HUSZPO HRVATSKA UDRUGA STRUČNJAKA ZAŠTITE PRIRODE I OKOLIŠA

TREĆA REGIONALNA KONFERENCIJA O PROCJENI UTJECAJA NA OKOLIŠ
THIRD REGIONAL CONFERENCE ON ENVIRONMENTAL IMPACT ASSESSMENT
Vodice, Hrvatska / Croatia • 13.-16. rujna 2017. / September 13th-16th, 2017

Hrvojka Šunjić, Ivana Ivanković

PROGRAMME OF PROTECTION, REGULATION AND UTILIZATION OF THE SAVA RIVER AND ITS HINTERLAND FROM THE SLOVENIAN BORDER TO SISAK

PROGRAM ZAŠTITE, UREĐENJA I KORIŠTENJA RIJEKE SAVE I ZAOBALJA OD GRANICE S REPUBLIKOM SLOVENIJOM DO SISKA

Hrvojka Šunjić, MSc, Program Sava d.o.o., Ulica grada Vukovara 37, Zagreb, Hrvatska (hrvojka.sunjic@zagrebnasavi.hr)

Ivana Ivanković, MSc, Program Sava d.o.o., Ulica grada Vukovara 37, Zagreb, Hrvatska (hrvojka.sunjic@zagrebnasavi.hr)

Introduction

Uvod

The concept design developed for the Programme provides a complete solution for protection, development and utilization of Sava river from Slovenian border to the town of Sisak, which includes the reconstruction and upgrading of the existing Sava-Odra canal and multipurpose solution for the use of the Sava river.

Tehničko rješenje Programa predstavlja cjelovitu podlogu za zaštitu, uređenje i korištenje rijeke Save od granice s Republikom Slovenijom do Siska. Rješenje je temeljeno na rekonstrukciji i povećanju kapaciteta postojećeg kanala Sava-Odra te višenamjenskom korištenju rijeke Save.

FIGURE 1. Zagreb, 1964.
SLIKA 1. Zagreb, 1964.

FIGURE 2. Zagreb, 2010.
SLIKA 2. Zagreb, 2010.

Negative trends

Negativni trendovi

The negative trends are related to the water regime in general, but the emphasis is on the occurrence of continuous deepening of the river bed, which greatly affects the lowering of the level of subterranean waters in the hinterland, and thus the reliability of the water supply, efficiency of the existing flood protection system, quality of surface and subterranean waters and water dependent ecosystems.

Negativni trendovi odnose se na vodni režim u cjelini, ali naglasak je na pojavi kontinuiranog produbljenja riječnog korita, koje u velikoj mjeri utječe na sniženje razine podzemnih voda u zaobalju, a time na pouzdanost vodoopskrbe, efikasnost postojećeg sustava zaštite od poplava, kakvoću površinskih i podzemnih voda te ekosustava koji ovise o vodi.

