

جسر الزرقاء

THE BLUE BRIDGE

הגשר הכחול

יצירת **חוסן הידרו-אגרו-אקולוגי**

למרחב נחל תנינים.

שימור ערכי **מורשת, טבע ונוף** באגן

נחל תנינים

יצירת אמנה אזורית בין קהילות

לפיתוח וניהול השטחים הפתוחים

במרחב הנחל

בניית '**גשרים' גיאוגרפיים וחברתיים**

לפיתוח מפעלי מים

Generating Hydro-agro-ecological

resilience for Taninim basin

Preserving heritage, natural &

landscape values of the Taninim basin

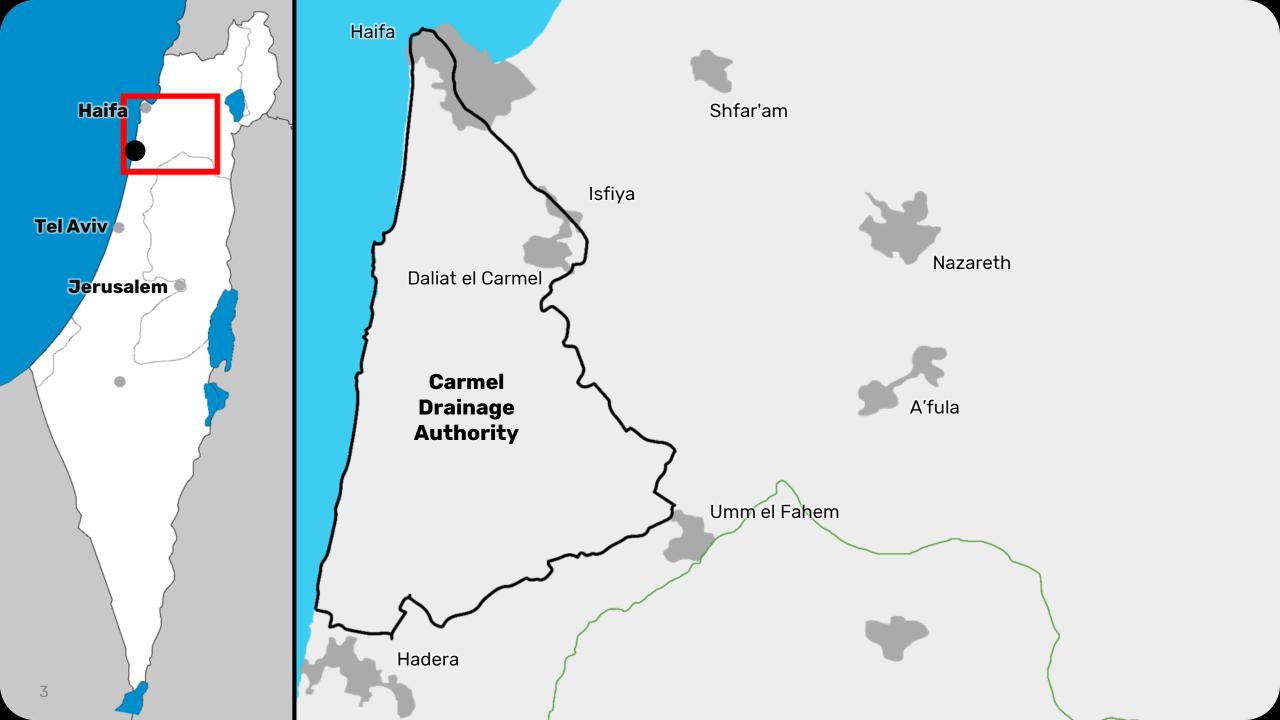
Forming inter-communities basin

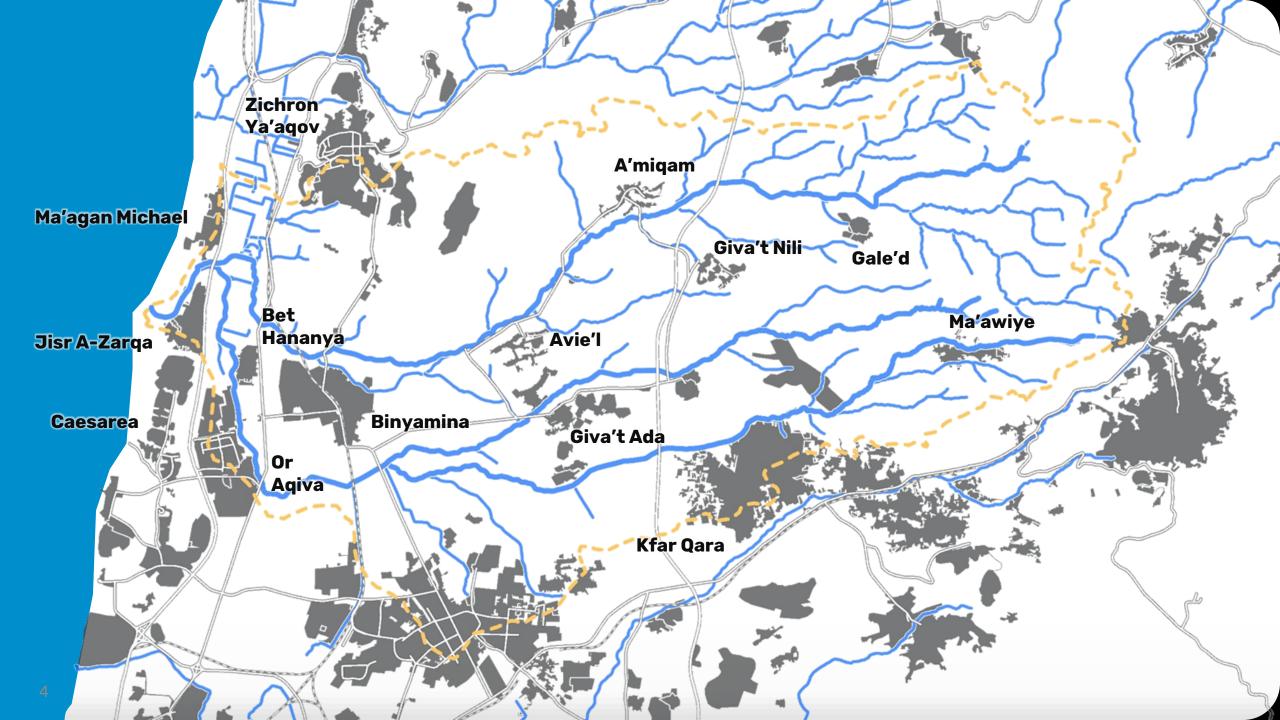
covenant for open-space development

