Sustainable irrigated agriculture and water management strategies for Ukraine

Project title: Towards improved water management in Ukraine (WATERMUK)
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Region: Ukraine (EU new neighbours)

After the collapse of the Soviet Union the performance of irrigated agriculture decreased drastically. To understand the current poor performance of irrigated farms in Ukraine and other former Soviet countries it is necessary to understand the historical context of irrigated agriculture. After the collapse of the Soviet Union, the kolkhozes (cooperative farms) and sovkhozes (state farms) were transformed into private enterprises. In most cases, land was privatised and parcelled out to former workers. The transformation process is still continuing and many of the former collective farms are not yet viable. Three main problems can be identified:

- Policies and legislation have generally not been adapted to the new circumstances, and even where they have they are not being adequately implemented. This has led to confusion on various fronts, including control over farm resources such as land, equipment and farm capital.
- At all levels there is a lack of entrepreneurship and familiarity with operating in a market economy.
- Agricultural markets are not transparent and are poorly developed.

These problems underlie the very low levels of investment, largely due to a lack of collateral. Also, there are few or no incentives to try to maximise farm profits because salaries are not linked to performance.

The North Crimea Canal (NCC) region currently faces several water management problems. Nobody feels responsible for the on-farm irrigation and drainage infrastructure and the irrigation and drainage districts only manage the irrigation system up to the farm gate. Although the farmers are the users of the on-farm irrigation and drainage system, they do not own the infrastructure; ownership is currently being transferred from the State to the municipalities. Because many different organisations have their own specific water management tasks and interests, coordination is poor and bureaucracy rife, while non-economic interests, such as nature conservation, tend to be neglected. Moreover, the lack of funds for proper irrigation management is inhibiting maintenance and improvement of the infrastructure. At district level there is barely enough money for operational tasks, maintenance is only carried out in emergencies and no funds are available for replacement. At farm level even fewer funds are available. More than 90% of funding comes from state subsidies.

The first contact between Ukraine and the Netherlands was made in 1999 at a water management conference in Spain. The Ukrainian Institute of Hydraulic Engineering and Land Reclamation (IHELR) approached the Environmental Sciences Group with a request for support ‘to assess the NCC irrigation performance and identify investment priorities in irrigation infrastructure through technical research’. This led to the establishment of the ‘Towards Improved Water Management in Ukraine (WATERMUK)’ project. However, during the first stage of the project it became clear that the poor irrigation performance is not simply a technical problem of broken irrigation equipment, but also a socio-economic problem related to the transition from a command to market economy following the collapse of the Soviet Union. Besides, there were no donors to invest in irrigation infrastructure. Why set investment
priorities without investors? In the light of this discovery, the project objectives were redefined as follows:

- Development of a plan for sustainable agriculture and integrated water resources management in the Dzhankoy irrigation department in Crimea.
- Dissemination of sustainable agriculture and integrated water resources management practices available at institutions in the Netherlands to Ukrainian/Crimean counterpart institutions.

**Scientific results**
The current situation in irrigated agriculture in the North Crimea Canal irrigation system in Crimea has been described and analysed and an irrigation feasibility study performed. The results show that irrigation can be profitable, even in the most distant parts of the system. Experts from both countries joined forces to draw up a development plan for sustainable farming, through the introduction of business planning and farm extensions, and for integrated water resources management.

**Process results**
The WATERMUK project gave rise to a large network of organisations and people at all levels (farm, municipality, district, oblast, national), which forms the basis for current and future Ukrainian-Dutch collaboration. Besides the continued scientific collaboration between Alterra and its Ukrainian counterparts, this has already resulted in a joint potato cultivation pilot project through the efforts of farmers from both countries. At regional level a Ukrainian irrigation district and a Dutch water board are setting up a twinning project for mutual learning and assistance, and at national level the project stimulated a policy dialogue on water, agriculture and nature between the relevant Dutch and Ukrainian ministries.

**Sources of information**

www.alterra-research.nl/pls/portal30/docs/FOLDER/WATER4FOODECO/IMAGES/WFFPILOTS/WATERMUK/WATERMUK.HTM
www.neerslag-magazine.nl/artikel.asp?key=203
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