

פרויקט "תחזית קיימות לישראל 2030" החל באוקטובר 2010 כמיזם משותף של המשרד להגנת הסביבה והמרכז למדיניות סביבתית במכון ירושלים לחקר ישראל, וצפוי להסתיים במאי-יוני 2012. תחזית קיימות לישראל 2030 שמה לה למטרה להציג חזון קיימות לשנת 2030 שאליו ישראל צריכה לשאוף. זאת על מנת לאפשר למקבלי ההחלטות בישראל להבין את המגמות הקיימות, לאתר את הפערים להגשמת החזון, ולהצביע על הנתונים בהם עליהם לצעוד על מנת להגשימו.

פרויקט תחזית קיימות לישראל 2030

בסיס ידע מומחים

חוות דעת בנושא: פרספקטיבה חברתית על הסביבה (אנגלית)

(תקציר: עברית)

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הדברים הנאמרים הם על דעת המחבר בלבד.

פרספקטיבה חברתית על הסביבה

תקציר

דיסציפלינות שונות שנסקרו במחקר זה, בתחום ה"אקולוגיה הפוליטית" במיוחד, העמיקו את ההבנה על הקשר ההדוק שבין תהליכים סביבתיים לתהליכים חברתיים. מקובל לדבר על ה"ממשק" בין חברה לסביבה, או על דינאמיקות חברתיות "כמניעים" של שינוי סביבתי, אך נכון יותר לומר שסביבה וחברה חד הן, בלתי נפרדות ואף מבנות זו את זו במובנים עמוקים.¹ התחושות וההבנות לגבי הסביבה, והצורות בהן תופעות סביבתיות נוצרות, מועתקות ומורגשות, וכמו-כן התגובות האנושיות לתופעות אלו, כל אלו מגיעות אלינו לאחר שעברו דרך הפריזמה של מבנים ודינאמיקות חברתיות והושפעו על ידם. ולכן הם אינם אחידים לכלל החברה אלא מפוצלים לפי קבוצות ותתי קבוצות חברתיות.

לדוגמא: הנטל הסביבתי של הצריכה הינו הטרוגני על פי קבוצות ובקני"מ שונים, למשל: מדינות הצפון לעומת מדינות הדרום, עשירונים כלכליים בתוך מדינות, סוגי התיישבות (עירונית לעומת כפרית). בהשוואה בין מדינות ניתן היה לשער שהעומס הסביבתי (טביעת רגל אקולוגית) של האדם יעלה ביחס ישר לעליית התל"ג של המדינה. אך קשר זה אינו בהכרח אחיד. יש הטוענים שעליית ההכנסה לנפש המלווה גם בשינויים טכנולוגיים, דפוסי צריכה והשקעות באה לידי ביטוי ב"עקומת קוזניץ סביבתית" ("Kuznets curve"). בעקומה זו עלייה בהכנסה מלווה באימפקט סביבתי שמעבר לרמת הכנסה מסוימת יורד כתוצאה משיפורים ברגולציה, שינויים טכנולוגיים והרכב שונה של תוצרי יצור הממתנים את העלייה בפגיעה הסביבתית. עדות לכך ניתן לראות בקשר שבין עליית רמת החיים למזהמים כמו SO^2 (דו תחמוצת הגופרית) אך ישנם גם חילוקי דעות תיאורטיים ועובדתיים לגביו. מחקר זה, מתאר את ההטרוגניות של "טביעת הרגל האקולוגית" בין תתי קבוצות בחברה הישראלית ואת יחסי הגומלין המורכבים בין טביעת הרגל ובין גובה ההכנסה, מוצא אתני, מגדר, ומאפיינים נוספים.

הקשר בין הכנסה וצריכה אינו משוואה פשוטה לפיו השתכרות גבוהה יותר גורמת לצריכה רבה יותר. הקשר מתוודע על ידי ערכים ותרבות. למשל, ישנן חברות רבות בהן צריכה פומבית וראויותנית (נסיעות, מוצרי צריכה, רכוש) היא דרך חשובה, אף הכרחית, להשגת מעמד חברתי. אך יש קבוצות בהן הקשר בין המעמד החברתי לבין ריבוי צריכה פחות הדוק. כלומר, מעמד סוציו-אקונומי גבוה איננו רק

¹ להרחבה ראה המחקר המלא באנגלית להלן

מאפשר אימפקט סביבתי גדול יותר אלא שבחלקו הוא מושג על ידי האימפקט. כך אידיאולוגיה ותרבות מעצבים את הקשר בין הכנסה, סטאטוס חברתי ואימפקט סביבתי.

כמו כן, הנזקים של פגיעה סביבתית אינם אחידים על פני החברה. גרסה מוקצנת של טיעון זה הועלתה בשנות ה-80 בארצות הברית ובמקומות אחרים תחת הכותרת "צדק חברתי", אשר התמקדה בחלוקה מגמתית של מפגעים סביבתיים (כגון אתרים לסילוק חומרים מזהמים, או חשיפה לסיכונים סביבתיים אחרים). בקנה מידה רחב יותר, הועלו טיעונים לגבי תופעה דומה בין מדינות— למשל, העברת פסולת מסוכנת ממדינות עשירות לעניות, או "כרייה" של משאבים במדינות עניות לטובת עשירות יותר. מימד נוסף של החלוקה ההטרונגית של נטל סביבתי הוא יכולתם של שכבות עמידות יותר להימנע מחשיפה להתדרדרות סביבתית והשלכותיהן: לדוגמה, על ידי מגורים משופרים בטיבם ובמיקומם, עבודות נוחות יותר, טיפול רפואי ותזונה משופרת, חופשות באתרי טבע, וכו'.

