National strategy for agriculture in Romania - Horizon 2035

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Content

• **Food security and safety - Determinants (analytical approach)**
  - Food availability
  - Food stability
  - Food access
  - Utilization of food

• **Strategic priorities for agriculture:**
  *ROMANIA’S DEVELOPMENT STRATEGY FOR THE NEXT 20 YEARS*
Food security - analytical approach

• **Two levels**
  1. Food security at **macro-economic** level refers to the capacity of countries to provide sufficient food for their populations.
  2. Food security at **micro-economic** level is important as the nutritional risks can be perceived at this level.

• **Four dimensions of food security:**
  1. **Food availability**
  2. **Stability** of agricultural and food supply
  3. **Food access**
     - in quantitative, qualitative, safety terms and in conformity with the individual dietary and socio-cultural customs
  4. **Utilization of food**
     - related to the individual food behaviour (individual desire to have a healthy diet)

<table>
<thead>
<tr>
<th>Food and nutrition security</th>
<th>MACRO-ECONOMIC level</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Country</td>
</tr>
<tr>
<td></td>
<td><strong>MICRO-ECONOMIC</strong> level</td>
<td>Household</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individual</td>
</tr>
</tbody>
</table>
Determinants of food security

I. Food availability
I. Food availability (1/2)

Low level of domestic agricultural production self-sufficiency and existence of long-term deficits in important groups of products: meat, milk, vegetables, fruit and fish.

In 2013, the self-sufficiency level of domestic agricultural production was:
- 152% in cereals
- 95% in vegetables
- 79% in fruit
- 94% in dairy
- 82% in meat
- 17% in fish.

Food consumption evolution in the economic growth period 2001-2012 (%)
I. Food availability (2/2)

Romania is a country with a less developed agricultural and food sector, with **significant productivity gaps compared to the developed countries**, which will be gradually recovered on medium or long term.

The gaps appear at the level of productivity per person employed in agriculture. The **value added per person employed in agriculture (AWU)** represents 29% from the European level.

The **extremely fragmented agrarian structure** and the large number of farms make it difficult for the agricultural products to cross the supply chains mainly in the sectors of **vegetables, fruit and dairy products**. The **absence of farmers’ associations** also amplifies this situation.

According to the General Agricultural Census of 2010:
- 39% of UAA is operated by farms < 10 ha,
- 12% of UAA ► 10 to 100 ha
- 49% of UAA ► more than 100 ha

**Total number of farms - over 3.8 million.**
Determinants of food security

II. Food stability
II. Food stability

1. Crop production features **high volatility** in Romania, mainly in the case of grain production.

   The variation coefficient for grain production (2004-2012):
   - Romania: 27.4%
   - Poland: 8.95%
   - France: 5.80%

2. **Human consumption dependency on imports (HCDI) is high** in the case of grains in certain years and in soybean, sugar, meat, fish and fruit in most years.

   *HCDI is calculated as ratio of imports to domestic supply.*
   Values of HCDI for the period (2001-2011):
   - Meat –25.5%
   - Soybeans -25.8%
   - Fruit – 16.8%

**Evolution of cereal production, import, export and consumption in Romania**
Determinants of food security

III. Food access
III. Food access (1/3)

Population’s access to food and nutrition quality are constrained by:

- the **low incomes** in the case of certain large population categories,
- the **income gaps** between residence areas,
- by **poverty** (in general)
### III. Food access (2/3)

Share of food expenditures in total consumption expenditures, per total and by income quintiles (Q), in certain EU Member States (2010)

<table>
<thead>
<tr>
<th>Average indicators by household</th>
<th>France</th>
<th>Poland</th>
<th>Romania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total consumption expenditures (euro)</td>
<td>30379</td>
<td>11052</td>
<td>5514</td>
</tr>
<tr>
<td>Total consumption expenditures (PPS)</td>
<td>27627</td>
<td>18325</td>
<td>9623</td>
</tr>
<tr>
<td>Food expenditures (PPS)</td>
<td>3884</td>
<td>5069</td>
<td>3856</td>
</tr>
<tr>
<td>Share of food expenditures (%)</td>
<td>18.3</td>
<td>21.0</td>
<td>37.4</td>
</tr>
</tbody>
</table>
Household income in urban (U) and rural (R) areas in Romania
(constant prices 2013, HBS data)
Determinants of food security

IV. Utilization of food
IV. Utilization of food (1/4)

Poor food consumption in terms of quality:
- **high** share of calories from cereals and potatoes
- **low** intake of animal protein

**Nutritional risks** for the vulnerable categories (*under the poverty threshold and social exclusion)*:
- **low income groups**
- **rural population**
- **rroma population**
IV. Utilization of food (2/4)

Food consumption and share of food expenditures by residence areas (1st quarter 2011)

Distribution of households by food consumption expressed in calories

Distribution of households by the share of food expenditures in total consumption expenditures
IV. Utilization of food (3/4)

Food diversity of households from rural and urban areas measured by the Berry index

The households with high dietary diversity for which the Berry index values are higher than 0.90 account for 68% in the urban area and only 36% in the rural area.

