FAO/Global Information Early Warning System (GIEWS)

Monika Tothova

Grain market data transparency and availability roundtable

Cairo, 9 April 2019
Outline

• GIEWS background and tools

• Balance sheets or how to put puzzle together

• Potential improvements
**FAO/Global Information and Early Warning System**

- Established in 1975 to monitor the food supply and demand situation at global, regional and country levels in order to provide early warnings of potential severe food shortages.

- **Monitoring and reporting:** CURRENT SEASON
  Current food production/supply, utilization, market and price trends, import requirements and food aid needs

- **Early warning:**
  Issue international updates and alerts

- **In-country assessments**
  Crop and Food Security assessment Missions (CFSAMs) with WFP, others, at the country level
Information sources

• National governments and authorities
• Remote-sensed data
• FAO country and regional offices
• UN agencies and international organisations
• FAO/WFP joint assessment missions
Earth Observation: NDVI, ASI

NDVI Anomaly

Egypt

ASII

Egypt

Declaraion: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines represent approximate borders for which there may not yet be full agreement.

NDVI anomaly
Relative difference to Long Term Average
March 2019
METOP-AVHRR
WGS84 Geographic Lat/lon

Difference to LTA

c < 10%
10% - 25%
25% - 50%
50% - 100%
100% - 200%
> 200%

Global Information and Early Warning System – GEWIS

Agricultural Stress Index (ASI)
% of cropland area affected by severe drought
per GAUL, 2 region
from: start of SEASON 1
to: end of 3 March 2019
METOP-AVHRR
WGS84 Geographic Lat/lon

ASI/LS
0 - 10
10 - 20
20 - 30
30 - 40
40 - 50
50 - 60
60 - 70
70 - 80
80 - 90
90 - 100
0 - 10%
10% - 15%
15% - 20%
20% - 25%
25% - 30%
30% - 35%
35% - 40%
40% - 45%
45% - 50%
50% - 55%
55% - 60%
60% - 65%
65% - 70%
70% - 75%
75% - 80%
80% - 85%
85% - 90%
90% - 95%
95% - 100%
0 - 100%
100% - 200%
Egypt: NDVI 2019, 2018, LTA

Graphs showing NDVI trends in different areas of Egypt:
- Egypt - Behera - Crop Area
- Egypt - Kafr El-Shikh - Crop Area
- Egypt - Menoufia - Crop Area

Each graph plots the normalized difference vegetation index (NDVI) for each month and dekad (10-day period) from January 1 to December 1, comparing 2018, 2019, and the average (84-15) across these years.
- a very warm start to March
- led to winter wheat growth being two to three weeks ahead of normal
  - tends to be a positive factor for final yields
• winter wheat conditions - exception start in the Southern region,
• areas further north remain in dormancy under favourable conditions.

Balance Sheet – Egypt

**GIEWS Country Cereal Balance Sheet – The case of Egypt**

The CCBS is the key component GIEWS uses to assess food supply/demand situation in a country. The CCBS system is used to store country level data on all aspects of supply and demand.

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Total Supply</td>
<td>19.61</td>
<td>21.67</td>
<td>22.02</td>
<td>24.41</td>
<td>23.05</td>
<td>23.76</td>
<td>24.59</td>
<td>25.87</td>
<td>25.73</td>
<td>25.43</td>
<td>25.29</td>
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<tr>
<td>Opening Stocks</td>
<td>1.70</td>
<td>3.10</td>
<td>4.70</td>
<td>4.50</td>
<td>5.75</td>
<td>3.80</td>
<td>4.00</td>
<td>4.19</td>
<td>5.22</td>
<td>4.58</td>
<td>3.99</td>
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<tr>
<td>Production</td>
<td>7.98</td>
<td>8.52</td>
<td>7.18</td>
<td>8.41</td>
<td>8.80</td>
<td>9.46</td>
<td>9.28</td>
<td>9.61</td>
<td>9.34</td>
<td>8.45</td>
<td>8.80</td>
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<tr>
<td>Imports (NMY)</td>
<td>9.93</td>
<td>10.05</td>
<td>10.14</td>
<td>11.50</td>
<td>8.50</td>
<td>10.50</td>
<td>11.31</td>
<td>12.07</td>
<td>11.17</td>
<td>12.40</td>
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<tr>
<td>Total Utilization</td>
<td>19.61</td>
<td>21.67</td>
<td>22.02</td>
<td>24.41</td>
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<td>23.76</td>
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<td>25.73</td>
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<td>25.29</td>
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<tr>
<td>Closing Stocks</td>
<td>3.10</td>
<td>4.70</td>
<td>4.50</td>
<td>5.75</td>
<td>3.80</td>
<td>4.00</td>
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<td>3.69</td>
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1/ Production refers to the full amount of harvest before any deductions are for post harvest losses, seed use, etc. 2/ Domestic supply refers to Opening Stocks (quantity of stocks held at the beginning of the marketing year) plus Production 3/ Domestic Utilization includes food, feed and other uses 4/ Exports and Imports refer to Marketing year July/June 5/ Closing stocks refers to stocks at the end of the marketing year
• FAOSTAT: http://www.fao.org/faostat/en/#home
  • Official figures until 2016
  • Unofficial figure of 8.8 for 2017 (but in the balance sheet 8.45: workshop in July 2018)
  • 2018 figure: GIEWS estimate
  • 2019 forecast
Different agencies: different figures

<table>
<thead>
<tr>
<th>Season</th>
<th>FAO-AMIS</th>
<th>IGC</th>
<th>USDA-PSD</th>
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<tr>
<td>Last Update</td>
<td>3 Apr 2019</td>
<td>22 Feb 2019</td>
<td>9 Mar 2019</td>
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<tr>
<td>2009/10</td>
<td>8.52</td>
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<td>2010/11</td>
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<td>7.20</td>
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<td>2011/12</td>
<td>8.41</td>
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Global coverage

* Not participating in AMIS as individual countries, but collectively represented by the European Union.
Key problems for AMIS to address

- Lack of reliable and up-to-date information regarding the world supply and demand conditions
- Weaknesses at national level to produce consistent, accurate and timely forecasts
- Inadequate information on stocks
- Inappropriate and/or uncoordinated national policy responses to global market developments
Potential improvements on country level

• Improve availability by timely data sharing:
  • participation in AMIS
  • Press releases
  • Bulletins, ...
• Improve data transparency

• Questions:
  • How do you prepare area and production estimates and forecasts?
  • How often?
  • For what reasons are those figures used?
  • ....
Thank You

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