במילים אחרות, יש נטייה לנזקים סביבתיים "לנדוד" כלפי אוכלוסיות חסרות כוח, ולתועלות של התהליכים היוצרים נזקים אלה להצטבר באוכלוסיות חזקות יותר. דינאמיקה זאת מחלישה את המוטיבציות והיכולות של חברה לרסן תהליכים מזיקים, וסביר להניח שחלוקה שוויונית יותר של עלויות ותועלות של תהליכי שוק וייצור הייתה מקטינה את מימדי הנזק. כמובן שניתוח כזה הינו פשטני, במיוחד בעידן של מורכבות וגלובליזציה, אך עדיין, זוהי דרך הסתכלות חשובה על הקשר ההדוק בין כוח ותהליכים המחוללים שינוי סביבתי. תובנה מעין זו לגבי חוסר האחידות בצריכה, מחד, וחוסר וסבל מגיסא, קיבלה ביטוי כבר בכתיבה המוקדמת של מארקס (1845), ונמצא בלב ה"אקולוגיה הפוליטית" וזרמים אחרים של חשיבה סביבתית פרוגרסיבית (social ecology, green politics, progressive environmentalism, liberation ecology).

תובנה דומה, (אשר שורשיה נמצאים גם הם אצל מארקס, ובחשיבה שלו על המושג "אידיאולוגיה"), היא שלמבנה ולתוכן של דפוסי חשיבה ורגש ישנן תהודות על מיקומו החברתי של זה המחזיק בהם. ובפרט, הקטגוריות אשר דרכן חושבים על הסביבה, המטען הרגשי אשר מעניקים לה, ומוקדה וצורתה של הדאגה לסביבה, נוצרים בהקשר חברתי מסוים, ומשקפים אותה. כלומר, הם מגלמים (בין בחיזוק ובין בניגוד) את הנסיבות בהם נוצרו ומצאו שימוש.

ברמה היסודית ביותר, עצם המושגים "טבע" או "טבעי" מוצא שימוש בקיבוע של מצב מסוים (ואלו הפועלים למענו) כבעל עדיפות היסטורית ונורמטיבית. ברמה פרטנית יותר, למושגים שונים הקשורים לסביבה (מגוון מינים, מדבור, שירותים אקולוגיים, וכד'), לקטגוריות מובנות מאליהן (מינים פולשים,

למשל), ולמושגים (נוף טבעי, בר קיימא) יש היסטוריה והם נושאים בתוכם סממנים של הנסיבות הפוליטיות והתרבותיות בהן עוצבו.

כמו כן, תפיסות והעדפות נופיות—נוף מסוים נתפס כיפה או כאידיאלי—משקפים את מיקומם החברתי של בעליהם. דוגמה שנחקרה רבות היא הנטייה לדמיין נופים ואזורים מסוימים כמייצגים מצב קדום, ללא הפרעה אנושית, ובכך "אמיתיים" יותר. תפיסות אלו מסתירות, לפעמים, את העובדה שנופים אלה אינם תפאורה נצחית ובתולית, הנתונים כיום להפרעה בידי אדם, אלא תוצרים של פעילות אנושית ארוכת ימים. ישנם חקרי מקרה של אידיאולוגיות נופיות כאלו, בקונטקסט של חברות קולוניאליות, בהן תפיסות כאלו משכיחות את תושבי המקום הקודמים או מאפשרות הבנה רומנטית שלהם. תנועות סביבתיות משתתפות גם הן באידיאולוגיות כאלו.

לבסוף, גם בניית מודלים ותכנון סביבתי (ובניית תסריטים) אינם מנותקים מהשפעת הקשרם החברתי. מודל או תסריט (של הסיבות למדבור או של קריסת משאב, או של האתגרים הסביבתיים הצפויים בדור הבא) נותנים העדפה להנחות ולסוגי מומחיות מסוימים על פני אחרים.

A Social-analytic Perspective on Israel's Environment in 2030: Themes, Trends, and Possibilities

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Overview: the purpose, structure, and conclusions of this document

The purpose of this position paper is to lay out some of the main lines of a social analysis of the environment (that is, how a social analysis can contribute to understanding environmental change, problems, movements, and conceptions), and employ these in illuminating scenario for Israel's environment in 2030.

The paper begins with a survey of some key themes typical in the social analysis of environmental issues in general, and the sub-disciplines of political ecology and environmental sociology in particular. With these in mind, a very brief overview of Israel's environment in its political-economic context is given, with a periodization of approximately 20 year eras between 1948 and the present. This enables us to abstract some lessons from the past, and grasp the scope and multi-faceted nature of the kind of changes that can occur in the coming bi-decadal time period that is being projected by this project: 2011-2030. Finally, with this analytic repertoire, as well as the context and historical evolution of the Israeli environmental situation in mind, we venture some broad projections for the Israel environment in 2030, underscoring key trends to be aware of, and, a more or less stable trajectory in which the status quo continues, with incremental changes, as well as the forces that could create tension within, or even disrupt such stable trajectories for the social-environmental system.³

The core of this business as usual projection points to a path of increased "ecological modernization" (EM) in Israel, within continued economic neoliberalization, globalization, and some form of geopolitical compromise. Ecological modernization refers to a model (or hope) in which the state manages a dual commitment to environmental protection and economic growth within a neoliberal national and global milieu. It is a stance, a discourse, and one of several branches of theorizing within

² The views expressed are solely the responsibility of the author.

³ While derived somewhat independently, these projections are in dialog with the trends and factors identified by members of the "Sustainability Outlook 2030" in several meetings at the JIIS in early 2011.

environmental sociology that sketches the contours, emergence, and feasibility of a kind of sustainable and rationalized capitalism. This approach suggests that we are entering a post-industrial era, in which further industrial development, pervasiveness of the market, and technological sophistication are, increasingly, no longer causes of environmental degradation—indeed, once brought under rational and regulatory control, they are the best means to curb it.