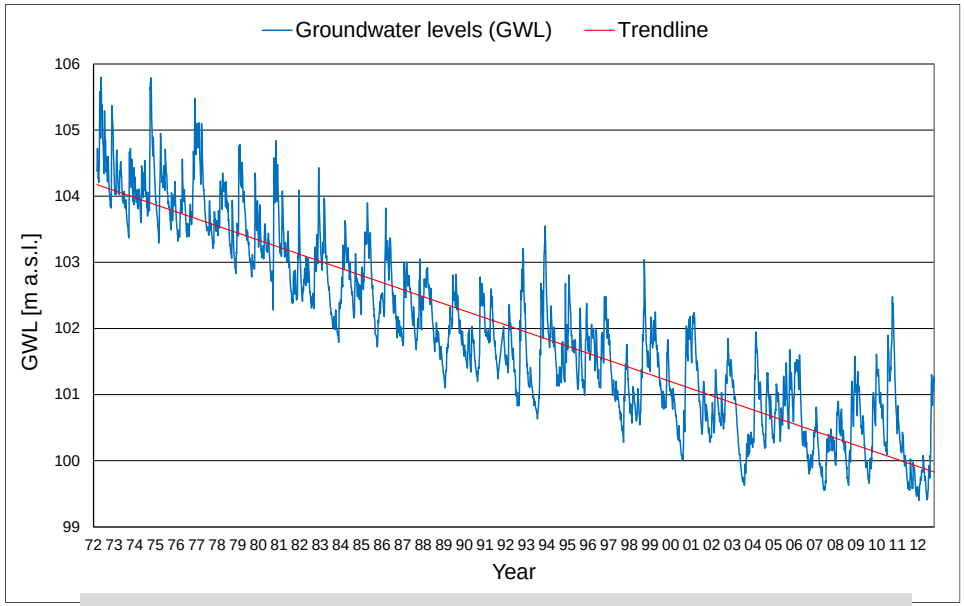


FIGURE 3. Negative trend of GWL-example

SLIKA 3. Negativni trend podzemne vode-primjer

Programme objectives

Opći ciljevi Programa

Long-term water supply
Podmirivanje dugoročnih potreba vodoopskrbe

Flood control
Zaštita od poplava

Hydropower generation
Korištenje hidropotencijala rijeke Save

Urban regeneration
Urbana regeneracija

Development of transport and tourism Infrastructure
Razvoj prometne i turističke infrastrukture

