

Chapter 11

Through Boom and Bust: Coping with Poverty in Sea Snail Fisheries on the Turkish Black Sea Coast

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Abstract Small-scale fisheries for the introduced sea snail (*Rapana venosa*) have seen booms followed by irreversible bust. This chapter focuses on the role of this fishery relative to poverty dynamics on the Turkish Black Sea coast, and explores how fishers cope with boom and bust, respectively. We consider poverty as a multi-faceted issue and analyze in some detail fishers' income, social security, health, education, housing, as well as people's own, culturally-informed perception of what constitutes poverty. Yet, our analysis aims beyond a descriptive account of poverty among fishers, and queries the epistemological status of the vicious circle model. Thus, we discuss how sea snail fishing has also constituted a way out of poverty; that it is uncertain whether overfishing can be blamed for the bust; that contextual factors, such as state welfare and agricultural policies, international organizations, and world economic dynamics, can have significant impact on poverty and wealth among the coastal population of the Black Sea coast of Turkey. The boom years of the sea snail fisheries clearly created a frontier situation inhibiting prospects of co-management between the state and communities of fishers. The observed lack of collective action among fishers and their concomitant incapacity to participate can be considered a dimension of poverty. Therefore, fishery development should not only go hand in hand with fishery management, but also with social policies aimed at reducing poverty and inequality.

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11.1 Introduction

This chapter explores the role of small boat fishing of sea snail (*Rapana venosa*) relative to poverty dynamics on the Turkish Black Sea coast and asks to what extent, the thesis of the vicious circle can explain the developments in these fisheries. We focus particularly on how fishers cope with both boom and bust, and what contextual/structural factors impact upon their capacity to do so. In this context, we find it especially relevant to ask to what extent poverty in the fisheries is related to macro economic and policy developments in Turkey. This is related to our intention to explore the analytical utility of the vicious circle model. What is the epistemological status of the model? How much can we expect to be able to explain with it? Would examples of the vicious circle dynamic not taking place, even in the case of a lack of collective action or effective management, falsify the thesis?

To address these questions, we have explored the importance of sea snail fishing in two Black Sea communities. Terme, in the Province of Samsun, is still experiencing a boom situation; whereas Çarşıbaşı, in the Province of Trabzon, has had to cope with a new situation after the sea snail economy went bust a few years ago. How are fishers coping in boom and bust periods, respectively? What is the level of poverty, and how can it be measured? To what extent was poverty a driver for the growth in sea snail fisheries, and what are the effects on poverty of the bust? We also briefly survey sea snail management, and the role of communities and fishery cooperatives in managing sea snail fisheries.

In line with Amartya Sen and work inspired by his approach (such as UNDPs Human Development Reports), we consider measuring poverty only in terms of income to be insufficient; and at times this can be misleading if we are to understand the true character of poverty. Defining “capabilities” as “...the substantive freedoms [an individual] enjoys to lead the kind of life he or she has reason to value,” Sen goes on to claim that “...poverty must be seen as the deprivation of basic capabilities rather than merely lowness of incomes...” (Sen 1999, p. 87). In this perspective, income is only one (among several) means to meet ends and the relation between low income and low capability is variable (Sen 1999, pp. 88–90).

Accordingly, we make an effort to assess and compare poverty by a range of indicators in addition to income – which often is difficult to measure anyway in the informal economies under study here. We particularly focus on education and social security, and to some extent on health. Additionally, while we acknowledge that there are some universal and “absolute” aspects to poverty (such as food security, health, education etc.), we also believe that the real import of poverty can only be grasped through people’s own conceptualization and imagination of what poverty (and not being poor) means in everyday life.

Sen also stresses that in place of properties, we should conceptualize the right to resources as entitlements: “...the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces” (Sen 1983, p. 754). With the limited character of marine resources and the common pool regime often characterizing access, entitlements related to fisheries

tend to have particular qualities. Rights are established in very different ways from agricultural society; and the likelihood of a vicious circle dynamic ruining the resource base poses a particular management challenge.

Thus, economies and livelihoods based upon fisheries, particularly small-scale informal fisheries, have to manage a high level of risk and tend to be vulnerable (Acheson 1981; McGoodwin 1990). Yet, the dynamic character of such adaptations, as well as the fact that it is often an informal economy operating on the “fringes” of society, can also make it a sector of hope and opportunity, in effect a “frontier.” “Kopytoff (1987) discussed the frontier as an undetermined space that is part of a regional system, on the margins of the state” (Mangahas 2000, p. 8). Tsing considers frontiers to be “...particular kinds of edges where the expansive nature of extraction comes into its own,” “notoriously unstable,” and “...deregulated because they arise in the interstitial spaces made by collaboration among legitimate and illegitimate partners...” (Tsing 2005, p. 27).

Such frontiers make for special challenges when it comes to analysis; we cannot suppose stability, transparency, and a fixed set of variables. The processes that drive or facilitate the opening up of new frontiers are often of a scale much larger than the frontier itself: The introduction of the sea snail to the Black Sea; the demand in Eastern markets; and the opening up of Turkey’s economy during the 1980s. Yet, this also indicates that frontiers are insufficiently understood as the interaction between resources and resource users/extractors (e.g., fishers). This rhymes with Béné’s assertion, in his review of studies of small-scale fisheries and poverty, where he draws on Sen’s discussion of entitlement: “...to better understand poverty – as it relates to natural resources – it is necessary to redirect part of our attention and analysis effort away from the resources themselves...and to put greater emphasis on the role of politics of...access, control, and redistribution of these resources” (Béné 2003, p. 959). Additionally, we will later argue that even this expansion of perspective might be insufficient. It may also be necessary to account for politics and policies related to entitlements outside of those directly related to the natural resource.

In order to capture the way in which the various variables come together, and how poverty and wealth are produced, it is necessary to focus on how individuals and households combine, juxtapose, and switch between different entitlements as they make their livelihoods. Small-scale fishers’ livelihoods often comprise more than fishing, and it will be necessary to view their coping strategies within the scopes of seasonal cycles and long-term individual careers (Allison and Ellis 2001). In this chapter, we illustrate this with a couple of cases; and also compare and summarize typical career paths and coping strategies over time in the two communities.

11.2 Methodology

This work leans on previous anthropological fieldwork in Çarşıbaşı since 1990 (see Knudsen 2009), and on multidisciplinary work (Knudsen et al. 2010) in the Province of Samsun during 2005–2006. The selection of the two study sites,

Çarşıbaşı and Terme, means that we have been able to monitor changes over a 20-year span (in Çarşıbaşı); and compare developments in two important, yet different fishing centers. Since we have already much insight into the situation in Çarşıbaşı, we have not applied the same methodology in both study sites. The fact that sea snail fishing was discontinued in Çarşıbaşı in 2004, further justifies this choice. What happened in Çarşıbaşı is a demonstration of what could – with some important differences – happen in Terme.