Thus, the EM model and discourses, which are fairly dominant if implicit ones within Israeli society, offer an optimistic assessment of the degree of harmonization possible between the environment in state, techno-scientific, neoliberal civil-society, and corporate spheres. This report considers possible tensions that may arise within the EM model, and, more fundamentally, whether the tensions between nature, the market and society, can be so easily managed. Some of the other intellectual and political traditions reviewed in the following section suggests more fundamental conflicts, which inform some of the questions raised in the concluding section regarding the viability (or, indeed, desirability) of a future of deepening ecological modernization.

Sources and themes for a social-analytic perspective on the environment

While the relation of society to its environment is, obviously, a long-standing concern (Marsh, 1864; Glacken, 1967; Braudel, 1972-3), a specific academic socio-analysis of environmental problems emerged in the late seventies and early eighties. These took place in several key subdisciplines (most notably political ecology, environmental sociology, and environmental history), as well as others such as environmental anthropology or the fields focused on environmental and nature discourse and imaginaries (environmental communication, eco-criticism). The findings and concerns of these sub-disciplines are increasingly mainstreamed into other disciplines (notably geography, anthropology, and social theory).

Rather than offering an disciplinary, historical or biographically-driven account of the emergence of an environmental socio-analytic from these and other sub disciplines, I will describe some of the key themes. Together, these comprise a deep understanding of how environmental and social processes are deeply bound together. That is, it is not simply that the social world and the environment "interface" with one another, or that the social system serves as a "driver" for environmental change. Rather, society and environment are inseparable and co-constructed, in several deep senses. How we perceive and think about the environment, how environmental impacts are created, shifted, and felt, and how people respond to environmental harms—all of these are

mediated by social structures and dynamics. Which is to say, they are not uniform across “society” but fractured along the lines of social groups.

The following are some of the key themes.

The environmental demands of consumption are disaggregated to smaller subgroups at various scales: for example, Global North and South, income quintiles within a nation, kinds of settlement (urban versus rural, etc.) Across nations, it might initially seem that per capita impacts (ecological footprint) would rise as national income rises, but this relation is not necessarily consistent. Claims have been made that changing technology, tastes, and investments as income rises, yield an “environmental Kuznets curve,” (Grossman and Krueger, 1991, 1995) in which environmental impacts increase initially as income rises, but after some point decreases because of better regulation and technology, different mix of production outputs, etc. While evidence exists that this might apply to some pollutants such as SO₂, the argument has been subject to considerable theoretical, statistical, and empirical challenge (Stern, 2004). This project shows quite clearly how different the ecological footprint of various strata of Israeli society are—with income, ethnicity, and gender, to name a few, interacting in complex ways.

The link between income and consumption is not simply more income → more consumption. Beliefs and values mediate this. For example, in many societies social status is signified by a display of consumption (clothes, travel, possessions, etc.), while in some societies or subcultures within society, status may be less linked to high-consumption goods and activities. That is, not only does higher socio-economic standing allow lifestyles that have greater impact, but, in some cases, this standing is partly achieved through such lifestyles. Thus, **ideology and culture shape how tightly ecological impact is coupled to status, and status to income.**

The harms of environmental degradation are not evenly distributed across “society,” but affect some more than others. An early and forceful version of this claim was made in the 1980s in the US under the heading of “environmental justice,” which focused on the inequitable distributions of environmental burdens (esp. exposure to pollutants in homes and workplaces, and the siting of unwanted facilities). At larger scale, similar claims regarding the inequitable distribution of hazard and impact have been made with respect to the developed and developing countries, through the shipping of hazardous waste to poorer countries, for example, or the extraction of resources in areas where the affected people have less power to intervene. An added element is the ability of people in the advantaged sectors of society to avoid exposures of environmental

degradation and their consequences: for example, through better housing, safer jobs, better health care, or the ability to reach natural settings (in daily life or vacations).

In other words, environmental harm tend to migrate away from power, and the goods deriving from environmentally harmful activities tend to accumulate in the more powerful strata of society. Clearly these social dynamics undermine the feedback mechanisms that might limit environmental harm, since those who benefit more and are hurt less by harmful activities are be less motivated to support them, while those who were hurt more and benefit less are less capable of restraining them. Though this simple formulation obviously needs refinement, given the complexities of life in a globalized society, it still serves as powerful way to understand the fundamental linkage between power and environmental change. We would expect that a more even distribution of power would lead to more even distribution of the harms and benefits of environmentally destructive processes and act to reduce their scale.

This kind of insight about how the distribution of ownership and profits in a market economy shapes the uneven allocation of consumption, on the one hand, and of misery and environmental degradation, on the other, has a long tradition. It was present in some of the earliest writings of Marx and distinctively in Engels' (1845) *The Condition of the Working Class in England*. Its subsequent development lies as the heart of the academic discipline of "political ecology" and various forms of socially progressive politics (social ecology, green politics, progressive environmentalism, liberation ecology, etc.)

An allied insight (whose roots can also be found in Marx's notion of ideology—that the structures of thought and feeling structures tend to resonate with the social location of those who hold them) is that the categories through which the environment is perceived or modeled, the sentiments with which it is invested, and the loci and form of environmental concern have a socially specific history, location, and outcomes. **That is, they embed and perpetuate (or challenge) the contexts and relations in which they are formed and used.**

At the most fundamental level, this applies to the notions of "Nature" and the "natural" themselves, which are often employed in social maneuvers to position a state of affairs (and those who work to preserve this) as historically and normatively privileged (Williams, 1975, 1985; MacCormack and Strathern. 1980; Haraway, 1989; Smith, 2008). But at a more detailed scale, various terms (biodiversity, desertification, ecological services), categories (invasive species, weeds), and notions (landscape; "the balance of

nature,” sustainability) all have a history, and carry traces of the political and cultural milieu in which they emerged.

