 5
- (ranking 95 from 160)

Transshipment capacity ~ 130% of export

Transshipment cost 2-3 times higher Compared to EU
Grain storage

Commissioning of new grain elevators, mln t

In 10 years only 15.3 mln t of new storage facilities built

VS

Grains production increase of ~28 mln t
Internal grain transportation bottlenecks

- Shortage of rail grain wagons during peak times
- Shortage of locomotives
- Rail layout problems (especially older ports like Odessa and Chornomorsk)
- Condition of most of Ukraine’s roads is poor, and vehicle over-loading is common
River transportation

Transportation of goods by river transport, mln t

- High port fees
- Costly pilotage services
- Limited navigation period
- Obstacles to foreign vessels
- Limited infrastructure and fleet
- Short length of waterways with guaranteed depths

2016

5% ≈ 2,3 mln t

POTENTIAL

20% ≈ 10,0 mln t
Assessment of logistics needs: the model

Developed by FAO experts

Main scenarios used by the logistics Model and related variables

<table>
<thead>
<tr>
<th>Scenario\Parameter</th>
<th>Total Exports</th>
<th>River transportation capacity</th>
<th>Hoppers turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1 (Basic)</strong></td>
<td>35 MMT/year (baseline)</td>
<td>0,9 MMT/year (baseline)</td>
<td>8 days (baseline)</td>
</tr>
<tr>
<td><strong>Scenario 2 (increased export capacity)</strong></td>
<td>45,5 MMT/year (+30% from baseline)</td>
<td>0,9 MMT/year (baseline)</td>
<td>8 days (baseline)</td>
</tr>
<tr>
<td><strong>Scenario 3 (unlimited river transportation capacity)</strong></td>
<td>35 MMT/year (baseline)</td>
<td>Unlimited</td>
<td>8 days (baseline)</td>
</tr>
<tr>
<td><strong>Scenario 4 (improved hoppers turnover)</strong></td>
<td>35 MMT/year (baseline)</td>
<td>0,9 MMT/year (baseline)</td>
<td>5 days (-38% from baseline)</td>
</tr>
</tbody>
</table>
Assessment of logistics needs: the model

Monthly required storage capacity, as simulated by the Logistics Model

- **Existing Storage Capacity (MMT)**
- **Used Storage Capacity (Scenario 1 / Basic)**
- **Used Storage Capacity (Scenario 2 / Increased exports capacity)**
- **Used Storage Capacity (Scenario 3 / Unlimited river transportation capacity)**
Assessment of logistics needs: the model

Monthly use of grain hoppers, as simulated by the Logistics Model

- Exsisting Hopper (thd Units)
- Used Hoppers (Scenario 1 / Basic)
- Used Hoppers (Scenario 2 / Increased exports capacity)
- Used Hoppers (Scenario 3 / Unlimited river transportation capacity)
- Used Hoppers (Scenario 4 / Reduced hoppers turnover)
Assessment of logistics needs: the model

With an unlimited capacity for water transportation, the maximum amount of grains and oilseeds transported through river transport amounted to over 3.1 MMT.
NIBULON
Nibulon investment in Grain storage

15 modern inland silos, 11 of which have rail connection;

10 river silos located along the Dniper and South Buh rivers;

Total current storage capacity of all Nibulon’s silos is ca. 1.7mmt of grain with average turnover of 2.4x in FY16/17:

Inland silo benefit from using dedicated block trains (via special arrangement with Ukrzaliznitsya) with a carrying capacity of around 3,500 tons per train.
Nibulon investment in river transportation

**Nibulon** - the largest user of the rivers Dnieper and South Bug (more than 90% of all grain transportation)

10 river silos

**Own river fleet** consisting of:
(i) 39 river barges having 130,000 tons in deadweight in aggregate,
(ii) 14 tug boats;
(iii) river bottom dredger. Nibulon’s barges and tug boats are constructed at the own shipbuilding yard.
Nibulon investment in river transportation

STRUCTURE OF COMMODITY PURCHASE FROM ROAD TRANSPORT IN PLACES OF DELIVERY

- Transshipment terminal
- River Transshipment terminal
- Elevator complex

Graph showing the structure of commodity purchase from road transport in places of delivery from 2008-2009 to 2017-2018.
Nibulon investment in Grain storage

Examples of river terminals constructed

« Holoprystans’ka » branch
76 thd MT storage capacity
~ EUR 20mln investment

« Khortytsia » branch
76 thd MT storage capacity
~ EUR 19mln investment
Nibulon investment in river transportation

Barges “B2000”
Deadweight, t – 2000
~EUR 1mln investment

Non-self-propelled vessel project «5000»
Deadweight, t – 5000
~EUR 2mln investment
Nibulon and EBRD partnership

Nibulon is the client of the Bank since 2010

- first USD 50m loan was approved to finance four inland/river silos as part of a larger pioneering programme to revive Dnipro and South Bug rivers;

- three other loans for working capital financing;

- USD 30m loan in 2018 as part of a new and ambitious long-term USD 200m investment programme for expansion of its grain infrastructure and logistics
  - River terminals – 5 units
  - Transhipment complex
  - Tugboat - 5 units
  - Barge - 11 units
  - Self-propelling floating crane
  - Dredger+2 scows
  - Non-self-propelled Grain Transloader
Thank you!

Vasyl Hovhera
International Agribusiness Economist,
Agribusiness, EBRD
HovheraV@ebrd.com