Mitigating SLCPs and Agricultural Burning: Experiences from Russia

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Joint Project of ICCI-Europe and ERC Bellona
Supported by the Swedish Ministry of Environment and
Nordic Environment Finance Corporation (NEFCo)
Agricultural Fires* - April 2006

*all fires north of 40N Latitude
Transport of Ag Burning Emissions into the European Arctic (NILU animation)
Resulting Extreme Air Pollution, Svalbard

Picture courtesy: Ann-Christine Engvall
Decreasing Impacts from Burning: Early Project Approach (2010-11)

- Where does burning take place?
- What crops are being burned, and when in the season?
- Why do farmers burn these particular lands?
- What are the available alternatives (no-till, low till, strip till, etc)?
- What are the barriers to their implementation?
2006 Spring Burning in the Russian Federation
(All Land Cover Types)
Burned Areas 500 m² or Larger

Legend
- Blue: March
- Green: April
- Yellow: May
- Red: June

*As Observed By 500 m MODIS Burned Area Product (MCD45A1)

Analysis and cartography completed by Dr. Jessica McCarty, Research Scientist II, Michigan Tech Research Institute, USA
2008 Fall Cropland Burning in the Russian Federation
Burned Areas 500 m² or Larger

Legend
- August
- September
- October
- November

*As Observed By 500 m MODIS Burned Area Product (MCD45A1)

Analysis and cartography completed by Dr. Jessica McCarty,
Research Scientist II, Michigan Tech Research Institute, USA
Problems in Agriculture

How often do you have to burn ag. waste?

Bellona
Russia Project 2012-present: “Three Legs” of Implementation

I. Educational and Agriculture Extension Services:
   - Engaged “ambassador” farms, three per oblast
   - Study tours to Swedish farms using no-burn methods (both no-till and low-till, clearing of fallow lands, pasture management etc.), includes local officials, journalists
   - “Field Days” at ambassador farms

II. Policy and regulatory support for local officials

III. Financing:
   - Subsidies for land under no-burn methods
   - (start 2015): Micro-financing for equipment replacement (NEFCO fund)
# Open Burning Project: Project Principles

- Local Oblast-level coordinators important: close contact with farmers and their needs in pilot oblasts: Rostov, Krasnodar, Leningradskaya, Tula

- Model farms and local “enthusiasts” also key: three of varying sizes or focus per oblast

- “Field Days” allow expanded contact with methods (over 100 farmers have attended each)

- Study visits to Sweden (February, November 2013 and December 2014) “make it real”, establish longer-term contacts
Open Burning Project: Project Principles II

- Use of Russian expertise wherever possible, complemented and groundtruthed by Swedish Agricultural Institute and CA farmers

- Detailed maps of burning activity month by month (both spring and fall) and correlating with on-the-ground checking of actual land use (kind of crop, abandoned fields, forest, etc.) by Russian experts

- Financial barriers for small and medium-sized farmer important: Analysis of equipment procurement needs for micro-financing component to assist in purchase of alternative equipment
Current Phase
(Fall 2014 through 2016)

• Design of financing mechanism to support farmers pursuing alternative methods
• Expand model farms and study tours to fourth oblast (Tula) and to Ukraine
• For Leningradskaya farmers (small-scale but highly educated and motivated), focus more on information but also equipment/financing needs there
• Continue model farms for demonstration of alternative methods (Field Days) and study tours to Sweden
• NEFCo financing mechanism (hopefully) operational in 2015
• Supportive local legislation
Lessons Learned Thus Far

• Importance of impact on soil quality and crop yields to farmers (perhaps of greater concern than health and infrastructure risks)
• Food security, memory of 2010 fires important
• Different motivations for burning on different land use types (springtime may be primarily pasture or deferred fall burning)
• Small landowner or abandoned lands burned for “aesthetic” reasons
• Farmer education, combined with financing and legislative supports key to progress
English: www.iccinet.org
Russian: www.bellona.org