Socio-economic development
Socio-ekonomski razvoj

FIGURE 4. River Sava
SLIKA 4. Rijeka Sava

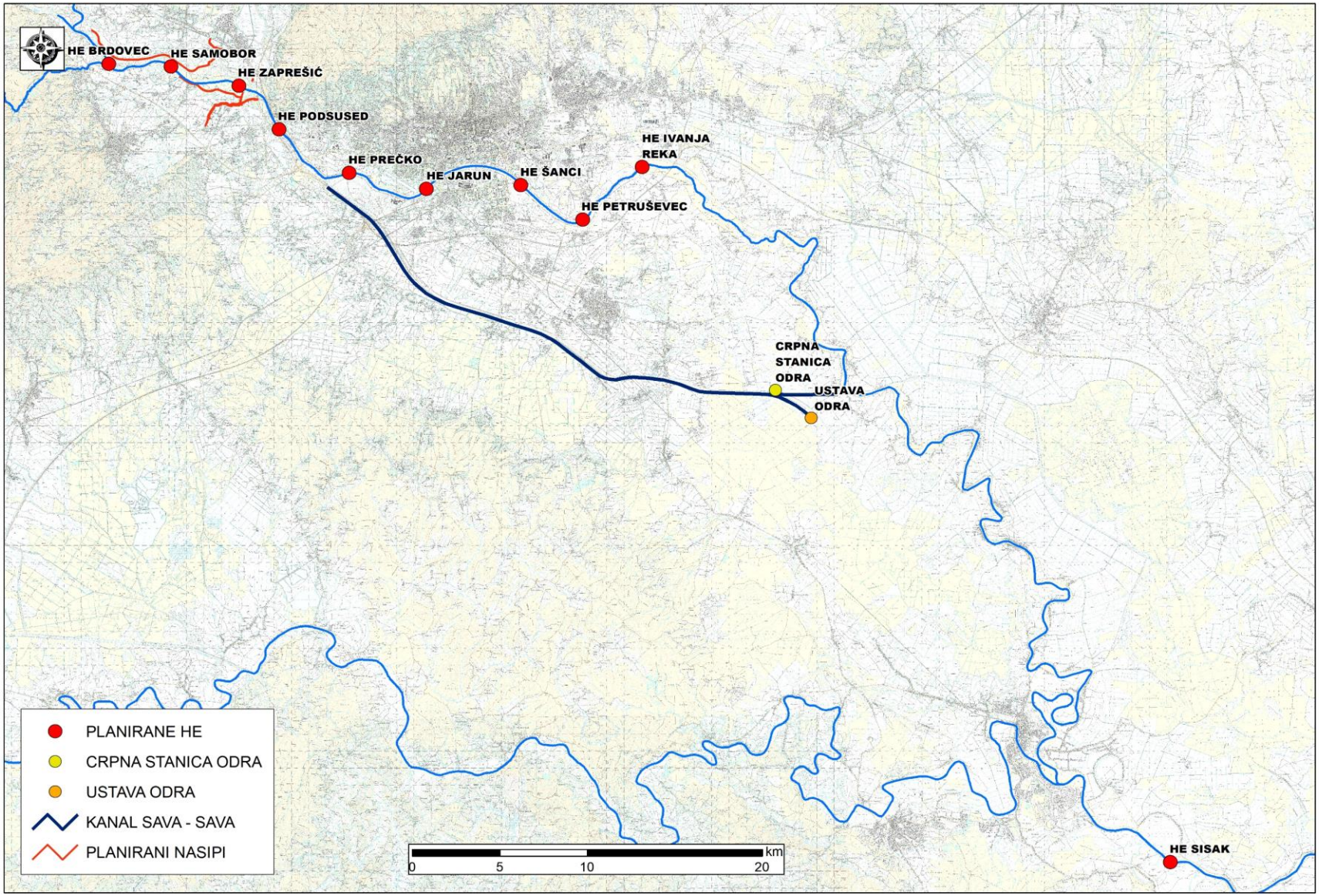


FIGURE 5. Programme – optimized option, proposal (2017.)

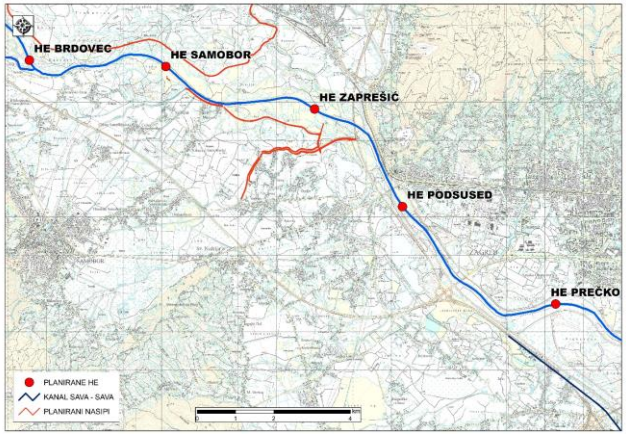
SLIKA 5. Program – optimizirana opcija, prijedlog (2017.)

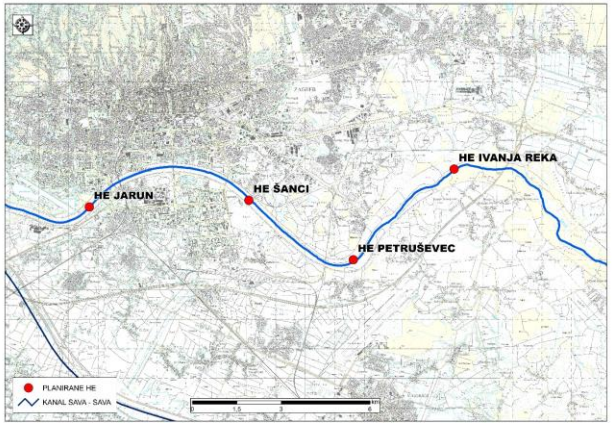
Programme components
Komponente Programa

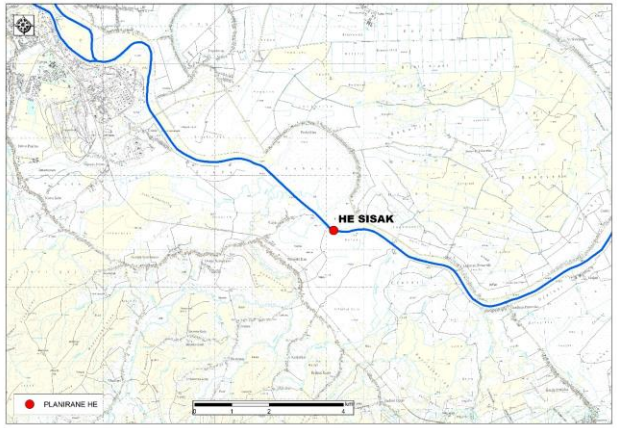
upstream of Zagreb/uzvodno od Zagreba:
HE Brdovec (st. 726+093 km)
HE Samobor (st. 722+020 km)
HE Zaprešić (st. 717+400 km)
HE Podsused (st. 714+200 km)
HE Prečko (st. 708+655 km)

Zagreb
HE Jarun (st. 703+625)
HE Šanci (st. 697+635)
HE Petruševec (st. 692+99)
HE Ivanja Reka (st. 688+065)

downstream of Sisak /nizvodno od Siska:
HE Sisak (st. 582+170)







Regulation objects/Regulacijski objekti:
Preljev Jankomir
Kanal Sava-Sava
Ustava Odra – kanal
CS Odra – kanal (s prelaganjem korita Odre)