The rural households have moderate dietary diversity, most of them (47%) having Berry index values ranging from 0.80 to 0.90.
IV. Utilization of food (4/4)

Food consumption and share of food expenditures in certain population ethnic groups (1st quarter 2011)

Distribution of households by food consumption expressed in calories

<table>
<thead>
<tr>
<th>Calories/day/person</th>
<th>Roma</th>
<th>Non-Roma</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1500</td>
<td>12,7</td>
<td>1,9</td>
</tr>
<tr>
<td>1500-2000</td>
<td>31,3</td>
<td>31,3</td>
</tr>
<tr>
<td>2000-2500</td>
<td>14,2</td>
<td>14,2</td>
</tr>
<tr>
<td>2500-3000</td>
<td>23,3</td>
<td>23,3</td>
</tr>
<tr>
<td>&gt;3000</td>
<td>23,0</td>
<td>37,6</td>
</tr>
</tbody>
</table>

Distribution of households by the share of food expenditures in total consumption expenditures

<table>
<thead>
<tr>
<th>Share of food in total consumption expenditures, self-consumption inclusively</th>
<th>Roma</th>
<th>Non-Roma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 40%</td>
<td>14,9</td>
<td>14,9</td>
</tr>
<tr>
<td>40-50%</td>
<td>16,4</td>
<td>16,4</td>
</tr>
<tr>
<td>50-60%</td>
<td>17,2</td>
<td>17,2</td>
</tr>
<tr>
<td>60-70%</td>
<td>20,9</td>
<td>20,9</td>
</tr>
<tr>
<td>Over 70%</td>
<td>30,6</td>
<td>30,6</td>
</tr>
</tbody>
</table>
Strategic priorities for
Agriculture

ROMANIA’S DEVELOPMENT STRATEGY
FOR THE NEXT 20 YEARS
(Romanian Academy version)
Strategic priorities for *Food Security and Safety* within ROMANIA’S DEVELOPMENT STRATEGY FOR THE NEXT 20 YEARS, of the ROMANIAN ACADEMY

1. **INCREASING ROMANIA’S AGRICULTURE ROLE AS FOOD SECURITY SUPPLIER**, through:
   - Increased coverage of food consumption needs from the domestic agricultural production
   - Domestic agricultural supply stabilization, mainly through support measures for the irrigation and land reclamation infrastructure, as well as through other measures to fight against the climate change effects
   - Increasing the agricultural exports and acquiring the food security supplier status at regional and European level

2. **INCREASING THE POPULATION’S ECONOMIC ACCESS TO FOOD AND NUTRITION QUALITY IMPROVEMENT**
   - Increasing the population’s purchasing power;
   - Bridging up the gaps referring to the food access of the different categories of households;
   - Qualitative improvement of the population’s food diet by increasing the animal protein consumption and food diversity
**Pork**

Increased coverage of population’s consumption needs from domestic production

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<thead>
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</thead>
<tbody>
<tr>
<td>Utilizable production</td>
<td>thousand tons</td>
<td>421</td>
<td>465</td>
<td>560</td>
<td>610</td>
</tr>
<tr>
<td>Imports</td>
<td>thousand tons</td>
<td>190</td>
<td>160</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>Exports</td>
<td>thousand tons</td>
<td>30</td>
<td>40</td>
<td>55</td>
<td>80</td>
</tr>
<tr>
<td>Supply availabilities</td>
<td>thousand tons</td>
<td>580</td>
<td>585</td>
<td>605</td>
<td>610</td>
</tr>
<tr>
<td><strong>Self-supply level</strong></td>
<td>%</td>
<td>72%</td>
<td>72%</td>
<td>93%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Pork production competitiveness and producer prices (Romania as compared to France and Poland)

Monthly pork price evolutions in the year 2007

Monthly pork price evolutions in the year 2014
Increased coverage of population’s consumption needs from domestic production

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilizable production thousand tons</td>
<td>3326</td>
<td>3712</td>
<td>4143</td>
<td>4547</td>
<td></td>
</tr>
<tr>
<td>Imports thousand tons</td>
<td>403</td>
<td>368</td>
<td>320</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Exports thousand tons</td>
<td>67</td>
<td>77</td>
<td>93</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Consumption availability thousand tons</td>
<td>3662</td>
<td>4003</td>
<td>4386</td>
<td>4530</td>
<td></td>
</tr>
</tbody>
</table>

**Self-sufficiency %**
- 91%
- 93%
- 95%
- 100%
**Fruit**

- **Utilizable production (thousand tons):**
  - UM: 2291.5
  - Baseline situation (2013): 2338.1
  - Short term (2018): 2539.0
  - Medium term (2025): 2634.7

- **Imports (thousand tons):**
  - UM: 758.1
  - Baseline situation (2013): 748.5
  - Short term (2018): 722.3
  - Medium term (2025): 662.9

- **Exports (thousand tons):**
  - UM: 134.0
  - Baseline situation (2013): 155.6
  - Short term (2018): 201.3
  - Medium term (2025): 250.6