Overall, we have considered that the flexible and informal character of the small-scale fishing sector and its complex interweaving into regional, national, and global processes have necessitated a multi-faceted and flexible approach. Fieldwork was undertaken in May 2008 (2 weeks), September 2008 (1 week) and April 2009 (2 weeks, 4-person research team). These intervals of fieldwork contained a fair bit of participant observation: Much informal conversation in tea houses and in harbors; questionnaire surveys with fishers; and formal and informal interviews. Interviews were with managers at both the national and provincial levels, marine scientists, sea snail factory owners/representatives, an independent consultant, local and regional health service representatives, social service representatives, a local headman, sea snail buyers (middlemen), and fishery cooperative representatives at different levels of organization. While the questionnaires for male fishers ($N=36$), and semi-structured interviews ($N=26$) with women in fisher households in Terme were limited in scope, we believe that findings from these are still indicative of important tendencies; and of how different issues typically cluster together in individual lives and households. Finally, we have consulted public statistics (Turkish Statistical Institute, TURKSTAT); surveyed all relevant reports (which often rely upon TURKSTAT data); and read local internet sites and newspapers.

11.3 Poverty and Poverty Studies in Turkey

With a GNP/capita around 12,000 USD (2008), Turkey's economic development stands at the same level as the poorer countries of the EU, to which Turkey is an accession-candidate country. Turkey may thus not seem to be a poor country. Yet, there are very pronounced class inequalities and associated poverty in Turkey. Food poverty (2007) is estimated at 0.54%, and “food and non-food poverty” (income poverty) at 17.11% (TURKSTAT 2009). Turkey scores relatively higher on income than development indicators related to health, education, and gender.¹

Poverty in Turkey is particularly prevalent in rural areas. While urban poverty fell significantly from 22% in 2002 to 9.39% in 2008, rural poverty has remained at a stable high level (34.62% in 2008) (TURKSTAT 2009). One study

¹With an HDI value of 0.806, Turkey ranks lower (79) on this composite scale than on the GDP/capita ranking (63) (UNDP 2009).

notes that "...the rate of absolute poverty in rural areas is 3.5 times of urban areas" (Gülçubuk and Aluftekin 2006, p. 9). A decade ago, the majority of the nine million² people of Turkey in the lowest HDI category lived in rural areas (Akder 2000). There is a significant transformation taking place in the rural communities whereby the number of subsistence and property-owning households are decreasing. The poorest households (in terms of income) are subsistence households without land and day agricultural laborers (Köse and Bahçe 2009).

With the opening up of the economy in the 1980s, and the dominance of neo-liberal economic policies with de-regulation and privatization, poverty came to constitute a noticeable issue, both in public debate and in academic literature,³ and the fight against poverty came high on the political and academic agenda. In 1986, the state established the *Social Assistance and Solidarity Fund* to supplement or replace "traditional welfare." The Fund's largest expenditures are related to health services. This has, since 1992, been administered through a so-called Green Card program. Green Card certificates give the holders right to basic health care free or at reduced price (Buğra and Keyder 2005, p. 29; Yoltar 2009).

11.4 Poverty and Sea Snail Fishing in the Black Sea Region

The Black Sea region presents a complex picture when it comes to poverty. On the one hand, only in Eastern and, especially, in South-eastern Turkey, is the proportion of the population that is poor higher than in the Black Sea region. On the other hand, unemployment rate is low and a large share of the population participates in the workforce. The region is also characterized by significant out-migration and a high degree of agricultural employment. Major cash crops are tobacco, hazelnuts, and tea. Due to WB-imposed structural adjustment schemes and concomitant retreat of state support, farmers relying upon these crops have been under particular stress during the last 15 years or so (Eruygur 2006).

In this context, fishing is one of the few options for income and career for the marginalized and poor coastal dwellers. Whereas there are important trawl fisheries

²Of Turkey's total population in 2000, 23 million were considered rural and 44 million urban. In 2009, this had changed to 17.8 million rural, and 54.8 million urban (TURKSTAT 2010).

³These developments have, especially during the last 10 years, led social scientists in Turkey to apply theoretical perspectives from the international poverty literature to studies in Turkey. These studies include the relations between globalization and poverty (Şenses 2001); social policies in the face of poverty (Buğra 2008); quantitative and qualitative studies of migration and urban poverty (e.g., Işık and Pınarcıoğlu 2001); and comparative qualitative studies of the "condition of poverty" in different parts of Turkey (Erdoğan 2007). Case studies of poverty and poverty alleviation initiatives in Turkey are collected in a recent anthology (Oktik 2008). Parallel to this, the Turkish Statistical Institute (TURKSTAT), and the State Planning Organization have intensified data collection directed at providing relevant information on the degree and character of poverty in Turkey. International organizations (esp. the World Bank and UNDP), as well as national research institutions, have often relied on data from TURKSTAT to explore and analyze poverty in Turkey.



Fig. 11.1 Typical medium-sized, multi-purpose boats. In front, sea snails in sacks. These boats have found shelter in Kozluk upstream from the mouth of the Yeşilırmak River. Note the net for bonito fishing at the deck of the closest boat. Fishers easily and regularly switch between different catch methods. Photo by Ståle Knudsen, September 2005

(mainly in Samsun) and purse seine fisheries (largely east of Samsun) along the coast (Knudsen 2009), sea snail fishing has been the most expansive sector during the last two decades (Fig. 11.1). For thousands of families along the Black Sea coast of Turkey, sea snail fishing has helped to improve the living standards.

The sea snail *Rapana* was accidentally introduced to the Black Sea in the late 1940s. Commercial fisheries started in Turkey in the early 1980s. Most catches of sea snails are taken by medium sized boats (8–16 m), which often switch between different kinds of gear, including trawling. All catches are delivered to one of the (currently) six processing plants in Turkey. The frozen meat is exported to the Far East, as there is no local demand (Knudsen 2006). In the eastern provinces, and especially around Trabzon (Fig. 11.2), this fishery experienced a boom during the 1990s. However, the average size of the sea snails gradually decreased to below marketable size to the extent that the processing plants stopped buying. Since 2004, there has been no fishery for sea snails in the Province of Trabzon and there are now no sea snail processing plants left east of Terme. In the Province of Samsun, sea snail fishing boomed after the fishery started to decrease further east, resulting in a 450% increase in small and medium sized boats' engine power in this province during 2000–2005 (Knudsen et al. 2010).



Fig. 11.2 Map of Eastern Black Sea region of Turkey. The two main field locations Terme and Çarşıbaşı are located relatively close to the major cities Samsun and Trabzon, respectively. The coastal highway passes through both field sites

11.4.1 Çarşıbaşı

The landscape in Çarşıbaşı is characterized by valleys and steep mountain sides, and the only cash crop that can be profitably grown here is hazelnuts (approximately 30% of the total area of the district). While hazelnut cultivation became the dominant cash crop in Çarşıbaşı from the 1960s onward, it was usually poor men, who could not make a living from hazelnuts, who became fishers. Some of these people developed spectacular careers and became owners of large purse seiners (Knudsen 2009). Çarşıbaşı developed into one of the major fishing centers along the Turkish Black Sea coast: Nine large family-owned and operated purse seiners, two fish meal and oil factories, five cold storage facilities, and a sea food and vegetable conservation plant. These factories together employ up to 100 seasonal workers. The district has long had two large fishing harbors.