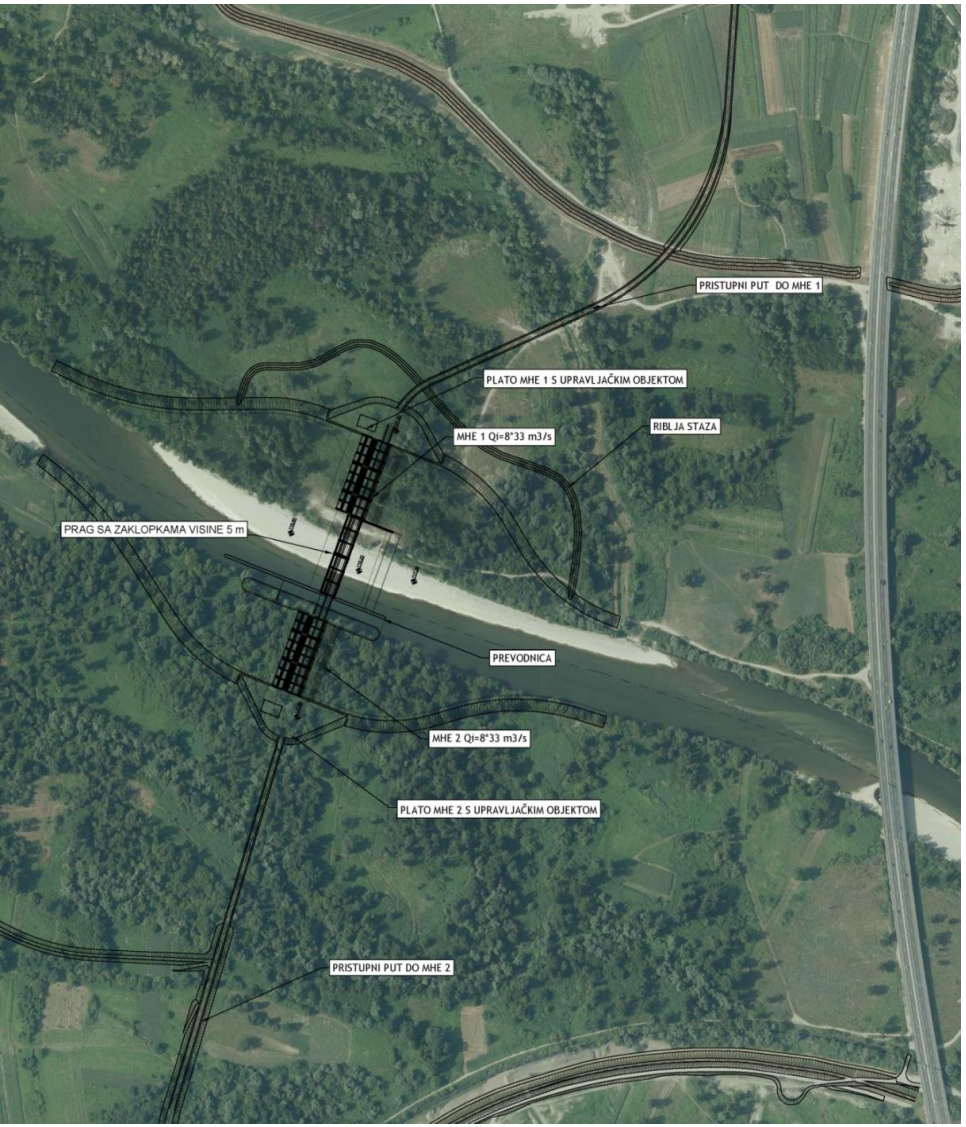


FIGURE 6. Location Zaprešić (2017.)
SLIKA 6. Location Zaprešić (2017.)