- **Consumption availabilities (thousand tons):**
  - UM: 2915.7
  - Baseline situation (2013): 2930.9
  - Short term (2018): 3060.0
  - Medium term (2025): 3046.9

- **Self-sufficiency (%):**
  - UM: 78.6%
  - Baseline situation (2013): 79.8%
  - Short term (2018): 83.0%
  - Medium term (2025): 86.5%

- **Increased coverage of population’s consumption needs from domestic production**
Domestic agricultural supply stabilization

Main directions and targets for the next 20 years

<table>
<thead>
<tr>
<th></th>
<th>Reference value</th>
<th>Short term 2018</th>
<th>Medium term 2025</th>
<th>Long term 2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of agricultural area equipped with <strong>irrigation</strong> facilities</td>
<td>21% (2014)</td>
<td>21%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Share of agricultural area effectively prepared for irrigations (functional/rehabilitated)</td>
<td>24% (720 thou. ha) (2015)</td>
<td><strong>28%</strong> (830 thou. ha)</td>
<td><strong>50%</strong> (1500 thou. ha)</td>
<td><strong>67%</strong> (2000 thou. ha)</td>
</tr>
<tr>
<td>Share of effectively irrigated agricultural area</td>
<td>6% (166 thou. ha) (2015)</td>
<td><strong>28%</strong> (830 thou. ha)</td>
<td><strong>50%</strong> (1500 thou. ha)</td>
<td><strong>67%</strong> (2000 thou. ha)</td>
</tr>
<tr>
<td><strong>Agricultural advisory service</strong> – share of farmers who participated to vocational training courses</td>
<td>2.6% (2005-2012 average)</td>
<td>7%</td>
<td>20%</td>
<td>50%</td>
</tr>
<tr>
<td>Increasing the <strong>agricultural research expenditures</strong></td>
<td>185 mil euro (2015)</td>
<td>+80%</td>
<td>+150%</td>
<td>+200%</td>
</tr>
<tr>
<td><strong>Agricultural education/Share of farm heads with full agricultural training</strong></td>
<td>0.4% (2013)</td>
<td>7%</td>
<td>15%</td>
<td>25%</td>
</tr>
</tbody>
</table>
Romania’s acquiring the status of exporting country of agricultural products and food security supplier at regional and European level

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<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Live animals</td>
<td>151</td>
<td>149</td>
<td>224</td>
<td>291</td>
<td>Permanently positive</td>
</tr>
<tr>
<td>Meat</td>
<td>-261</td>
<td>-216</td>
<td>-88</td>
<td>71</td>
<td>Positive since 2031</td>
</tr>
<tr>
<td>Vegetables</td>
<td>-106</td>
<td>-50</td>
<td>23</td>
<td>131</td>
<td>Positive since 2019</td>
</tr>
<tr>
<td>Fruit</td>
<td>-215</td>
<td>-180</td>
<td>-128</td>
<td>-46</td>
<td>Permanently negative</td>
</tr>
<tr>
<td>Cereals</td>
<td>1656</td>
<td>1835</td>
<td>2307</td>
<td>2685</td>
<td>Permanently positive</td>
</tr>
</tbody>
</table>
Increasing the population’s access to food and food quality improvement

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of food expenditures in total consumption expenditures, at purchasing power parity</td>
<td>%</td>
<td>37.4</td>
<td>36.0</td>
<td>33.0</td>
<td>29.0</td>
</tr>
<tr>
<td>Meat consumption (fresh meat equivalent), out of which:</td>
<td>kg/capita</td>
<td>57.4</td>
<td>60.5</td>
<td>64.4</td>
<td>69.3</td>
</tr>
<tr>
<td>-pigs</td>
<td>kg/capita</td>
<td>29.0</td>
<td>29.6</td>
<td>31.2</td>
<td>32.6</td>
</tr>
<tr>
<td>-poultry</td>
<td>kg/capita</td>
<td>17.5</td>
<td>19.4</td>
<td>20.8</td>
<td>22.7</td>
</tr>
<tr>
<td>-bovines</td>
<td>kg/capita</td>
<td>5.1</td>
<td>5.5</td>
<td>5.9</td>
<td>6.5</td>
</tr>
<tr>
<td>-sheep and goats</td>
<td>kg/capita</td>
<td>2.4</td>
<td>2.5</td>
<td>2.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Cereal consumption (grain equivalent)</td>
<td>kg/capita</td>
<td>217</td>
<td>190</td>
<td>170</td>
<td>150</td>
</tr>
<tr>
<td>Vegetable consumption (fresh vegetables equivalent)</td>
<td>kg/capita</td>
<td>152</td>
<td>167</td>
<td>184</td>
<td>187</td>
</tr>
<tr>
<td>Fruit consumption (fresh fruit equivalent)</td>
<td>kg/capita</td>
<td>74</td>
<td>79</td>
<td>86</td>
<td>89</td>
</tr>
</tbody>
</table>
Acknowledgements

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