Less sweepingly, perceptions of and preferences for particular kinds of landscape as beautiful or ideal reflect the social positioning of those who favor them (Barrel, 1980). One example of this, which has received some attention, is the tendency to imagine areas as representing a prior, undisturbed, and truer landscape—a state of affairs, prior to human intervention or presence. These conceptions, it seems, sometimes mask the fact that these “undisturbed” landscapes are not so much passive pristine backdrops into which humans are inserted, but have long been occupied and are, in fact, deeply anthropogenic. The functioning of these kinds of landscape ideologies has been examined for colonial or settler societies to the landscapes and occupants that preceded them. Various studies have questioned other “environmental” reference points and metaphors, which seemed self-evident: the tragedy of the commons, the direction of environmental degradation, the untouched Amazon, and the lifestyle of Native American and other ecologically noble savages (Hames, 2007; Ellen, 1986)

Environmental movements and expressions of environmental concern also participate in and further these kinds of ideologies of nature. For example, early studies in political ecology explored instances of the colonial roots and elite impulses behind “coercive conservation,” which privileged the landscapes uses and ideals of outsiders over those of the inhabitants of “natural” areas. Subsequent studies have turned their attention to the environmental movements and campaigns in developed countries as well, scrutinizing the ideologies that animate them, and how these arise from particular social locations, which shape the focus and outcomes of their activities. For example, the so called “green environmentalism” (revolving around preservation of open space and biodiversity), was said to typically emerge from a more privileged position than “brown environmentalism” (concerned with pollution, urban land use and transport, etc.).

Finally—and this is of particular relevance for the present project (Sustainability Outlook 2030)—a series of studies have indicated the ways in which **environmental modeling and planning (including scenario-making) are also not isolated from their social context.** The processes and products of such modeling—whether the causes of desertification, the dynamics of the collapse of a fishery, or the key environmental challenges for the coming decades—must necessarily privilege certain assumptions and kinds of expertise (Garb, 2008; Taylor, 2005).

These themes at play in Israel's environmental past: the first three bi-decadal eras

Clearly, the themes sketched above—linking social structures, environmentally relevant processes, and various forms of environmental discourses— can provide a basis for a local analysis of environmental change. They will be of course, particularities of the Israeli players, and of the dynamics, and historical and biophysical setting, but this distinctiveness may be decreasing over time, as the impact of the *sui generis* formative contexts of the country's early history recedes, and it becomes increasingly influenced by global currents and contexts. At the same time, while local dynamics have come to resemble and be driven by global ones, the local (and regional) still very much matter. The imprint of the country's specificities is still strong and this also inflects broader processes, such as globalization and the triumph of its ideological correlate, neoliberalism. Indeed, these abstractions do not exist in pure form, but are processes that manifest themselves in patchy and distinct ways in national settings (Shalev, 1999; Peck, 2002)

[G]lobalization is filtered and in part even constructed by the intentional policies of national governments. Recent comparative research vigorously asserts the relative autonomy of nation-state, finding little or no evidence for the claim that economic and social policies are bound to converge in the wake of rising openness to international trade and capital mobility. National policy distinctiveness persists. . . . The progress of liberalization and structural change has not been wholesale, mechanical, or uniform.. . . Careful study of individual countries typically reveals that the structural features of political economies - especially those defining characteristics which are likely to enhance or impede liberalization processes - are quite distinctive, even within clusters of countries that appear to share the same political economic regime. Pp. 122-123 in (Shalev, 1999).

Thus, our survey of past and future must note the specific as well as the locally-specific mutations of the global.

As a point of reference, we can divide the past into three approximately 20 year jumps (1950-1970, 1970-1990, 1990- 2010)⁴, which can give some main contours of the trends and also sensitize us to the scale of change that can occur in two decades as we look forward over the coming two decades, to our scenario year of 2030. These periods conveniently align fairly well with major structural shifts in the Israeli political,

4 I draw here on Shalev (1999), Brachya (2011), and other sources.

economic, and social landscape, by virtue of the 1948 and 1967 wars, and then the realignments around the early 90s (the outward-looking economic liberalization, a massive wave of FSR immigration, and the rise (and then fall) of the Oslo process.) We will survey these periods in turn.

The first (50s and 60s) period, the years of establishment, which Shalev terms the “1948 arrangement,” is one dominated by a massive and fairly cohesive axis of government, responsible both for the generation and regulation (or lack thereof) of most processes of environmental change. Massive and energetic development was driven by foreign gift capital (from German reparations, American assistance, and international Jewry) and a growth in consumer demand in the wake of a large immigration of propertyless immigrants. Public, Histadrut (and to a smaller extent) private) capital were tightly aligned. Social cleavages existed along ethnic lines (pronounced along the Jewish/Arab divide, but also along European/Mizrachi ones), but less so in sheer economic terms.

In environmental terms, environmental degradation was due primarily to the construction and operation of new infrastructure (water, quarrying, road building) and consumption patterns in the absence of environmental governance (regulation) and infrastructures, (for example, waste treatment), which might manage these. The impacts of the new water and sewage system on rivers and groundwater were beginning, but their effects were tackled at the level of local nuisances, if at all. Consumption levels and their social polarization were still at fairly modest levels, and what would come to be considered sprawl was confined to kibbutz and moshav settlement, with towns and cities having fairly compact form. Environmental regulation was scant, and planning was primarily a governmental function. Non-governmental environmental concern and activism was embodied almost entirely in the SPNI, which was, at that point, very much devoted to conservation issues, aligned with consensualist state ideologies, and elite (in the limited sense of that era, i.e. having an Ashkenazi constituency and a leadership of social “insiders”) (Morag-Levine, 2003).

The second era, the decades of the 70s and 80s, which Shalev terms “the system of 1967,” follow a major geopolitical and political-economic realignment, a shift in the core’s relation to the periphery, and the emergence of new agencies of planning and environmental regulation. The fact that extensive new territories and population in the West Bank and Gaza came under Israeli control after 1967 demanded major resources (not only in economic terms, but, also in the commitment of attention and energies), while opening new markets for Israeli products and offering a pool of cheap labor. And, overall, the political-economic axis shifted toward a military-industrial complex, and growth of Israel’s arms industry (Shalev, 1999). The moderate levels of public subsidy of

private and Histadrut-owned businesses during the 50s and 60s were followed by stronger government-facilitated growth in the profitability and power of business groups in the 70s and 80s.