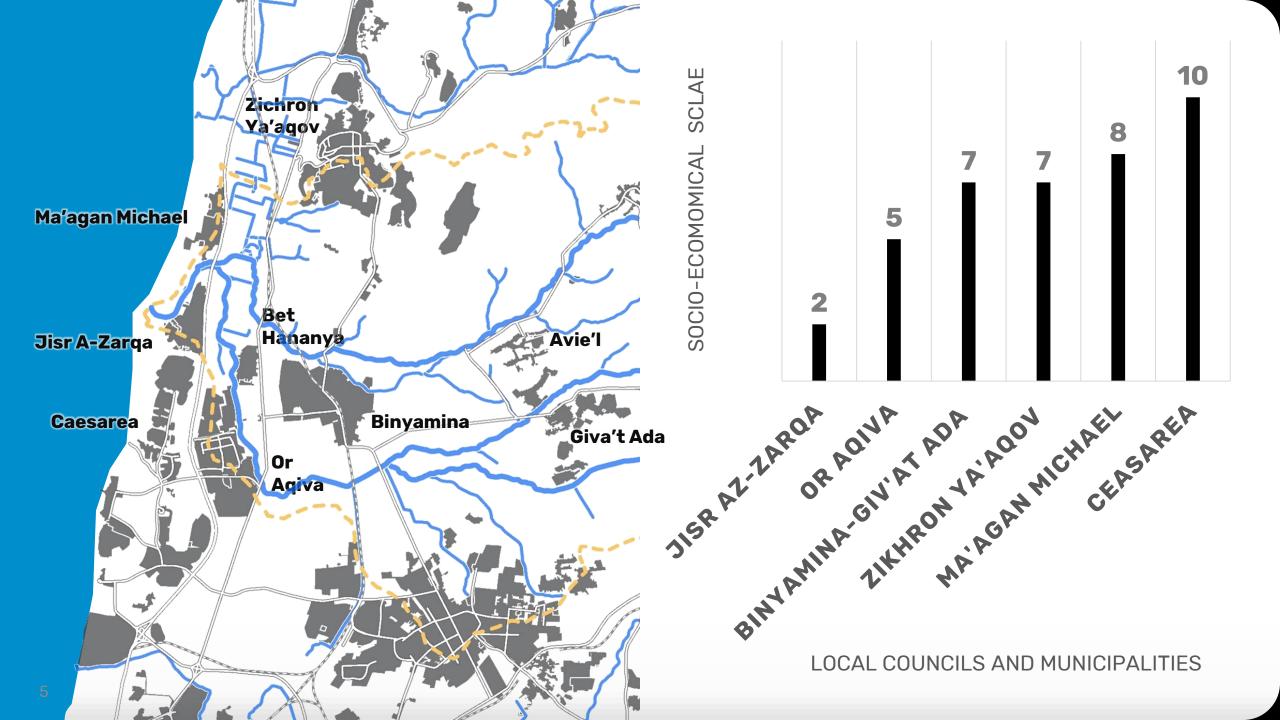
& management

Geo-Social 'bridges' for water plants

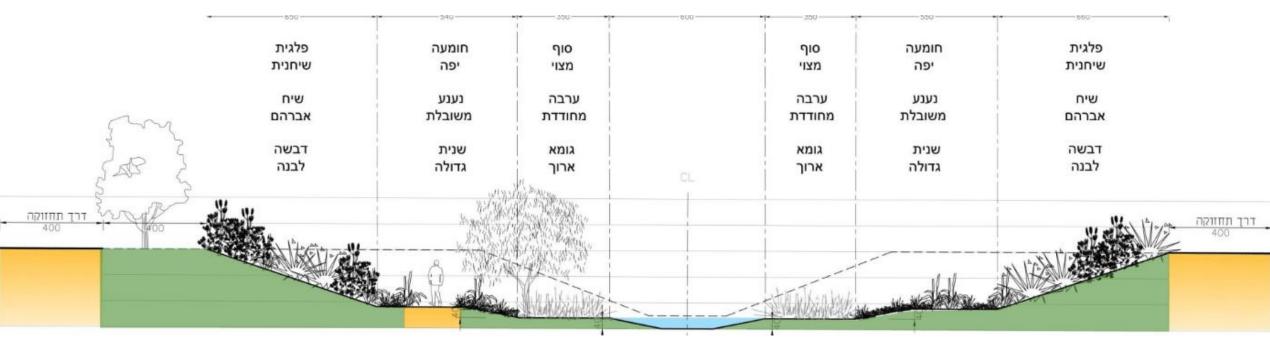
development











חתך אקו-הידרולוגי המונע סחיפת קרקע בגדות הנחל

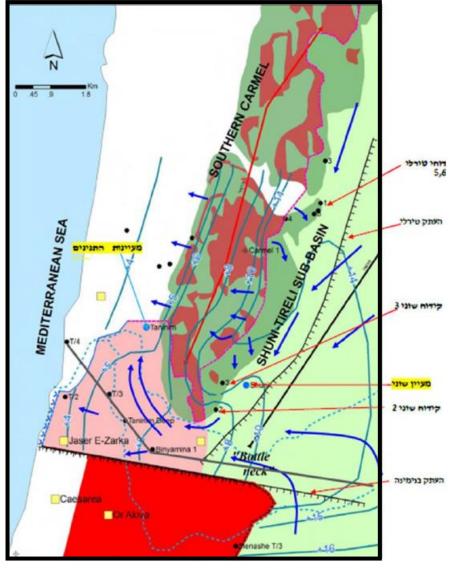
מקור: תכנית שיקום אקו-הידרולוגית