Fishing and hazelnut cultivation, together with subsistence horticulture, has sustained a high population density (approx. 260 km²); and the district population of 16,000 has been roughly stable over the last 20 years (TURKSTAT). Many indicators show that the economic situation of the district is relatively good.⁴

⁴Çarşıbaşı is the district in the province outside of the city that has the lowest unemployment rate (MEF 2008), and the highest proportion (13.12% in 2000 (SPO 2004a)) of industrial employment (MEF 2008, pp. XII-70). The service sector is also a major employer. The GNP/capita in Çarşıbaşı was 2,756 USD in 1996 (2,137 in the Province of Trabzon) (SAG 2005, p. 41); which was close to the national average (2,888 USD/capita), and made it the richest district in Trabzon after the city of Trabzon itself.

On the other hand, the number of individuals (3,542) holding green cards in 2009 amounted to 21% of the district population – well above the 11.6% average for the province (MHT 2009). This indicates that the positive economic figures disguise the existence of inequalities and poverty within the district. In the fisheries sector, there is a marked differentiation between owners of large boats and small boat fishers/crew.

In 1990–1991, small boat fishers in Çarşıbaşı typically employed 5–7 m boats with 9 Hp engines in diversified catches of fish and sea snails. The structure of the small boat fleet changed significantly with the establishment of a sea snail processing factory in the township toward the end of the 1980s, and the active support of the factory management toward construction of new boats. While the number of small boats in Çarşıbaşı during the years 1990 to 1997 increased from a little below 100 to approximately 130, most constructed new and larger boats (7.5–12 m) and installed more powerful engines (25–135 Hp) to more effectively dredge for sea snails (Knudsen 1997).

The fishery clearly experienced a kind of boom situation during the 1990s. It was not unusual to land 1/2–1 t of fairly large sea snails after one night's operation. Some also secured extra income from illegal bottom trawling. The rigging and engine power of larger sea snail boats made this trawling possible (at all times, illegal east of Terme). One to three men work on each boat (three during trawling). Sea snail dredging requires less training and knowledge than many other kinds of fishing, and is therefore relatively easily taken up by people with no previous experience in fishing. This became the major income for many households and made it possible for many men to stop working as crew on purse seiners. Most commonly, income from sea snail fishing was invested in house construction. Thus, this fishery helped to increase the standard of living and welfare, and decrease insecurity. However, these households remained relatively poor. Nobody came to possess a car, and nobody managed to climb a step and invest in other businesses. Being an informal sector of the economy, fishers had no health insurance, and were seldom able to afford to pay installments in one of the voluntary schemes (SSK, Bağ-Kur⁵).

Then, the unforeseen and unexpected thing happened. While fishers could still catch and land as many sea snails as before, the average size gradually decreased. From 2004, the factory in Çarşıbaşı stopped buying sea snails. Small individuals catch a much lower price on the international market. Not even exemption from the 40% tax on fuel from 2004 onward was enough to keep this fishery alive. With the close of the sea snail fishing, illegal trawling, which could only be ventured under the guise of dredging, discontinued. What happened to the sea snail boats and fishers? How did they cope with the new situation?

Contrary to our expectation, few have migrated. A handful have found jobs in other provinces, but these are men who already had strong family ties to those places

⁵SSK (Sosyal Sigortalar Kurumu) is the public social insurance foundation for all salaried employees outside of state civil servants. Bağ-Kur (Esnaf Ve Sanatkârlar Ve Diğer Bagimsiz Çalışanlar Sosyal Sigortalar Kurumu) is a publicly administered social security foundation for the self-employed, including farmers and fishers.

Table 11.1 Number of multi-purpose/sea snail boats (8–12 m/35+ Hp) in two major quarters in the township of Çarşıbaşı. Note the significant decrease in boats suitable for sea snail fishing in both localities, from 34 to 15 in Keremköy; and from 9 to 3 in Burunbahçe. In Keremköy, many (14) have sold their multi-purpose boat and bought a smaller boat in its place

	1997/1998	2008
Keremköy	34	15 (+ 14 downsized)
Burunbahçe	9	3

and might have moved anyway. One major strategy has been to sell boats (many were sold to Samsun), sometimes replaced with smaller boats suitable for net fisheries but guzzling less fuel. Many have come to depend (again) more on work as a crew on large purse seiners, or in other seasonal maritime work (on yachts, in harbors). Other household strategies include not letting sons become fishers and reducing consumption.

In 1997/1998, we compiled lists of all sea snail fishing boats in two of the major fishing communities in the district, Keremköy and Burunbahçe. During our revisits in 2008 and 2009, we tracked the situation of each boat and its ownership, as well as updated the list with new boats/owners (Table 11.1).

In effect, the major choice facing poor people who want to continue being fishers in Çarşıbaşı concerns what they will do during winters: Work as crew on purse seiners (with potential good income, but being away from home for months on end); or staying at home fishing regularly for whiting on fishing grounds not very far from the harbor. This last option gives a meager income. Mehmet,⁶ a middle-aged fisher from Çarşıbaşı, in an interview held on September 2008, described the following:

With his brothers he bought, in 1995, a 12 m sea snail boat with the aid (credit) of the sea snail factory owner. They dived and dredged for sea snails. The fishery was good and in three and a half months they repaid the loan they made to buy the boat. “There are people here,” he tells us, “who have made three, four, five storied buildings from sea snail catches. Fishers’ standard of living increased somewhat.”

In 2005, after it was clear that the sea snail fishery definitely had busted, they sold the boat and bought a 7.5 m boat. For this, he borrowed 8,000 TL (approx. 5,000 USD). To show how much more profitable sea snail fishing was, he stresses that this far he has not been able to repay anything on this new loan. They simply do not earn enough.

Small boat fishers usually keep no records of their economy, and it is therefore difficult to gain knowledge about their income. Mehmet helped us make a calculation of their income during one and a half month from early September to mid-October 2007. When all expenses are subtracted, each person made a profit of 411 TL during one and a half months, which equals 215 USD/month.⁷ Mehmet concludes that it is now impossible to

⁶All personal names of informants referred to in this chapter are pseudonyms.

⁷During this period, he and his brother continuously set nets for whiting and delivered 31 landings to the auction in Trabzon. For the total of 412 k caught, they were paid 1,590 TL. Expenses: Fuel – 340, commission at auction – 92, transport to harbor and to auction – 185, and wear and tear of nets – 150. One fishing trip lasts for approximately 3 h. In addition, comes travel time to the auction in Trabzon. This calculation has not taken into consideration investment and repair of the boat. It is worth noticing that, during this period, fish prices were relatively high since trawl fisheries had not yet started and because the Ramadan fell within this period (makes for higher demand of fish).

make a living from small boat fishing alone – you will have to have other incomes as well. All able fishers, those who used to depend on sea snails, now work as crew, even middle aged men. His youngest brother has started working as crew again. Mehmet himself planned, for the first time ever, to sign on a purse seiner. Like most other people in Çarşıbaşı, Mehmet's and his brothers' households own gardens and orchards which make them self-sufficient in vegetables, corn and potato, and some keep chickens and a cow or two.