During this era, growth and investment occurred predominantly in the Tel Aviv central region, with a new kind of relation to the periphery, whose growth and populations were marginalized (though efforts were expended on the geo-political project of expanding Jewish settlement as a counter to Arab presence in the Negev and Galilee). With the 1978 Camp David agreement, the relocation of the IDF from the Sinai to the Negev gave the military a major role in shaping land use in the Negev (Soffer, 1986). A new generation of those disadvantaged by the country's stark social disparities was no longer placated by national ideologies or by the hope that inequality would lessen after the initial surge of state building. Alongside the parties with a long-standing communist framework of analysis (Rakah/Hadash) a new radical social protest arose, finding institutional form in the 1971 birth of the Israeli Black Panthers.

In environmental regulation and planning terms, the 70s and 80s saw the rise of a specifically environmental awareness internationally and in Israel. A national conference in 1971 reviewed Israel's environmental situation (Tal, 2002, p. 244), and ambient air standards were set (Tal, 2002, p. 251). The next year, the Stockholm conference had echoes in Israel, such as the 1973 open Plenary in the Knesset, and the establishment of the Environmental Protection Service in 1973, to evolve into the Ministry of Environmental Quality established in 1988. The first set of EIS regulations were established in 1982, as part of a series of indications of the gradual mainstreaming of environmental considerations and agencies into the planning process (Brachya, 2011). The 1965 planning law which formed the basis of institutionalized planning was solidified in these decades, though the ability of these and other emerging environmental institutions to stop problems was still weak. This is symbolized in the way in which the rejection of the Reading power station north of Tel Aviv was overridden, with practical actions postponed for decades (Tal, 2002, pp. 253-4). While environmental problems (toxics, solid waste disposal, quarries, sewage, and air quality in cities) began to be felt and identified as targets for action, the power and cohesion of the regulatory capacities and institutional agencies that could change them was still minimal. For example, it took most of these two decades for a national solid waste plan to be completed and implemented (Tal, 2002, 264-5).

The trend of increased private car ownership was just taking off during this period, and beginning to rework urban areas and travel patterns. The location and allocation of housing was still very much governed by government planning, rather than markets

(Gonen and Hasson, 1983; Yiftachel, 1998), with compact urban settlement patterns. Peri-urban development was only in the form of state sponsored public housing on the far urban perimeter (Gonen, 1995) and marginal amounts of relocation to moshavim close to towns (a precursor of the sprawl to come later). The SPNI was joined by other Environmental NGOS (ENGOS), such as the Council for Beautiful Israel and the Council for the Prevention of Noise and Pollution, which, too, mostly represented elite concerns and constituencies. The social movements of this period (some of which were fairly radical) had quite a different agenda, of obtaining a share of the pie, not questioning the environmental impacts of its making.

It was during these decades that the ecologies of Israel and the Palestinian areas began to be entangled. The growth of settlements beyond the Green Line offered Israelis cheap high-quality residences within commuting distance of Israeli cities—a form of extra-territorial sprawl (Newman, 1996)—while Palestinian incomes rose as a result of employment in Israel, and the cross-border impacts (sewage, aquifer withdrawal) in both directions began to be significant.

The following decades (1990-2010), the third era, were characterized by economic liberalization and globalization, a massive wave of immigration, and the beginning of a profound but short-lived peace process with the Palestinians. The economic liberalization of the 90s came in the wake of the emergency economic stabilization plan of 1985 (Shalev, 1999)—a government response to an out-of-control economy. Large Israeli corporations and investors sensed a need to look outward beyond military-based demand and subsidies, while the government faced with economic difficulties that challenged state stability on the one hand, and international neo-liberal models on the other, opted for economic liberalization internally and with respect to participation in a globalizing market.

In an initial “rollback” phase (Peck, 2002), state contracts and regulatory and distributive roles were diminished in favor of market and private sector and international markets (see p. 128 in Shalev, 1999). Over time, in what might be seen as a “rollout phase” (Peck, 2002), government engagement increased in order to get back some of the profits of this liberalized economy on the one hand, and assert the regulation needed to avoid the worst contradictions of market operation on the other.

For example, this period saw the massive release of lands (especially from the troubled kibbutz sector) (Applebaum, 1989; Maruani and Amit-Cohen, 2010); a new model of absorption in which the market was allowed to govern the distribution of FSR immigrants to a far larger extent; infrastructure expansion through PPP arrangements

(the Trans-Israel Highway BOT as a flagship example); and a massive realignment of water policies around desalination (Garb, 2010). The combination of rising incomes, changing expectations and ideologies regarding lifestyles, increased private car availability and flexibility in land use set land use and travel patterns on a path more familiar from North American contexts, with deconcentration of homes, jobs, and shopping, and other phenomena such as gentrification (Gonen, 2002) and gated communities (Rosen, 2009). Alongside these market-driven processes, other planning decisions encouraging population dispersal with political or geopolitical rationales continued (the location of new growth in the Galilee, for example, of individual farms in the Negev, and the expansion of West Bank settlements).

The period saw a rise, indeed, explosion, in the number of environmental groups, as well as a broadening of the range of their concerns, a more combative style, and greater in house technical expertise. The Israel Union for Environmental Defense, for example, modeled on an American counterpart and with overseas funding, emerged as an important player, with an uneasy relationship to the more traditional SPNI. Even SPNI had undergone transformation to a less corporatist alignment and wider range of concerns (Morag-Levine, 2003). These groups gained increased legitimacy and professionalisms, and pushed for (and in some cases, obtained) increased engagement with planning and ministries, as well as their greater accountability, transparency and participation. These agencies sometimes internalized these calls, even if only at the level of lip service.