BACKGROUND | מגוון ביולוגי

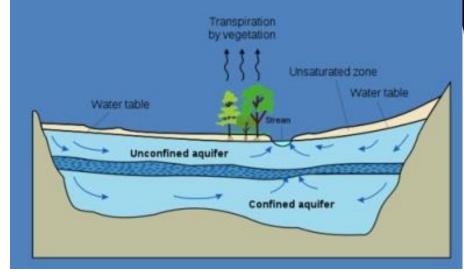








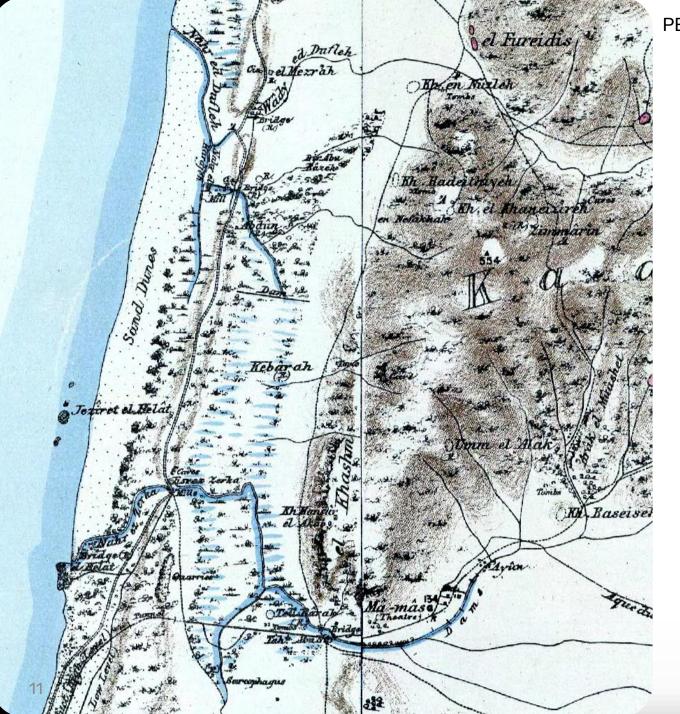
Dafni Elad, 2012





חקר האקוויפרים







מקור: Google Earth

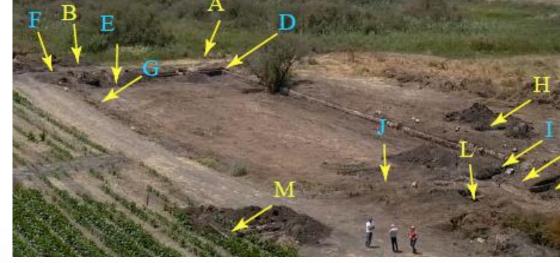


מקור: אתר רמת הנדיב
THE SWAMP (MARZEVA)