11.4.2 Terme

11.4.2.1 Population and Economy of Samsun and Terme

The economy of the Province of Samsun is dominated by agriculture, processing of agricultural produce, and agricultural trade through the city's large port. In 2000, 63.4% of the population in the Province of Samsun (as against 34.5% in Turkey overall) had its main income from agriculture (SABEK 2005). However, relative incomes and employment in agriculture have decreased and industrial employment has declined (from 34,500 in 1990 to 32,500 in 2000 (GoS 2009)). This has resulted in significant out-migration; and Samsun is actually among the provinces in Turkey with the highest rates of net negative migration (about 45% over the 5-year period since 1995 (TURKSTAT 2004)).

The District of Terme is, in many respects, representative of the province. It is situated on the coastal side of the large Yeşilirmak delta and consists mostly of high-quality,⁸ flat agricultural land (86%). Most of the 80,000 inhabitants of the district population (80.29% in 2000) receive their main income from agriculture, making possible a relatively high population density (approximately 190/km²). Like in Samsun overall, however, agricultural, husbandry, forestry, and fishery employment in the District of Terme has decreased, from 39,500 in 1990 to 38,000 in 2000 (TURKSTAT 2009). This has been accompanied by out-migration resulting in a decline in population (– 2.72% annually in the District of Terme, over the 1990–2000 period (SPO 2004a)). Although there are more than 20 factories in Terme (Termehaber 2010), these are small and only operate during a short season when they process agricultural produce (mainly hazelnuts and rice).

The main produce in Terme is hazelnuts, with hazelnut groves covering almost half (24,000 ha) of the total area of the district (Termehaber). The average agricultural net income of hazelnut farmers was 15,627 TL in 2005, of which hazelnuts contributed 85% (Alkan and Kiliç 2007). Income from hazelnuts is seldom enough to support a household. Yet, the average farmer cannot be considered very poor. Those lacking farmland are more prone to be poor. Like in Çarşıbaşı, many without sufficient land for making a living have become fishers.

⁸Category 1–2 of the total of six categories in Turkish authorities' categorization of agricultural lands, primarily based upon soil quality, degree of inclination, and exposure to erosion (SABEK 2005).

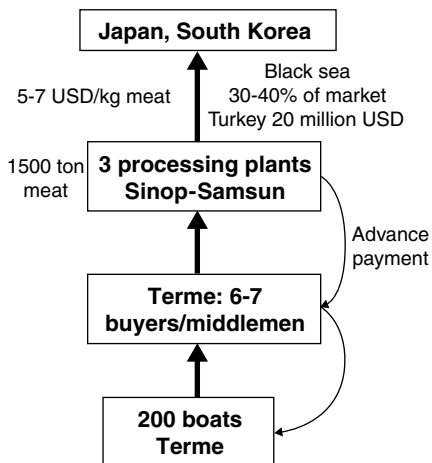


Fig. 11.3 Sea snail market chain, from Terme to East Asia. Note that the spatial scale expands from box 2 through 3 to 4 from bottom up. Factory owners usually obtain the sea snails through middlemen who do the actual collection and transport of the sea snails. From the factories, middlemen obtain advance payment which they forward to fishers. The three factories in Samsun produce probably more than half of the total Turkish production, almost all of which is exported to East Asia. Sea snail catches in the Black Sea stand for 30–40% of the world market in sea snails (*Rapana venosa*), and bring 20 million USD in annual export revenue to Turkey

11.4.2.2 Fisheries in Terme

Unlike Çarşıbaşı, fishing has no long history in Terme. Until the early 1990s, there were no large boats in Terme, but it was fairly common to work as crew on trawlers in Samsun or on purse seiners in Istanbul. There were also close to 150 small boats (up to 7–8 m) in the district in 1990 (Knudsen and Zengin 2006). During the early 1990s, the large fishing harbor in Terme was constructed, and it became a feasible strategy for fishers in Terme to invest in larger boats, since they were no longer dependent on landing their boats on the beaches or maneuvering them into shallow rivers. During the 1990s and early 2000s, numbers of boats increased, and grew to more than 400 in 2005, including 27 trawlers (typically 15–20 m).

Hundreds of boats in Terme dredge for sea snails. While sea snails are typically pursued by medium sized multi-purpose boats (8–12 m), also larger boats are active in this fishery during its main summer season, when trawling is illegal. The other way around, the smaller boats often trawl during winters (although illegal for boats under 12 m). All boats are family owned and operated, and few families own more than one boat. The population involved in fishing mostly lives in rural or semi-rural coastal areas of the district. Sea snails are delivered to factories by the aid of local middlemen who also take care of the economic transactions with the fishers (Fig. 11.3).

11.4.2.3 Poverty in Terme

We have studied four neighboring communities in Terme, all of which are relatively poor compared to the average of Terme, Samsun, and Turkey. One community is Kurdish, one Alewite, one Romani. We will here focus primarily on the more important of these: Yalı Mahallesi, a Sunni-Turk community within walking distance to the harbor, where most of the growth in number of boats has taken place. All trawlers and most small and middle-sized boats in Terme are based in this community. Yet, our questionnaire survey includes also some fishers in the neighboring communities. Our findings concerning poverty here conform roughly with a comprehensive study of social structure in the middle Black Sea region which found that: (1) the rural poor typically have little or no land, struggle to meet basic needs, receive social assistance, and live in poor houses; and (2) the most destitute members of the rural population typically possess no land, work as seasonal wage workers, and have problems meeting basic needs (SPO 2004b, pp. 2–124).

We surveyed poverty in this community through a discussion of income and capabilities such as education, social security, and health. The welfare system in Turkey is relatively poorly developed. Therefore, loss of land, health, or life usually leads directly to poverty. “Idiosyncratic shocks such as major illnesses, were the least prepared for and most difficult for the poor to handle, after the daily task of feeding the family was met” (World Bank 2003, p. i). This is well exemplified by the following life story which a woman in Terme told us during an informal interview in April 2009. This story will form a baseline for the following discussion.

Hava Akçay was born to a poor family in Terme in 1968. At the age of 17, she married a man from Yalı Mahallesi who at the time of marriage was a baker. He started to work as crew on purse seiners, and later bought a small boat together with a partner. After a while, he was able to buy out his partner and, to earn more, ventured into the more risky work of dredging sea snails alone. The intention was to earn money to build a house. Then, one day in 1999, he had an accident - the boat sank and he drowned. Hava got no compensation – neither from the loss of her husband, nor for the boat. They had no insurance whatsoever.