With the rise of environmental programs and offerings in the major Israeli universities, a new generation of students emerged onto the job market with environmental sensibilities and competences, and found employment in consultancies with environmental specializations, as well as local and national government, and NGOs. Thus, personnel with environmental training, too, began to circulate between the spheres of NGOs, government, academia, and the private sector.

In terms of environmental regulation and governance, this period saw a significant maturation and solidification of the systems, often modeled on, informed by, and, in some cases, funded by international institutions. The level of environmental information provision and knowledge rose, both among the general public and within the relevant authorities, with greater coverage in the media. Regulation based on voluntary agreements and ISO 14001 were administered through the Standard's Institute (Bar Ilan et al, 2010). However, Israel's "environmental capacity" was, perhaps, not yet at a level for these to be effective (Kerret, 2008), with strategic integration and enforcement remaining key challenges.

This era saw the rise of two related trends that continue to the present: “polycentric governance,” in which multiple centers of authority shape environmental management and decisionmaking, and a degree of retreat (or outsourcing) of strategic planning, which once would have been conducted “in house” by governmental offices. For example, the major national master plans, NOP31 and NOP35 were conducted by firms who has won the position in a tender for services for the Ministry of Interior, the Ministry of Environmental Protection commissioned the international consultancy McKinsey and Company to quantify the Israel’s GHG abatement potential and costs, while the same company was hired to provide inputs that shaped the “National Strategic Plan—Negev 2015,” funded by a group of private donors and the Jewish Agency, with similarities to the McKinsey plans for other locations such as Dallas and Mumbai (Teschner et al, 2010).

On the front of electoral politics, despite the seeming favorable conditions (affluence, apparent level of environmental concern, conducive electoral system) (Pedahzur, 2001) and some attempts to mount a green party in elections during this period (Nehama Ronen Environment’s Voice, Peer Visner’s Green Party and Ben-Yemini and Tal’s Green Movement) the green political “brand” remained indistinct and of little influence.

There was some degree of disentanglement of the entwined Israeli and Palestinian socio-economic system, as the scale of Palestinian participation in Israel’s labor market decreased, the mobility of settlers to homes in the territories became more encumbered, and some aspects of spatial control were ceded from Israel to the Palestinian Authority (PA) through the ornate patchwork of the Oslo A/B/C arrangements. At the same time, the degree of cross-border flows of environmental consequence (water, waste) continued as before, with, perhaps, a greater vacuum of environmental governance on the Palestinian side as the newly founded PA struggled with an overloaded agenda and many challenges, which tended to crowd out environmental issues. As a topic of research, however, cross-border environmental issues became the topic of considerable attention, as one of the (apparently) less conflicted areas on which cooperative effort could take place (“the environment knows no borders”), and the infusion of foreign funding for umpteen studies.

Themes and lessons from the past; implications and questions for the future

Even in this terse and sketchy form, the chronology above suggests distinct overarching themes regarding the social dimensions of environmental change. Taking a step back, we can trace, for example, how the generation, conception, and regulation of various environmental problems carried the imprint of each of these three eras.

For example, each bi-decadal era was characterized by different processes degrading the environment in fact and key issues that were salient on the public agenda. In the first era, salination, nitrification and toxic releases into wastewater were dominant but largely unnoticed processes, while the small environmental movement of that period focused on the preservation of open spaces and what would today be called biodiversity. In the second era, with a rise in car ownership, water over-extraction, and continued toxic releases, the focus of environmental groups continued to be on open space and biodiversity protection, as well as noise and site-specific hazards, litter, and tar on beaches. In the third era, from 1990 to 2010, issues of sprawl, transport, and climate change becoming more prominent on the environmental agenda, though other processes were less visible, for example those related to non-conventional pollutants and electronic waste.

While there are overlaps and exceptions, the discourses and images relating to the environment also shifted from era to era. In the first one, the environment was imbued with Zionist character, the "Lands" landscapes framed as a national symbolic and emotional resource. In the second, the themes of open space protection and local threats and affronts to this became more salient, with nature framed as a vulnerable resource and a threatened recreational amenity. In the third era, concerns related to sprawl, transport and congestion, the quality of urban places, and lifestyle/consumption became more prominent, with nature framed, increasingly, as a sphere of hazard and even contention, with the first explicitly linkages being made between environment and society.

The contours and limits of business as usual

One can think of future scenario of Israel's environment within the society that embeds it as a "business-as-usual" trajectory, which is a likely (not necessarily desirable) pathway of accommodation and extension of the current configuration, without massive disruptions from within or without. Straying from this structural status quo to any large extent would rupture the existing system and relations, with unpredictable

consequences. In this section I delineate what a social-environmental business-as-usual scenario might be, and some of the pressures and questions that might arise within its contours—that is, stresses on the status quo, rather than ruptures of it.

As the foregoing portrait has illustrated, that despite the unique circumstances of its formation and early years, Israel's environment is strongly shaped by two kinds of force fields, the **political-economic** (i.e. a government in varying forms of alliance with capital) and **geo-political** (the imperatives of military survival and territorial/demographic management in the face of conflict with Arab states). The likely developments in these two spheres in the coming two decades—that is, the realignments necessary to avoid radical disruption of the status quo—are more or less clear. On the political-economic front, it seems likely that Israel will be mostly in tune with a capitalist world system under the evolving globalizing neo-liberal model. On the geo-political front it seems likely that Israel will reach some form of territorial and political accommodation with the Palestinians. The latter stems, in considerable part, from the important linkages between these two spheres (political-economic and geopolitical): continued geopolitical tensions could lead to Israel's alienation from other large players globally and drain Israeli systems in ways that could compromise the country's economic stability. Put differently, increasing pressures for a territorial compromise may emerge in order to protect economic stability, despite the ideological commitment of a substantial portion of the population and concerns about security within diminished borders.