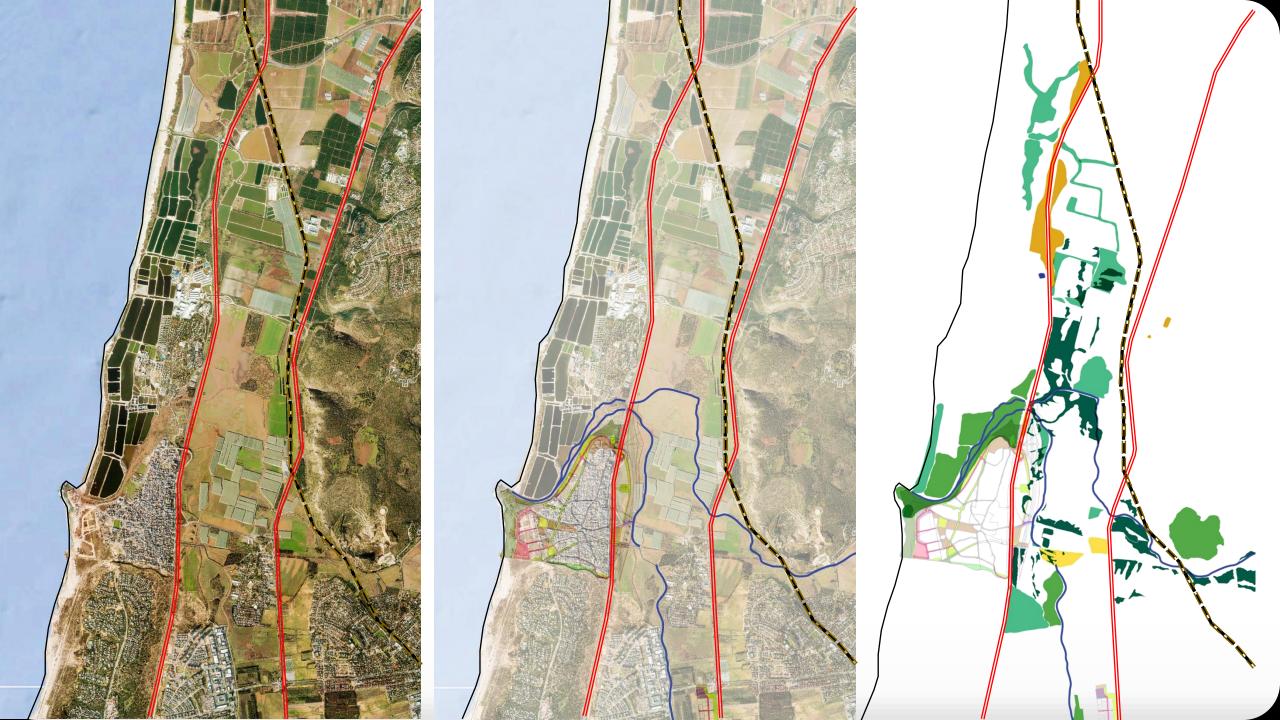


KABARA POOL





THE DIFLE

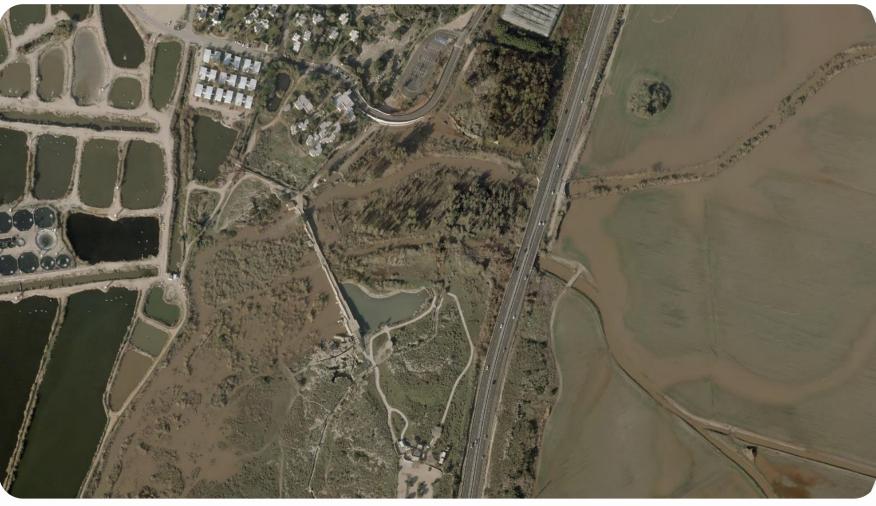




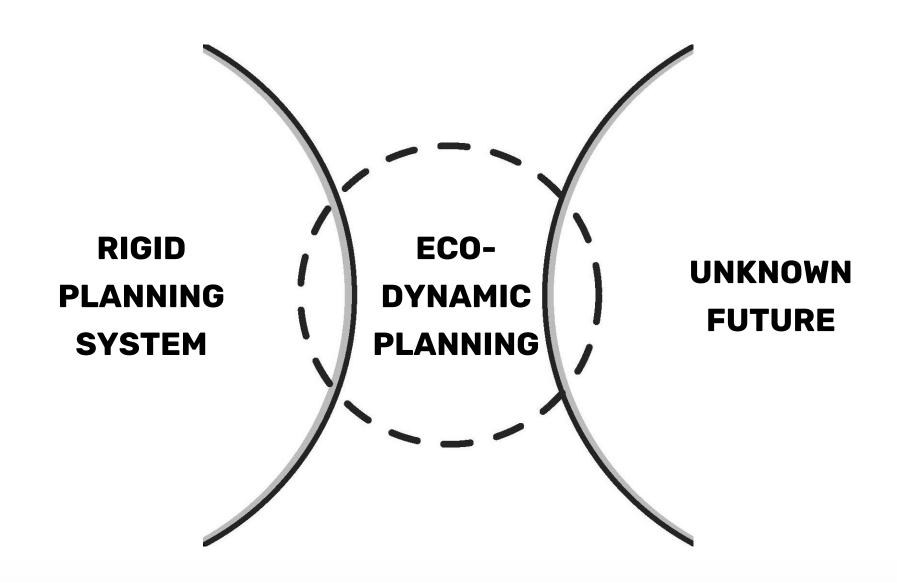


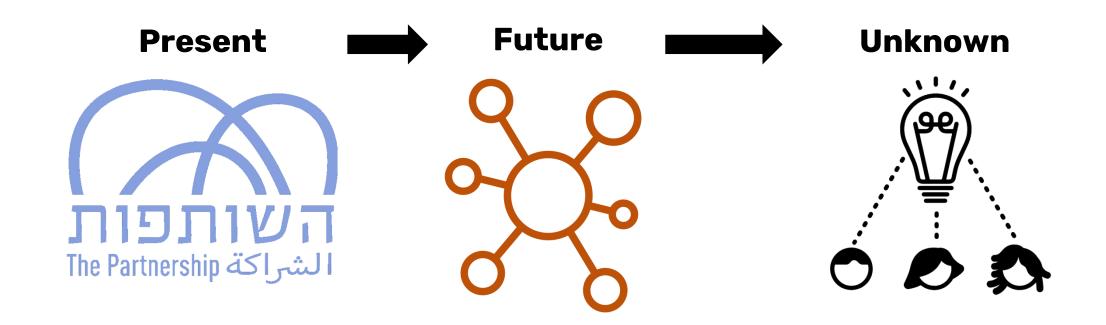
THE ROMAN DAM



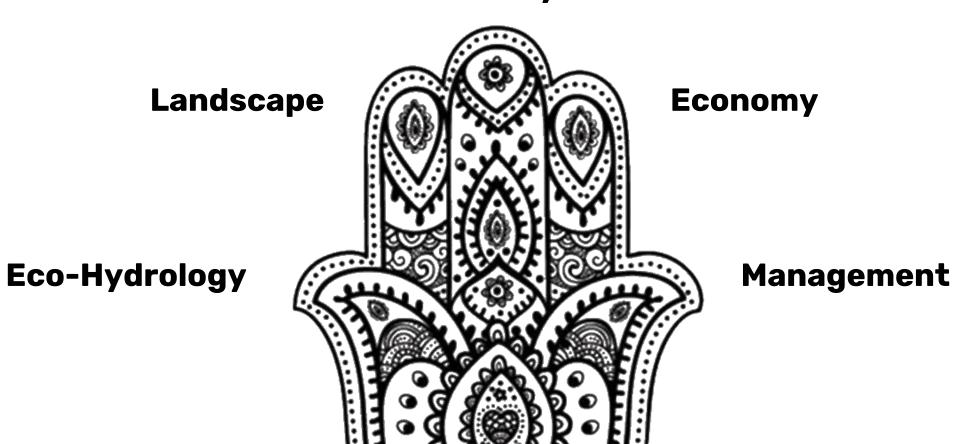


2020 - THE ROMAN DAM

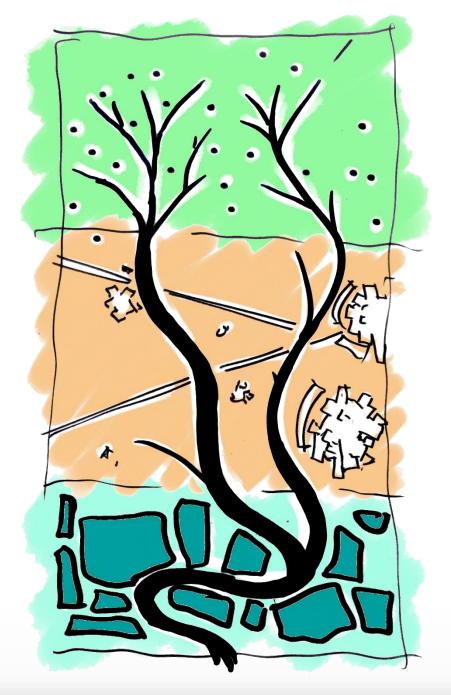




Society



Society Landscape **Economy Eco-Hydrology Statutory Management**



Springs

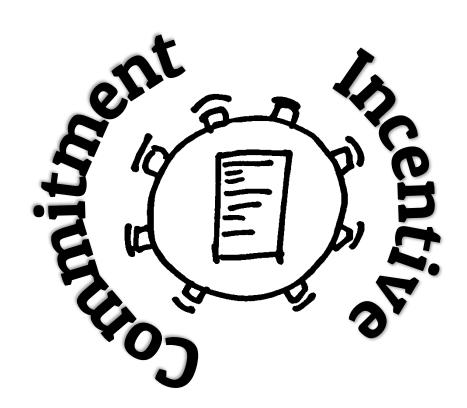
Streams

Estuary

RIVER BASIN MANAGEMENT

PROFESSIONAL TEAM:

CONSULTANTS
EXPERTS IN
DISCIPLINES
OF THE COMITEE



PARTICIPANTS:

MUNICIPAL
COUNCILS
ATHORITIES
ORGANIZATIONS
INSTITUTES
COMITEES
PUBLIC
ORGANIZATIONS
COMMUNITIES



וועד חקלאי בנימינה גבעת עדה

וועד החקלאי זכרון יעקב















































A selection of projects and initiatives led by Carmel Drainage Authority:

Development of Taninim Nature Reserve and the Roman Dam

Carmel Drainage Authority, in partnership with INPA. led an initiative to excavate. restore and rehabilitate the Roman dam in Taninim Nature Reserve. What began as a high priority drainage project, evolved into a series of significant archeological findings and the creation of a new nature reserve.

As part of this initiative, Carmel Drainage Authority led a steering committee that include INPA, Antiquities Authority, Ministry for Environmental Protection (MEP), adjacent settlements and councils, planning bodies, and executive, inspection and supervisory bodies.



Declaring the Carmel Caves a UNESCO Prehistoric World Heritage Site

The Carmel Drainage Authority initiated a campaign resulting in the addition of the Carmel Caves in Me'arot Stream to the list of UNESCO World Heritage Sites.

The Carmel Drainage Authority led an alliance including: the University of Haifa, Hof Hacarmel Regional Council, INPA, the Antiquities Authority, neighboring municipalities, and UNESCO Israel amongst others.