To get by and feed her three children (another child had died young), she worked seasonally in a hazelnut factory and picked hazelnuts. Now, she has had to stop working to look after her mother-in-law who was paralyzed after her son died. She has a green card that entitles her to basic health care services, and she receives social assistance totaling 75 TL/month for children’s schooling, for food, and for coal. This is now her only income. Her 16-year-old son, who is living with Hava’s mother in law, is an itinerant *simit* (sesame “bagel,” a kind of fast-food) seller in the Terme township. The house construction that her husband had started was completed by the help of neighbours. She complains that she is not able to travel outside of Terme.

Income

In 2009, a self-employed garbage collector in Samsun earned 25–30 TL/day (Samsun Halk Gazetesi (local newspaper), 30 December 2009), which is probably a good estimate for the lowest daily incomes in the informal economy in this region.

Thus, in terms of income, with 0.83 TL/day/person (if we count Hava and two of her children), Hava's household is not only far below the official absolute poverty line (2.15 USD/3.3 TL/day/person), but also below the official absolute starvation line (1 USD/1.53 TL/day/person). 35.4% of the individuals in Yalı Mahallesi, and 22.6% in the District of Terme, had green cards in 2009 (as against 12% in Turkey overall and 15.7% in the Province of Samsun); and 25% of households in Yalı Mahallesi received social assistance in 2009.

Beyond this, there exist no statistics of income or poverty in Terme, but the decreasing profitability and income from agriculture clearly indicates that Terme is relatively poor, and increasingly so. People have been, and still are, looking for alternatives to hazelnuts. For the coastal population, fishing has been one of the obvious alternatives for those with few entitlements (capital, land), and deprived of capabilities such as higher education. Hava's husband is one example of those who pursued sea snail fishing as a strategy to get out of poverty. With the accident and his death, however, his household was thrown into more abject poverty than before.

From our conversations and questionnaire survey, we can conclude that fishers (excluding trawl owners) typically earn between 4,000 and 10,000 TL annually, plus sometimes income from other sectors. This means that most are well below the official poverty line, but above the food poverty line. Fishers are thus poor, but overall perhaps not much poorer than the population in Terme that primarily rely on agricultural production and wage work for their income. It should also be taken into consideration that, like in Çarşıbaşı, most households own their own house and have some vegetable subsistence production.

Fishing is only one of many options, and people readily, yet often by necessity, switch between occupations and combine various income-generating activities.

Ali⁹, a man in his early forties, grew up in a remote village in Fatsa (in the Province of Ordu). His father worked in construction, and they moved to Yalı Mahallesi when Ali was young to make travel to seasonal work in Istanbul easier. Ali himself has pursued a range of different occupations, including: long haul truck/lorry-driver, construction work in Moscow, transport and sale of fish using own car, many years crew on purse seiner, three years settled on the Aegean coast where he worked as crew, sea-snail fishing from his own 8-9 m boat, crew organizer/middleman.¹⁰ He owns only 2 decares of land, half of it now planted with poplar seedlings for sale, and four cows for producing milk for household consumption and sale. They produce vegetables from their own garden, and his 15-year-old daughter has worked seasonally in a hazelnut factory.

Not all have tried their hands at so many occupations as Ali, but it is evident that success as a fisher not only depends on success in the fishery itself. Boat economy and household economy are intimately intertwined. Moreover, economies of households of relatives are often overlapping (Ali's parents' household is separate from his). When first Ali's father and then his mother, who lives in a separate house, became

⁹Story extracted from conversations during participant observation in Terme, April 2009.

¹⁰"Kocareis," usually middle-aged men mobilising men from own village/region to work as crew on purse seiners in Istanbul. They are remunerated with agreed-upon shares from the boat's profit.

Table 11.2 Fishers' insurance – Province of Samsun (2005) and District of Terme (2009). The percentage of fishers insured with Bağ-Kur has increased from 22/24 in 2005 to 31 in 2009. There are significantly fewer fishers in Terme (3–6%) than in Samsun overall (17%) insured with SSK, yet many more fishers in Terme than in Samsun overall having green cards (26% in Samsun 2005, 49% and 58% in Terme in 2005 and 2009, respectively). Almost none are insured with the pensioners' chest, while the proportion without any social security has decreased significantly – in Terme from 24% in 2005, to 6% in 2009

Percentage of fishers insured	Province of Samsun		
	2005 (N=345)	Terme 2005 (N=59)	Terme 2009 (N=36)
Bağ-Kur	22	24	31
SSK	17	3	6
Green Card	26	49	58
Pensioners Chest	2	0	0
None	32	24	6

seriously ill and needed expensive treatment, he had to sell his boat and also take a loan, postponing the construction of a new house and taking up work as crew/*kocareis* again.

Fishers' income is typically variable and unpredictable. This makes it difficult to plan activities, and households often live through very stressful periods, months on end without any significant income. In such a situation, it is difficult to pay monthly installments on insurances or school fees. When the occasional high income occurs, it is typically spent on constructing part of a house (waiting for the next bumper income for the next phase) or upgrading boat and gear.

Social Security and Health

Hava's and Ali's stories bring out the striking importance of life, health, and the issue of social security for peoples' welfare. While approximately 90% of Turks have insurance (either directly or through close family members) with Bağ-Kur, SSK, or a private insurance company, only 27–37% of fishers in Terme have this kind of insurance (Table 11.2). Most fishers in Terme insured with Bağ-Kur are owners of trawlers. Moreover, the percentage of Terme fishers having a green card is above the overall average for Terme.¹¹

In our conversations with fishers, social security clearly emerged as one of their major concerns, and one of the primary complaints they had about the fishery sector, especially the work as crew. One fisher succinctly summarized their thinking: "If we were able to secure a job that guarantees social security and comes with a monthly income of 800–900 TL (600 USD/month), we would not work as crew." People prefer the security of steady jobs, even though, for some, work as crew may at times bring higher monthly incomes.

¹¹While the percentage of fishers having green cards does not seem to have decreased, the percentage of green card holders among the overall population went down from 2006 to 2009 in the Province of Samsun from 26% to 16%, and in the District of Terme from 36% to 23% (MHT 2009).

Table 11.3 Comparison of fishers' educational level, all figures in percentages. In Terme, the larger share of fishers only have primary education (or less) (94% in 2009, 86% in 2005) and only about 2% have completed high school. With 13% having completed secondary and high school respectively, fishers in Samsun overall (2005) are more highly educated than fishers in Terme

	5 years primary (or less)	Secondary (8 years)	High school (11 years)
Terme 2009 (<i>N</i> =36)	94	3	3
Terme 2005 (<i>N</i> =59)	86	12	2
Samsun 2005 (<i>N</i> =342)	74	13	13

We had problems getting sound official information about health issues. Overall, people find that health services have improved considerably over the last few decades. On the other hand, half the fishers report health problems stemming from the practice as fishers, and 6 out of 36 report having experienced work accidents. Approximately half of the fisher wives we interviewed report that their husbands have serious health problems, e.g., kidney and liver problems, rheumatism, back problems, and bronchial asthma. In addition to Hava Akçay's husband, we were also told about several other fishers who had lost their lives at sea.