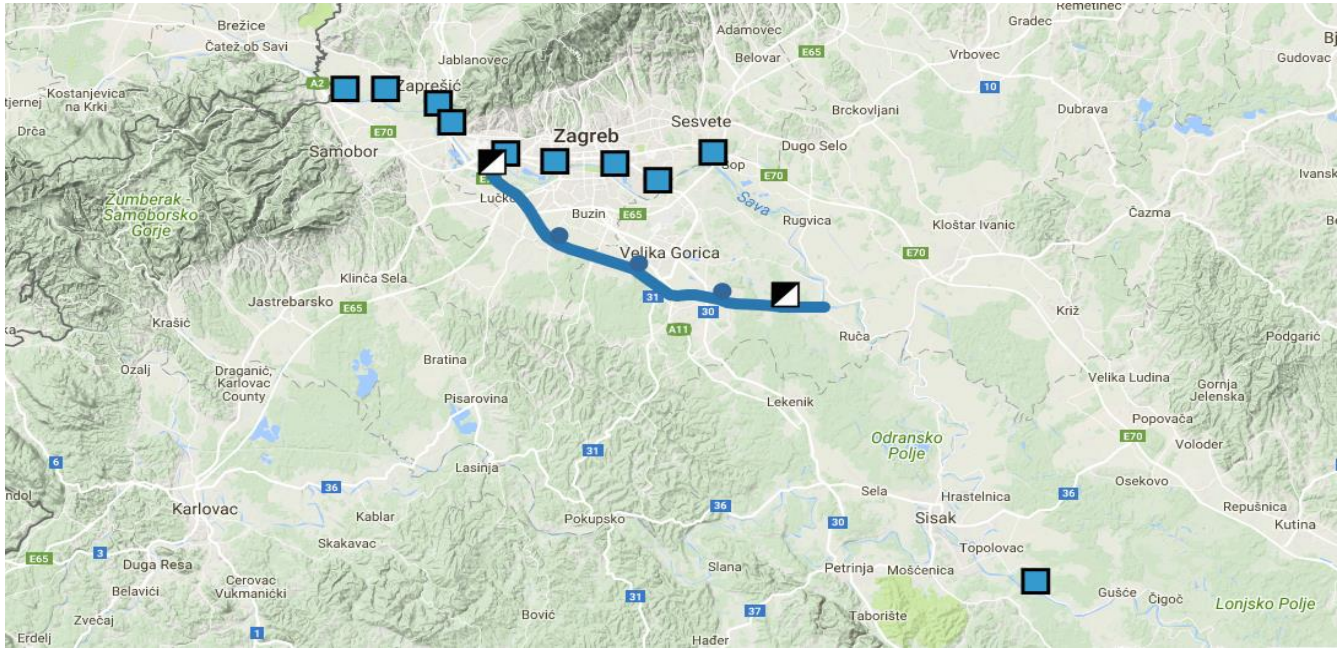
FIGURE 7. Location Jarun (2017.)
SLIKA . Location Jarun (2017.)

Programme as multipurpose solution

Program kao višenamjensko rješenje

Proposal of multipurpose systems that are harmonized with all other sections of space, and with the economic,developmental, social and infrastructural policies: water supply, regulation, flood protection, protection and regulation for agricultural purposes, regulation and maintenance of water regimes of surface and subterranean waters, creation of conditions for urban development and urban regeneration, and protection and increase of biodiversity.

Prijedlog višenamjenskog sustava koji je usuglašen sa svim drugim dionicima prostora te ekonomsko-razvojnom, socijalnom i infrastrukturnom politikom: vodoopskrba, uređenje, zaštita od poplava, zaštita i uređenje zemljišta za potrebe poljoprivrede, uređenje i održavanje vodnih režima površinskih i podzemnih voda, stvaranje uvjeta za urbani razvoj i urbanu regeneraciju te zaštita i povećanje biološke raznolikosti.



Preparation of the project is co-financed by the EU through a 1,5 million EUR grant
Pripremu projekta sufinancira EU s 1,5 milijuna Eura (grant)

Feasibility study and strategic environmental assessment study are being developed by the international IPF3 consortium consisting of MottMacdonald-WYG Atkins
Studija izvodivosti i Strateška studija utjecaja na okoliš izrađuje međunarodni konzorcij IPF3 u sastavu MottMacdonald-WYG-Atkins

The project is listed in both Juncker's Investment plan for Europe and the Danube Strategy
Projekt uvršten u Junckerov investicijski plan i Dunavsku strategiju

First project in the world assessed in the early stage of preparation according to the Hydropower Sustainability Assessment Protocol methodology.
Prvi svjetski projekt kojem je održivost procijenjena prema Hydropower sustainability assessment protocolu u ranoj fazi pripreme.

