

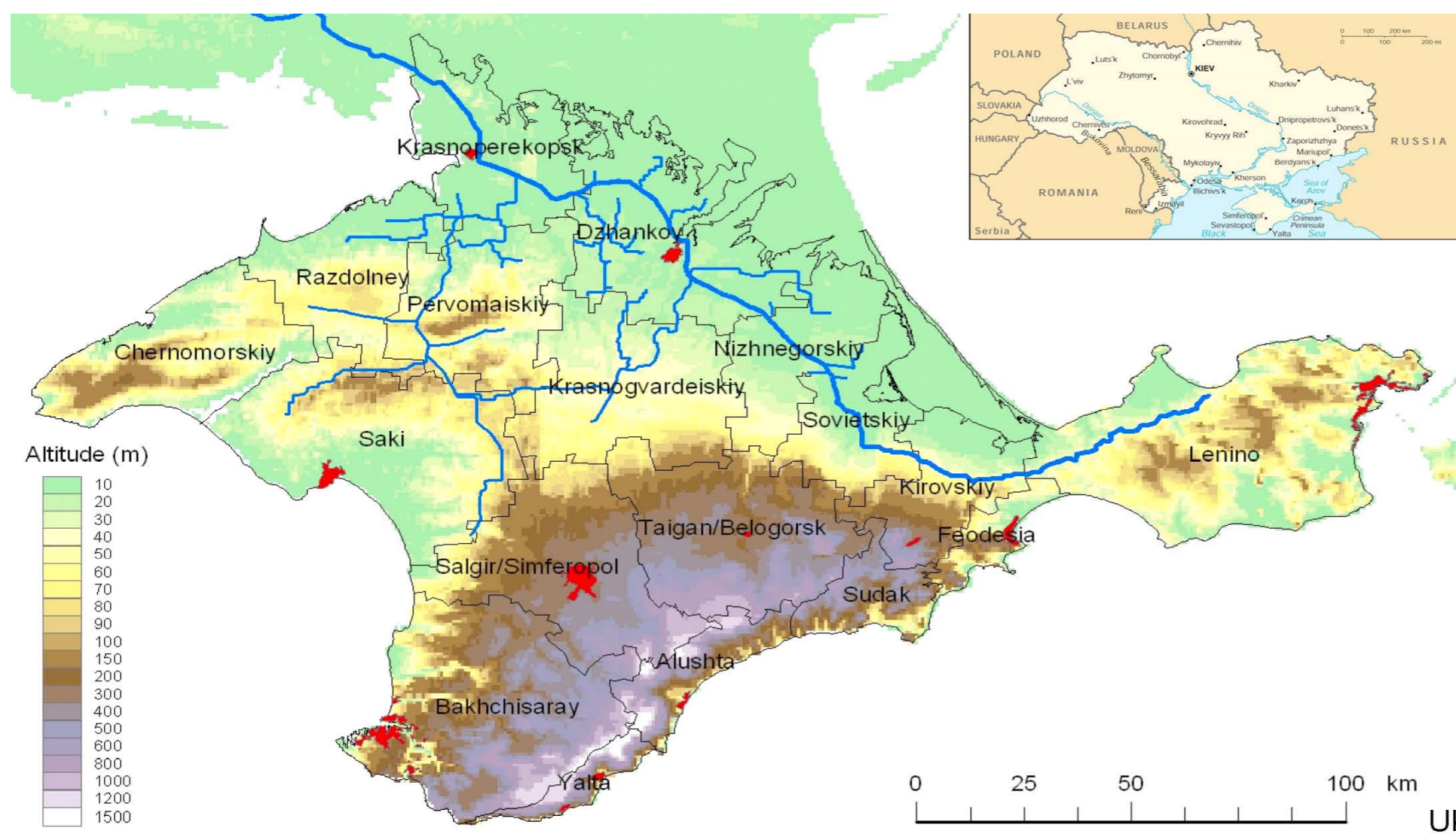


UNDP GEF Black Sea Ecosystem Recovery Project

CRIMEA REGIONAL WATER & SEWERAGE PROJECT

Project Objectives:

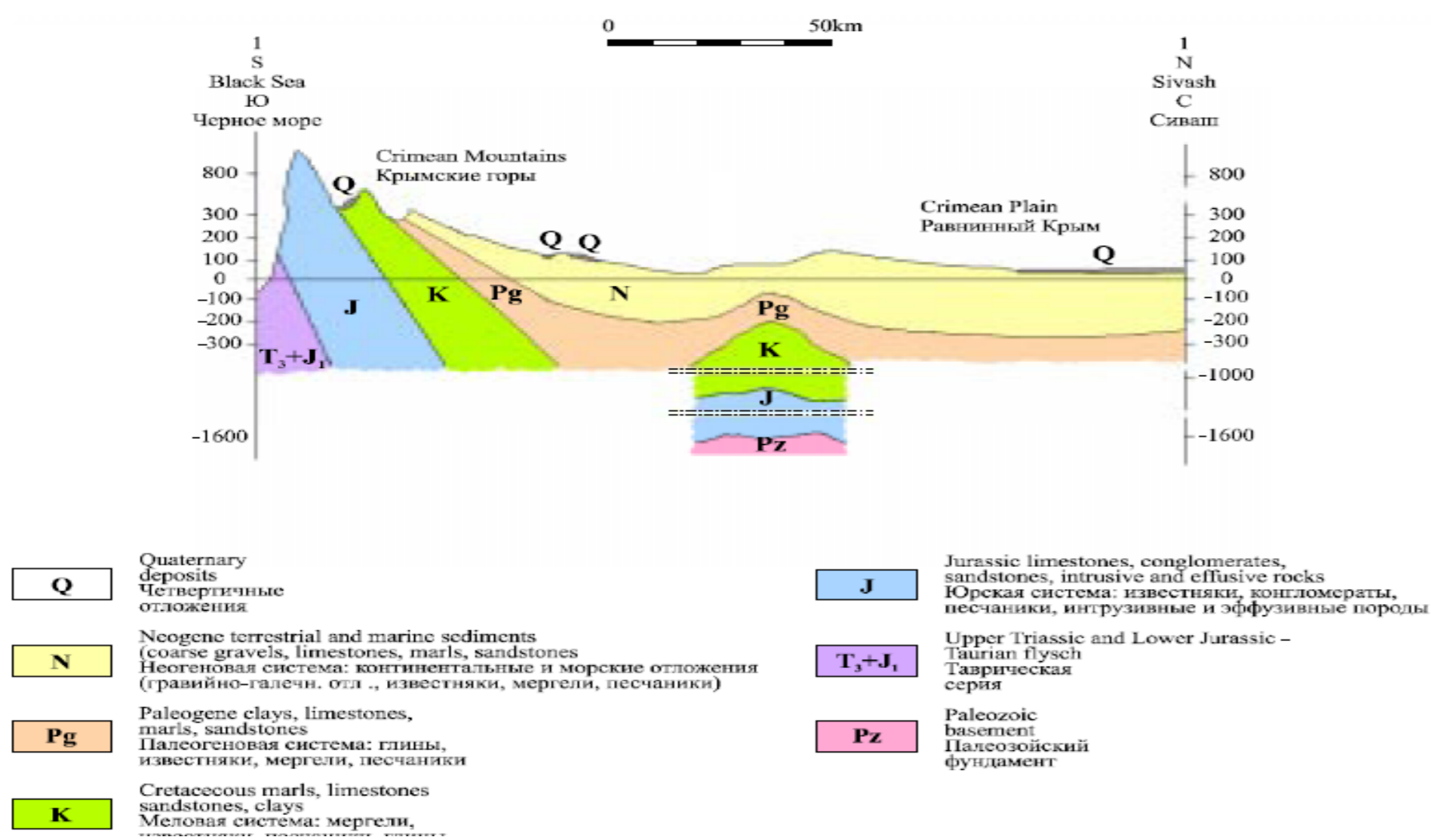
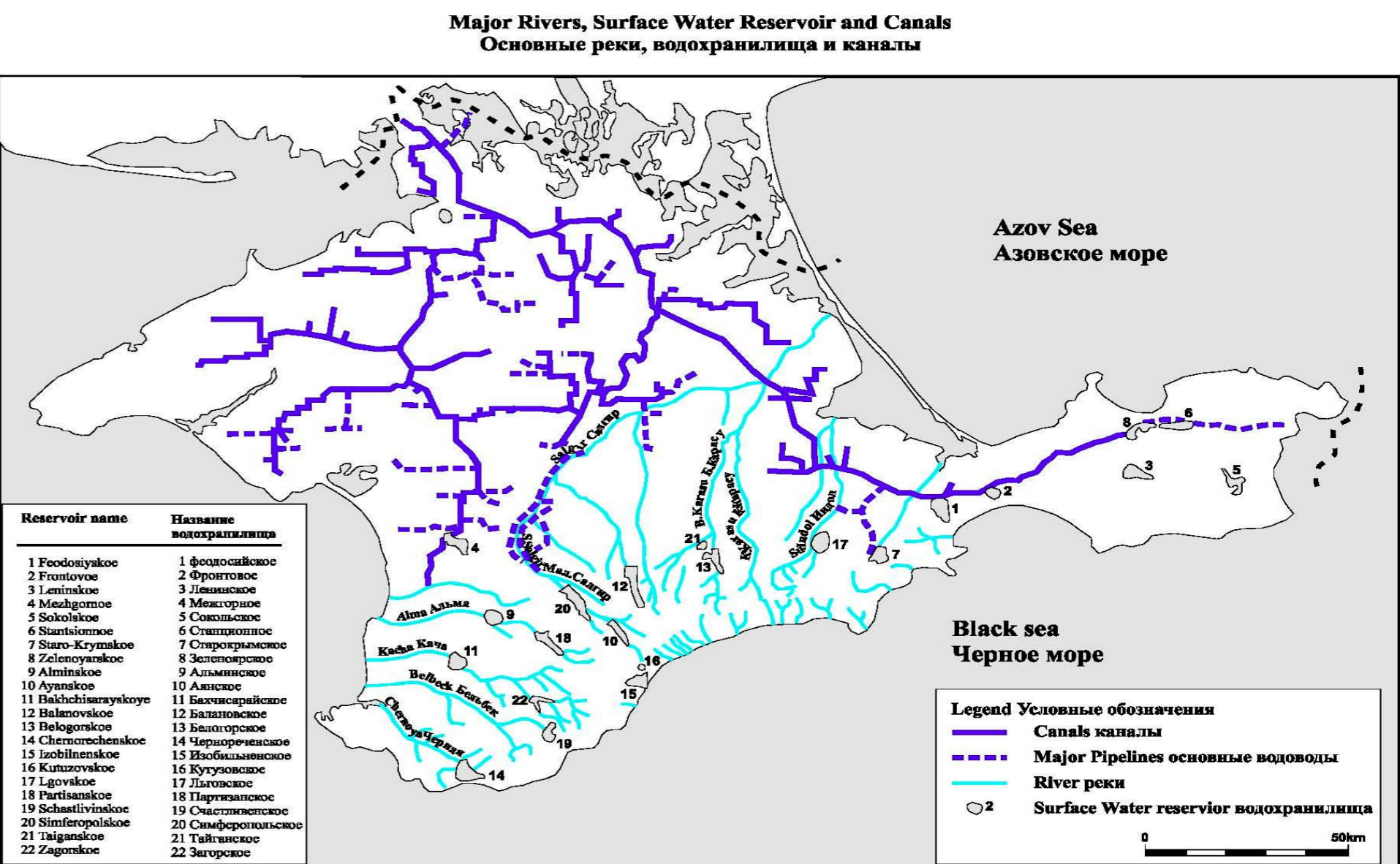
- i. Review the general Crimean W&S sector and identify priority needs for reform and finance
- ii. Development a pilot priority investment project (STIP – Leninskiy District)