Education

Educational level is certainly low in Terme.¹² Most fishers in Terme only have primary education (5 years), some even less (Table 11.3). The reason for the relatively high number of fishers with more than primary education in many Samsun communities is that men pensioned from salaried work (typically civil servants/teachers) supplement income by fishing. This class of people, often insured in the civil servant's SSK pension system, seems to be almost completely lacking in Terme.

The main point of the newspaper article about the garbage collector was that with his meager income he had, amazingly, been able to educate his four children – some of them had completed higher education. Household strategies are very much focused on this: Make sure that your offspring get a proper education, and give at least one of your children the opportunity to enter the university entrance exam. This will greatly improve the capabilities of the individual and, ideally, the rest of the family. Few fisher households succeed, however. With relatives already in the business, and seeing the occasional large shares earned as crew, many young males are tempted to drop out of school and start fishing, earning their own money already from the age of 13 or 14.

¹²In 2000, only 83.6% (SPO 2004a) were literate (national average in 2000 was 87%). A local newspaper article stressed that the high schools in Terme are particularly unsuccessful in getting their students into university (only 26 out of 1127 graduates over the period of 2005–2007 (Samsun Halk Gazetesi, 10 March 2008)).

Housing

Although housing generally holds a fairly good standard, there are variations within and between communities. Housing is especially poor among the 40–50 households in a small Romani community neighboring Yalı Mahallesi. Entitlements in this community are particularly restricted: No property (no title deeds even to their houses/land); no agricultural land, not even for subsistence production; a high degree of indebtedness; all have green cards and receive social assistance; and most women have no education. They rely primarily on irregular, often migratory, wage work for income: In agriculture; in factories in Istanbul; on purse seiners in Istanbul; or from picking blood leeches and frogs; but have recently also pursued some sea snail fishing from their own boats.

Until recently, they lived in tents. Most have constructed simple brick houses during the last few years. These small houses contain only one or two rooms, but no separate kitchen, no shower, and some do not have a toilet. Most use a few toilets set up on poles above the river. There is almost none of the furniture that you would find in most Turkish homes (such as carpets, chairs, tables, beds). By Turkish standards, these houses are clearly considered houses of the very poorest.

Summary of Poverty in Terme

In all four communities, but especially in Yalı Mahallesi, poverty has been an important driver for sea snail fishing. But poverty is not similarly distributed in the fisher communities in Terme. They display different poverty profiles. The Romani are, as a group, definitely the poorest. Entitlements are differently distributed between the communities, especially land. Involvement in fishing is, to a large extent, related to this, as is proximity to the harbor. The discussion above also shows that unpredictability in itself can hamper capabilities development. Thus, security and predictability – in the form of entitlements to health care or pensions, or regular income or ownership of the house you live in – often constitute capabilities that enable people to live the kind of life they desire.

Local Perceptions of Poverty

Above, we have tried to measure and compare poverty primarily on the basis of indicators that make sense relative to Turkish standards and Turkish society at large. Many of these issues are important also in people's own perceptions of poverty, but both in Terme and in Çarşıbaşı, some additional topics are added in their assessments of what poverty entails or what signifies poverty (or riches) (Table 11.4).

In our questionnaire survey, we asked people how they considered their own situation. Roughly, equal numbers of respondents considered themselves middle class and poor. Very few thought of themselves as being very poor. Not even all the

Table 11.4 Local perceptions of poverty and riches. This table summarizes some current and prevalent ideas about what it means to be, or what are indicators of being poor and rich, respectively. Information was gained during informal interviews and conversations

Poverty if	Not poverty if
Old and/or rented house	New, large own house
Being dependent upon usurers	Large hazelnut fields
“Green card”	Possess social security rights
Selling gold bracelets (for women)	(SSK, BağKur)
Early death	
Work as crew	Own trawler
Perform dirty work	Clean, new clothes
Female menial wage, work in fishing	
Being away from family for longer periods: Seasonal, migratory work, including work as crew	
Unable to educate children	Send children to private school, university
Little opportunity for social visiting	Car ownership
Not having enough food: “Our kids do not know what breakfast is”	
Being Romani	

Romani considered themselves poor. Those Romani thinking themselves not poor are definitely poor according to indicators of income, social security, education etc., but they may experience that they are better off than many others in their own community. Clearly, what people find to be a rich and fulfilling life, and what kinds of wants constitute poverty (capability deprivations), is to a large extent culturally constructed.

Turning the Corner

In Yalı Mahallesi, sea snail fishing has been important in increasing welfare and passing the threshold from poor fisher to owner of trawl vessel. What does it take to make this shift and the increase in wealth that comes with it?

Yakup Korkmaz¹³, in Yalı Mahallesi, has managed to improve the welfare of his household though fishing and is on the brink of passing into a situation where he is no longer dependent upon sea snail fishing. His father came from an inland mountain village in Ordu in the 1950 s, and most of his many brothers are fishers. Yakup, now in his late 30 s, says he has been a fisher all his life. They own only a small plot (1 da) of agricultural land on which they grow vegetables for their own use. They have no other property, no hazelnut groves.

¹³Yakup Korkmaz’ story is based on informal conversation and response to questionnaire, Terme April 2009.

Working hard as a fisher during the 1990s and relying especially on sea snail dredging, he earned well and was able to construct a two-story, six-room house for his family in 2000. He bought his first small boat in 1997, and his current 13 m boat in 2004. A few years ago, he upgraded the engine from 140 to 185 Hp. On his new boat, he not only has an echosounder, but also a GPS which is particularly useful during trawling. He took a 5000 TL loan from an acquaintance for this, but otherwise has no loan. His boat is typically multi-purpose, and he fishes with nets for a variety of species. But his main income is from dredging during summer, and bottom trawling during winter. Despite earning quite well from the fishing (15,000 TL in 2007, which is in the same range as the average hazelnut farmer), he and his wife sometimes engage in seasonal agricultural wage work.

Unlike many other fishers, he is able to send his two children to the expensive private tutorial *dershane*. His 16-year-old daughter is going to high school and preparing for the university entry exam. Another indication of their rise out of poverty is the fact that, while he in 2005 had a green card, he is now able to pay installments in the public Bağ-Kur health insurance scheme. His household receives no social assistance. He considers himself to be middle class (*orta halli*). He plans to buy a larger boat.

Yakup Korkmaz is typical of fishers owning boats larger than 12 m (which is the limit for having a trawl license). Of six fishers in our questionnaire survey who answered to owning boats larger than 12 m, only one had a green card (3 Bağ-Kur, 2 SSK). Also, several of those owning larger trawlers (around 20 m) own a pickup car or small lorry which they primarily use for business purposes. Moreover, all fishers in this class are able to send their offspring to *dershane*, and all consider themselves to be middle class.