Planning Ecological Rehabilitation of Taninim Stream

Over the last 3 years, Carmel Drainage Authority, in partnership with Ramat Ha'Nadiv, conducted an extensive planning process for the ecological and hydrological rehabilitation of the entire length of Taninim Stream. Stakeholders in the initiative included INPA, MEP, KKL, the Society for Protection of Nature in Israel (SPNI), agricultural associations, local councils, community representatives, and other stakeholder organizations. The process included a workshops with experts from abroad, tours, and surveys. Recently, the plan was submitted for approval.

Prevention Cattle from Polluting the Springs

The Carmel Drainage Authority, in partnership with INPA, initiated a program to prevent pollution of the springs by cattle by placing water troughs as alternative water sources. The Carmel Drainage Authority led a steering committee that included INPA, KKL. Megiddo Environmental Unit, Megiddo Regional Council, cattle ranchers, planning bodies, and executive, inspection and supervisory bodies.

Rehabilitation of the Ancient **Aqueducts**



Carmel Drainage Authority was chosen by the Antiquities Authority to be a partner in leading an initiative to save and rehabilitate the ancient aqueduct to Caesarea along the section between Route 4 and Route 2 and in the section of breaches in the aqueduct where it is crossed by Ada Stream.

Establishing an Agreement with INPA

Carmel Drainage Authority signed a covenant in 2002 with INPA for the management of the stream environment interface.









Carmel drainage authority	Carmel Sela	Chairman
	Moshe Israeli	CEO
	Yeshu Dray	Archeology
Israel nature and park authority	Ze'ev Margalit	
	Nissim Keshet	
Ram Eisenberg Environmental Design	Ram Eisenberg	Landscape architect
	Yonatan Havazelet	Landscape architect
Ma'agan Michael	Modi Bracha	
Ramat HaNadiv	Naomi Apel	
	Hugo Jan Trago	
Financial consultant	Gadi Rosenthal	
Eco-hydrologic consultant	Ori Moran	
Hydrologic-Bio consultant	Dr. Eldad Elron	
Technion	Prof. Tal Alon Mozes	Landscape Architecture
Haifa university	Prof. Noam Greenbaum	Geology
	Prof. Mina Weinstein-Evron	Archaeology and prehistory
Ornithology consultant	Asaf Meroz	















cost (ils) description I - Investments comments One-time development, trail 44% Streambed form 20,250,000 Details will be supplied as form, Streambed form, earthnecessary works Plantings Willows, stream bank vegeta-6,200,000 13% tion to stabilise the soil Cycle trail, development projects 10,500,000 23% Unexpected 9,237,500 20% Unexpected (25%) Total investments 46,187,500 100% description cost (ils) % II - Direct Annual Cost comments 1,960,000 24% Maintenance 24% Capital recovery 25 years, 5% 1,949,000 21% Compensation to farmers 1,750,000 Taninim Land Trust, marketing, 2,592,000 Overhead 31% planning, enforcement, etc. Total direct annual cost 8,251,000 III - Sources of Income description cost (ils) % comments Little bits of Eden 18% Micro farming(100 m2) 1,500,000 Tiny homes (300 m2) 3,000,000 36% Community \ Institutional \ 22% 1,800,000 Commercial sponsering Carmel Drainage Authority (stream 550,000 7% Process leaders channel and banksmaintenance) Israel Nature and Parks Authority **Process partners** 200,000 2% (INPA) Total internal sources 7,050,000 85% (of the partnership) Public funds (e.g. Open Land-1,200,000 These funds 15% Various external sources can be, in part, scapes Fund) capital participation Total sources of income 8,250,000 100% % description cost (ils) IV - First Period Financial comments Needs (Seed Money) Initial payment to farmers 5000 NIS per dunam, for 750 3,750,000 12% dunams 20,250,000 Initial investments Streambed form 66% Overhead expenses The first two and a half years 6,480,000 21% Total initial funds (will be returned 100% Yad Hanadiv Total funds - source: Yad 30,480,000 loan to be reto the investor) Hanadiv turned over time