Summary of Water Resources	
Surface Water Resources (local) replenished by rainfall min yield (95%)	1 87 million m ³ /a
Groundwater Resources replenished by sustainable recharge	3 73 million m ³ /a
Total (local surface and groundwater resources)	5 60 million m³/a
Available water import via the NCC ² typically 2,000 million m ³ /a ³	
Summary of Water Demand	
Public Water Supply (population, industry and institutions)	450-550 million m ³ /a
Irrigation	1 800 - 2 000 million m ³ /a
Total Demand Estimates	2 250 - 2 550 million m³/a

Technical Review – W&S Priority Investment Needs Identified

- Maintenance of all common water supply network infrastructure-
- Energy Management / Pressure management – (Note: The seasonal Energy Consumption of 4 main pumping station on the NCC canal is 80 million kWh (requires government subsidy)
- Reservoir maintenance and protection (WQ problems – nitrates, organics)
- Groundwater prospecting for rural districts with high TDS or nitrates problems (Dzhankoy, Rasdolnoe, Pervomaiskiy, Saki)
- Estimated Costs for priority items: EUR 150-300 million



Summary of Key Issues identified & Recommendations made

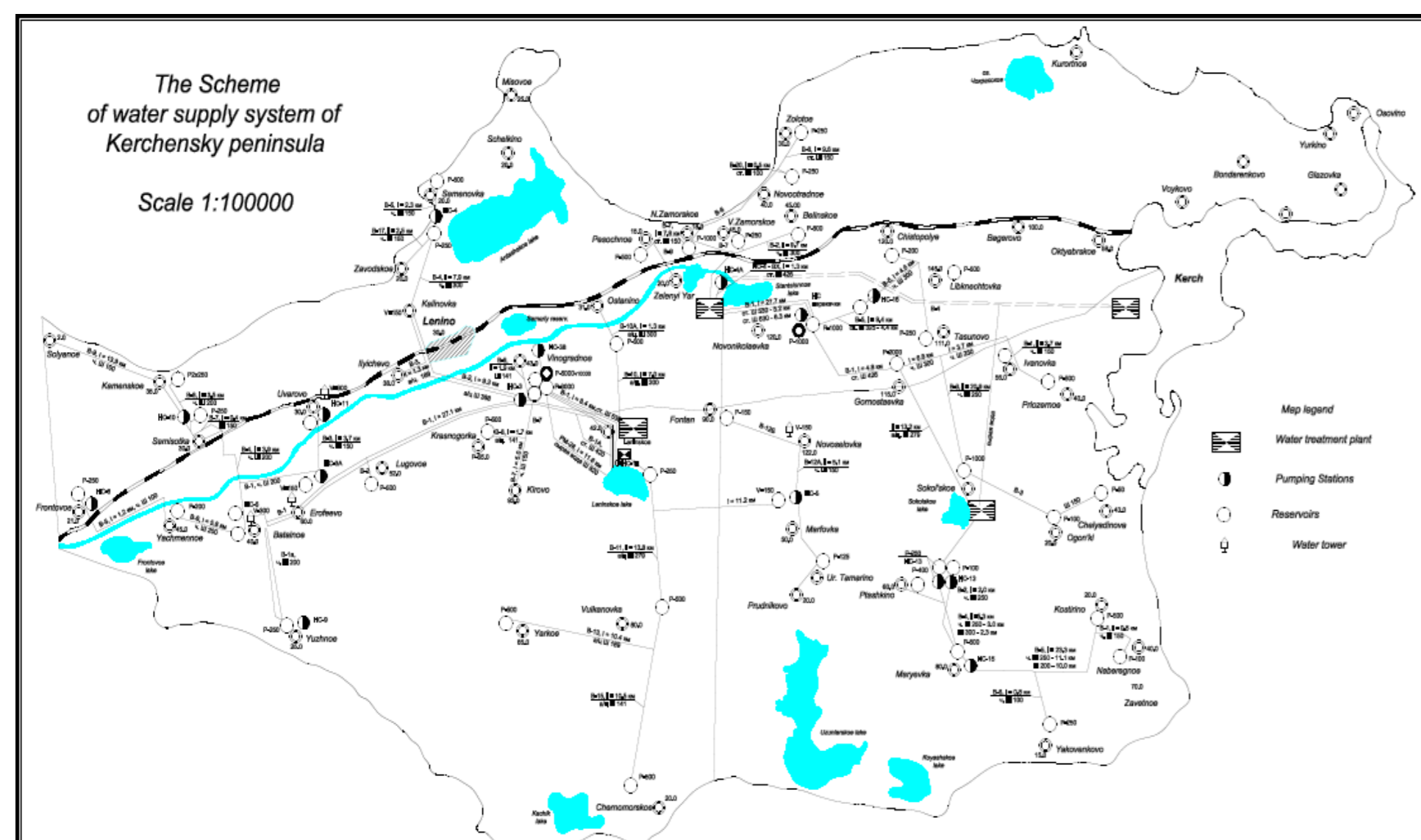
Key Issues Identified:

- The absence of a single entity to co-ordinate, manage and implement Crimea's development strategy for the W&S sector
- The absence of a dedicated cash-flow to finance common W&S infrastructure
- The inter-dependency between public water supply systems and irrigation water systems

Recommendations made:

- To appoint and develop Crimea Vodokanal (Krym-Vodokanal) to co-ordinate manage and implement development strategy
- To introduce a 'Development Fee' into the W&S Tariff Structure to finance priority development needs
- To introduce an irrigation tariff structure that is a mix of a flat based fee plus a crop (or variable cost) based fee (to balance financing from both irrigation and public drinking water).

PILOT STIP – LENINSKIY DISTRICT



PILOT STIP – LENINSKIY DISTRICT

- Project Investment Plan – Emergency Works (\$4 million)
- Slip-lining of priority mains
- Priority pump replacement with FI
- Local water prospecting for potential brackish water treatment