Programme Sava Ltd. is in charge of managing the Programme's development.
Za organizaciju, vođenje i upravljanje izradom Programa zadužen je voditelj Program Sava d.o.o.

Activities: CBA, SEA, Programe...
Aktivnosti: Studija izvodivosti, Strateška studija utjecaja na okoliš, Program

Zagreb na Savi

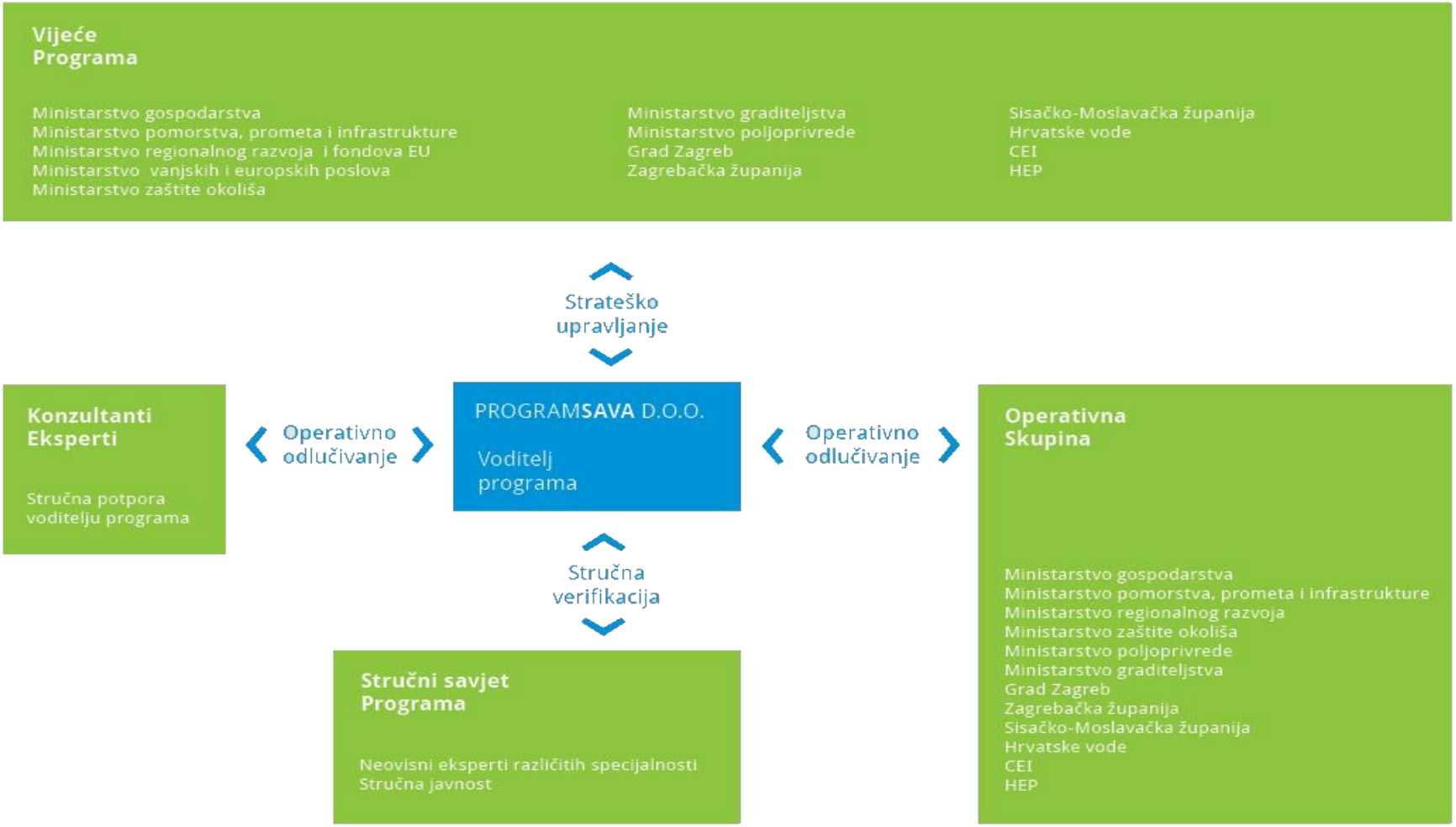


FIGURE 8. Management model
SLIKA . Model upravljanja