Yalı Mahallesi stands out as an interesting case of a community that sees population rising, but is still relatively poor. While the population of the district decreased by 6.2% between 2000 and 2008, the population of Yalı Mahallesi increased by 15.2% to 1,716 during the same period. The community is poor partly because people moving into the community tend to come from the lower echelons of agricultural society, especially from inland rural areas of the neighboring province of Ordu. People have moved there, and continue to come, because living in the community opens up some opportunities, potentially provides some capabilities, not available in remote hazelnut growing villages: (previously) Free or cheap land, proximity to major transport routes and the district centre; and the possibility of becoming a boat owner and being self-employed.

Poverty has clearly been a driver for sea snail fishing which has, overall, increased wealth in the community. As one elderly man in Yalı Mahallesi commented to Yakup Korkmaz and his brothers:

It was the sea snails that formed the start and basis for this. It was sea snails that “made them men” (*salyangoz adam etti*).

The relation of small-scale fishing to poverty is not static, and small-scale fishing does not necessarily “rhyme with poverty” (cf. Béné 2003). For some, success in sea snail fishing has also brought them out of a sea snail dependent adaptation; they have passed a threshold and are not so vulnerable to the potential vicious circle development in the sea snail sector. One of the attractions of owning (or working on) a trawler is that the men mostly stay at home. And, they are not being “bossed around.” So, being able to invest in a trawler not only means higher income, but also brings other capabilities which are not easily measured by universal income indicators.

11.4.2.4 Recent Developments in Terme Sea Snail Fishing

Fishers in Terme report that, since approximately 2005, sea snail fishing has started to lose some of its attraction and profitability. Most importantly, there are indications of average sea snail size decreasing also in Samsun. Sea snails in Samsun seem to regenerate very quickly, and mean size of sea snails remained stable until 2005 despite increased catch effort (Knudsen et al. 2010). There exists no scientific data on recent developments of sea snail average size in Samsun, but there is some anecdotal information. Fishers in Terme complained about the gradual, although geographically uneven, decline of sea snail mean size. They increasingly find themselves shovelling undersized sea snails back to sea.

Catches are usually sorted into three categories for which fishers are paid differentiated prices: Small – 0.25 TL/kg; medium – 0.60 TL/kg; and large – 1.5 TL/kg. With more and more of the catch consisting of small sea snails, it becomes increasingly difficult to cover fuel costs, even though total catches in weight do not decrease.

Owners/managers of the three largest sea snail processing plants in Samsun complained during the autumn of 2008 about the increasing difficulty of finding buyers for their produce since average size had declined considerably during the past 2–3 years.¹⁴ They also reported that they were experiencing the effect of the economic crisis with demand from South Korea falling.¹⁵ During the 2007 and 2008 seasons, factories did not pay out advances any longer.

Sea snail fishing is also made less attractive by tightened inspection. This was a very common worry, and fishers find that whereas their livelihoods and the accumulated capital and skills that come with it were made by sea snail fishing, they are now made into lawbreakers when they pursue the same activity that earlier was tolerated, although formally illegal.

11.5 Coping with Bust

How are fishers in Terme coping with this new situation? We see some of the same coping strategies as in Çarşıbaşı, with decline in sea snail fishing (Fig. 11.4): sale of boat and a turn to work as crew on purse seiners. Although the exemption from fuel tax which has been in place since 2004 has eased the situation, the combined effect of sharpened inspection and reduced size of sea snails has made many reconsider

¹⁴In one processing plant, more than 50% of the processed sea snails were in the smallest of the seven size categories. Processed sea snails are sorted into the following size categories: 3L (Extra Large): 1–15 pcs/kg; LL (Extra Large): 15–20 pcs/kg; L (Large): 20–40 pcs/kg; M (Medium): 40–60 pcs/kg; S (Small): 60–80 pcs/kg; SS (Small): 80–120 pcs/kg; 3S (Small): 120 – up pcs/kg (Fora Food webpages: <http://www.forafood.com/topshell.htm>, accessed 08 Dec 2010).

¹⁵While the largest of the sea snail factories exported 988 t in 2007, export in 2008 had fallen to 422 t (Samsun Halk Gazetesi, 13 April 2009).

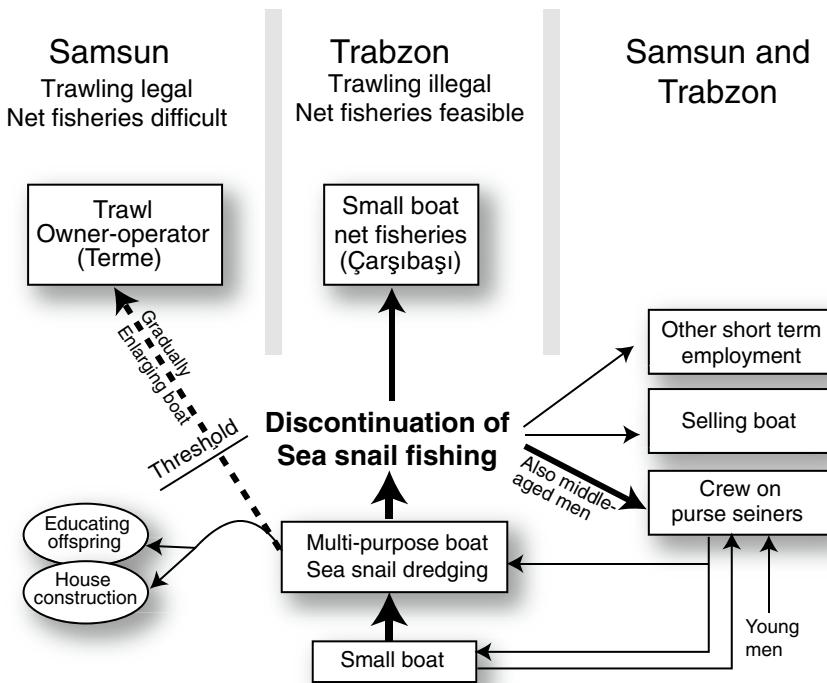


Fig. 11.4 Major career paths and coping strategies with bust and boom. This figure shows that ownership of multi-purpose boats has usually been gained through investing income from work as crew and/or on own small boat. In both Trabzon and Samsun, fishers would spend increased income on house construction and on the education of offspring. During a boom situation, some fishers in Samsun passed a threshold and became owners of larger trawl vessels. This has been a less realistic option in Trabzon where trawling is illegal. With discontinuation of sea snail fishing (“bust”), former sea snail fishers in Trabzon could switch to small boat net fisheries which is less feasible in Samsun where fishers are forced to seek other options

sea snail fishing. Many boats are for sale,¹⁶ and fishers increasingly travel to Istanbul and the Sea of Marmara to dredge for sea snails there. Fishers in all of these communities now rely more on work as crew. Like fishers in Çarşıbaşı, fishers in Terme reduce consumption, including spending on social security. The trend toward a shift to wage labor, and reduction in consumption is likely a common tactic among self-employed households in Turkey, when faced with reduced income (see e.g., Özbudun and Başoçu 2004).