Trends in the environmental domain (problems, movements, and governance) can best be described as a continued deepening of "ecological modernization" within these broad political-economic and geo-political parameters. By "ecological modernization" I refer to an optimistic environmental stance, discourse, and social theory that emerged in the late 80s and early 90s to characterize a new post-industrial condition and its relation to the environmental crisis. As opposed to other responses to this crisis, such as the voices urging a reversal of key technical and development trends ("small is beautiful"), the anti-capitalist strands that became "political ecology," or the more mystical ("deep ecology") or anarchist (Bookchin's Social Ecology,) ones, Ecological Modernization suggest that the market, growth, and the environment can (indeed, are already) assuming more harmonious relations. This modernizations consists of a more pervasive rationalization of production processes; increasingly post-material values and lifestyles emerge in a post-industrial society; more flexible, participatory, and polycentric forms of governance; increased technical sophistication harnessed to solving environmental problems, closing energy and material flow loops, and increasing efficiencies; and a market in which environmental costs are increasingly internalized, and environmental performance rewarded.

One can discern phenomena in the Israeli context that could be regarded as the occurrence (or apparent occurrence) of these kinds of trends, as environmental considerations and discourses become mainstreamed (Brachya, 2011) within government institutions, civil society, and, even, the private sector, and within a business-as-usual scenario, it is likely that the process of Israeli ecological modernization will continue. While mostly a “laggard” in international comparison, and continuously distracted by the events and demands on the geopolitical front, we can expect a continued gradual “mainstreaming” of environmental concerns and regulations into more spheres, accompanied by increased integration and enforcement capacities, private sector involvement along profitable and/or greenwash lines, and greater public and NGO participation within systems and pressures from without. Science and technology will increasingly be seen (and sold as) as environmental allies (cleantech), with the promise that economic growth and environmental protection can be reconciled, and market-based means for environmental reform and intervention will become more prominent. Part of the competition of cities and towns to attract increasingly mobile skilled workers and capital will be their attempt to offer the amenities (including environmental conditions) that will attract them to live or establish facilities there.

Israel’s environmental sphere will be affected by pervasive globalization and ease of communication. Thus, community (policymakers, NGOs, and citizenry) will increasingly share the understandings and values of other western countries. International standards and regulations will apply, whether in shaping Israeli exports, demanding compliance, or the shadowing of voluntary labeling (energy consumption, LEED, etc). Environmental policy emulation are increasingly intentional and rapid (scanning and evaluating options on the international scene is increasingly built into the work of Israeli government ministries and agencies), reducing the typically decade-long lag to uptake of ideas and policy, technical or social innovations.⁵

⁵ The globalization of environmental concern and measures (the disciplining of periphery by core) is a two-edged sword. On the one hand, there is additional outside source of pressure for ecological rationality and availability of models for its achievement. At the same time, the space for relatively “home grown” policy solutions and laws is reduced as policy products are increasingly imported “off the shelf” with moderate adaptation (Peck, 2002) as well as by international protocols and standards. Political arrangements and social experiments can, also, be inspired by international models (green parties, organic purchasing cooperatives, etc.), but are also exposed to the ideological currents of a massive and pervasive neo-liberal milieu as well as the pressures of competing in a globalized market.

In the spheres of planning, infrastructure provision, and settlement dispersion, we can expect environmental sensibilities to be increasingly salient, at the same time as dominance of the state in these spheres will continue to give way to increasing private sector involvement and market driven direction. As tight government hold on spatial form continues to loosen, deconcentration of housing, retail facilities, and workplaces will continue, perhaps with a countercurrent of return to urban locations from more suburban and car-dependent locations. Thus, though a uniquely large portion of Israeli land remains under government ownership, in functional terms, the provision of sites for development and the locational decisions of firms and households are coming to resemble those of other developed countries.

As a tiny crowded country with few natural resources, Israel has less margin of error when it comes to pollution, depletion, and health impacts. On the one hand, this combined with the press of geopolitical worries has led to a greater environmental brinkmanship in the past, which the country can afford even less now that many resources (open space, aquifers, areas to site unwanted facilities) are depleted. The others side of these lesser margins are the spur to innovation (solar water heaters, concentrating solar power, drip irrigation), and we can expect Israel to become a moderate leader in the green-tech industry. Subsidies for “environmental” industries and projects will favor primarily the networks and rent-seeking actors that have traditionally been able to capture and manipulate these. Environmental consultancies and green businesses will proliferate.

Consumption and the inequality of consumption have risen steadily over Israel’s history, and are likely to continue to do so. To the extent that Arab and Haredi households are drawn more deeply into labor markets and their incomes rise, this will constitute a significant pulse of increased consumption. Infrastructures and services will increasingly be provided by the private sector under government liberalization/regulation. Levels of consumption will become increasingly subject to market forces, resulting in an apparent rationalization (water at market prices will be used in the most effective ways), but, also, more stratified consumption in new areas (the better off can not only afford better medical treatment, but also buy their way out of congestion by using toll roads).

Green consumption patterns (organic foods, greener products) are likely to become more popular in middle and upper classes, as they have in other developed countries, with practices such as recycling and composting becoming mainstreamed. These will not affect overall consumption patterns substantially. Social polarities will continue, but are unlikely to reach levels of protest or reshape party politics. In the near future,

political parties will be shaped along the lines of geopolitical questions (peace, withdrawal), which will continue to absorb the energies of both the elites who would normally be the supporters of green parties, as well as the losers of the neoliberalized economy, who might ordinarily turn to parties willing to reverse these trends and push a redistributive agenda. This may change if and when a more stable agreement with the Palestinians is reached and relations with neighboring states warm significantly. Until then, the equality and green agendas will remain marginal in electoral politics, and (unlike the European green party model) mostly unlinked from one another.

An integrated example over the three eras: water

Consider water as an integrated example of the themes and trends discussed above, and of the political-economic underpinnings of the past transformations and projected futures. During the **first period (50s-60s)**, massive energies were expended on an unprecedented national megaproject, the construction of the National Water carrier and the harnessing of Israeli water bodies (as well as some trans-border ones) to feed this system. This was a remarkable achievement, and aside from some localized aesthetic and health problems of sewage, the buildup of problems on the supply and consumption side of the new water system (such as river habitat alteration, sewage, salinization, nitrification) were not really noticed.

In the **following era (70s-80s)**, these effects were increasingly realized, especially by professionals, but were not brought under control: regulation and enforcement were not adequate, on the one hand, while the institutional reach and ideological primacy of entrenched interests (agriculture) were strong. The mining of aquifers continued up to and beyond red lines, and the period ended with a growing sense of scarcity and irreversible damage coming into increasing tension with the diminishing but still strong historic hold of the agriculturally-oriented policy regime.

In the **third period (1990-201)**, with scarcity and water quality problems reaching crisis levels, a technical breakthrough in reverse osmosis dropping the price of desalinated seawater to around 50 cents a cubic meter, allowing a new post-scarcity alignment suited to the liberalizing economy. Until this point, water policies had been anchored by the economic and ideological authority of an important sector (agriculture), whose authority and precedence was initially taken for granted, and then, under increasing critique. It is important to note the convergence of factors that were required for this shift in policy and socio-technical regime. This required not only the technical innovation, but circumstances in which agriculture's economic relevance had diminished

substantially, its ideological and party-political role weaker, the availability of alternative less visible forms of subsidy and support, and the endorsement of technocrats in the Water Commission and the Ministry of Finance (Teschner et al, 2013)

With large-scale desalination approved and the private-sector bringing plants on line, the country seemed substantially freed from natural constraints of rainfall or the storage capacity of aquifers or the Kineret. Water became another commodity: produced by the private sector, technocratically regulated, and consumed at levels governed by markets and individual choice. The words of Shimon Tal, the Water Commissioner, in 2002, are emblematic of this third period in multiple senses: “if someone is willing to pay the costs of desalinated water to wash their car, why should we impose restrictions?” (Tal, 242). Here we see the iconic centrality of the private car, the confidence of a middle class perspective and positioning, and the absence of a sense of scarcity or ideological guilt regarding water, now thoroughly marketized and commoditized.

What can we expect regarding water in the coming decades? In 2030, with almost all of Israel’s potable water derived from desalinated sources, Shimon Tal’s statement, striking in its novelty in 2002, may come to seem too obvious to merit mention. At the same time, some of the hidden displacements of the costs and tensions of this “silver bullet” technical solution will likely be apparent (Garb 2010). That is, while the technology seems to allow a political win-win-win situation, it actually shifts risks, costs, subsidies and uncertainties to new realms. Water scarcity and vulnerability to rainfall variability are replaced by increased dependence on energy in an emission-restricting era, and vulnerability to volatility in energy prices. Subsidies to agriculture take the form of subsidized effluent for irrigation rather than water prices. The dependence on polluted or salinized aquifers is lessened, but the increased use of effluents for agriculture and aquifer recharge might shift concerns to the management of salinity and new kinds of emerging pollutants (pharmaceuticals) in effluent or, even, mineralogical deficits in the exceptionally pure desalinated water. The private sector will have entered more deeply into yet another realm that was heretofore symbolically and institutionally the public domain.

Thus, the events in the realm of Israel’s water would seem to exemplify the success of ecological modernization, with the market, policy, technological progress, and shifts in sensibilities overcoming scarcity and preventing environmental degradation. Or, is this harmonious situation less stable than it seems? Are these solutions of the problems and tensions, or simply their displacements? Is this a win/win situation, as it appears, or are wins and losses not that evenly distributed?

Conclusions: between business as usual, “normal,” tensions, and disruptive scenarios

I have sketched in the previous section a feasible line of relative stability in which Israel “muddles through”: geopolitical stability allows continued integration within a moderately stable world system, while at the national scale, environmental, social and economic forces and actors incrementally align with one another. Such a model includes uncertainties and tensions, to be sure, but these would be managed. Some strains might be severe, but not enough to rupture the overall functioning of the system.

Lurking on either side of this stability are potential global and local disruptions. At the broadest scale, Israel’s situation along the trajectory sketched above is dependent on the global situation. It is hard to predict what might happen if the neo-liberal model stalls, climate change overwhelms the capacity to adjust, or one or more wild card events (terrorism with unconventional weapons, another cascading financial crisis) trigger a truly deep international crisis. One can only encourage greater overall local, Israeli and regional resilience and self-reliance (in energy and food terms, for example), none of which are highly developed at this point.

More local radical disruptors could take the form of state breakdown, a profound uncoupling of Israel from the world system, or one of the major realignments that have occurred in Israel’s past, when economic contradictions grew to a point that forced the state to adopt radically new political-economic alignments, shedding commitments to past interests and policies in order to retain autonomy (Shalev, 1999). For example some combination of resurgent Israeli militant nationalism, regression in Palestinian moderation, and international isolation and sanctions might push Israel from its path of global integration into a more idiosyncratic development path, with unclear environmental implications. Another disruptive scenario element might be American preoccupation with massive demands elsewhere, diverting attention and resources away from Israel and the region. Or a major environmental event (such as a toxic or nuclear incident with massive health consequences) could force the kind of radical reorganization of commitments and governance in a way that would not be achieved through incremental “ecological modernization” responses to more gradually felt problems.

But, barring these more sudden and dramatic global or local disruptions, can the *status quo* model outlined endure its own intrinsic tensions as both restraining and embracing the logic of capital accumulation? And can a small country with even the most rational

and well-intentioned system of planning and environmental governance endure the gradual erosion resources and landscapes by continual small exceptions, overshoots, and accommodations —none decisive in its own right, but each an irreversible loss from the whole? There are those who suggest not, offering more radical and regenerative analytic and political models than that of “ecological modernization.” But these are marginal in the Israeli debate, where ecological modernization is broadly offered and accepted as a best case scenario. This may, therefore, be the case in the short and medium term, with alternatives emerging only over the longer term or as one possible result of more disruptive—and less predictable—circumstances.

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