Whereas fishers in Çarşıbaşı could downsize and rely more on net fisheries, this option is less viable in Terme since the extensive trawling on the fishing grounds

¹⁶The Kurds in the Çangallar village owned 6 boats in this 12 m-p boat class, but sold them all in 2008. All Romani sea snail fishers were trying to sell out in 2009. The number of multi-purpose boats in Yalı Mahallesi decreased by 15, from 2005 to 2009.

makes use of set nets, especially bottom nets, difficult. Additionally, there can clearly also be cultural dimensions to coping strategies, household organization, and life prospects/chances which impact on poverty. All four fisher communities in Terme retain a strong sense of ethnic identity and rarely marry outside of it. Therefore, realistic coping strategies are, to a large extent, limited to what is possible to attain within the confines of the ethnically defined life-styles and social networks.

11.6 The Vicious Circle Revisited

Our discussion of coping strategies indicates that issues outside of those most immediately associated with the Vicious Circle model, and outside of fisheries management as well, should be considered when exploring interactions between poverty and small-scale fishing. Below, we discuss more issues at the “fringe” of the model, summarized here in Fig. 11.5.

11.6.1 *Management and Collective Action*

Management rules and regulations during the 1980s and 1990s have been informed by two scientific positions: (1) Those considering the sea snail as any other marine resource and worrying primarily about overfishing; dredging’s harmful effects on habitat; the dredging facilitating illegal trawling; and (2) Those concerned about the sea snail being an introduced invasive top predator; worrying about its effect on the ecosystem; and wanting to control the stocks. Management has therefore been caught between different concerns.

Actual regulations have largely been a compromise between the two positions, perhaps with the “marine resource” perspective having an upper hand. In practice, lenience on the management side, insufficient resources for control and inspection (until approx. 2005¹⁷), and political influence of owners of sea snail processing plants, have resulted in the various restrictions put on sea snail fishing not being adhered to (Knudsen and Zengin 2006). In the Province of Samsun, 154 boats had licenses for sea snail fishing in 2005; but in practice, more than 400 boats were actually involved in this fishery in this province. Although illegal, most boats use two (or even three) dredges simultaneously, and often operate during nights (also illegal). Although dredging is illegal during summer, this fishery is most intense

¹⁷The tightening of inspection seems to be partly a result of EU-pressure in the process of adapting Turkish fishery policy to the Common Fishery Policy in the EU. In practice, policing authority was transferred from the Ministry of Agriculture and Rural Affairs’ local Protection and Control branches to the Coast Guard under military command. They are better equipped and possibly less corrupt.

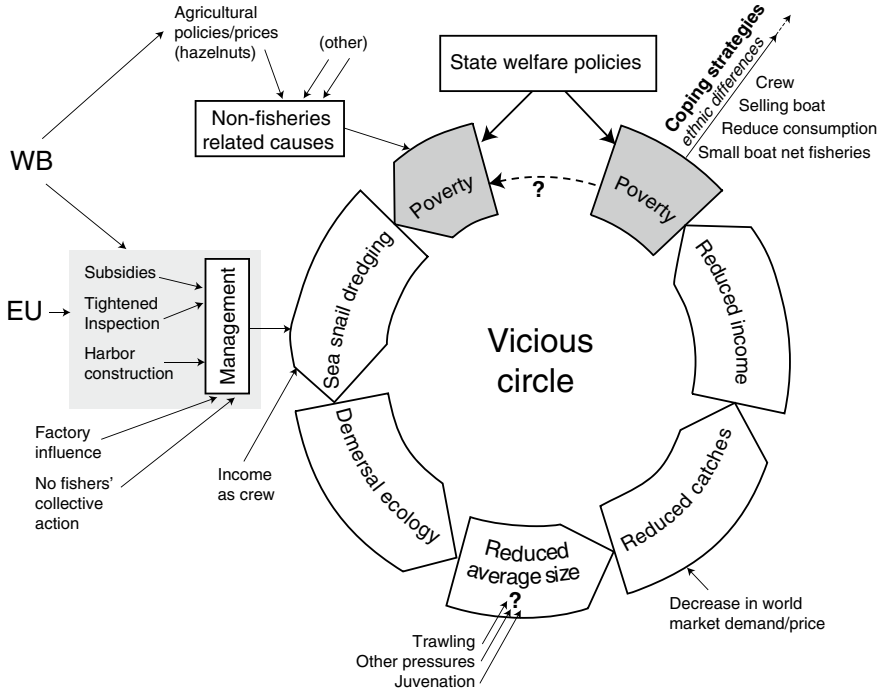


Fig. 11.5 Expanded vicious circle model, in a “bust” situation. The vicious circle thesis predicts that poverty will lead to increased fishing pressure, resulting in deterioration of the resource base and diminishing catches and incomes for fishers, thus resulting in more poverty. The main circle in this figure, starting from the *left* poverty box depicts this dynamic. However, the figure also demonstrates the many other factors that impacts on poverty, fishing activities and the resource base and which taken together distorts the logic of the vicious circle. Many of the processes are seen to be of a very large, sometimes global, scale. There are also many uncertainties involved: what causes the gradual decline in average size of sea snails? What is the effect of state welfare policies on poverty itself and on poverty as a driver for fishing effort? The review of coping strategies (*upper right*) shows that poverty does not necessarily lead back to increased fishing pressure

during the warm months when catches are best. In summary, most sea snail fishing has been illegal.

Yalı Mahallesi has been and is a land and coast of risk and opportunity, where people are willing to take chances. Many have “turned the corner.” Yet, the community seems to be little incorporated, and many of the activities are informal, unregulated, and in the eyes of state representatives, often illegal. Terme fishers are known among Black Sea fishers and managers as being “Texas”; as being a region where regulation and law are constantly and routinely ignored. One fisher in Yalı Mahallesi typically summarized this as, “we have no relations with the state (*devletle ilişkimiz yok*).” Illegalsities include below 12 m boats trawling, breaking regularly most regulations in sea snail fishing, and, most notoriously as seen from the outside, trawling in the closed area (border just east of Terme). From the perspective

of state representatives, Terme fishers are criminalized. The same approach was seen in Trabzon during the 1990s, when fishers from Çarşıbaşı became infamous for illegal trawling.

Many of these illegalities are pursued in spaces/times outside of the reach of the state apparatus. However, some of the illegal activities, particularly summer time dredging and closed area trawling, are more conspicuous and therefore require some kind of protection. It is well known that some trawlers in Terme are protected by a group of powerful fish traders in Samsun with good political connections. They are regularly called “patrons” (*himaye*), but are sometimes spoken of as “mafia” or “government” (*hükümet*), i.e., those actually ruling the area. Illegal catches are channelled through them; they protect fishers against inspection or prosecution, and also provide fishers with goods and services such as cars, telephones etc.

While the sea snail sector has attracted many fishers, and it has at times had the character of a “frontier” situation where everybody rushes to exploit the resource as fast as possible, fishers have, to a certain extent, informally imposed various kinds of rules on the practice of sea snail fishing. These are basically of two kinds: (1) *Protection of “home territory”*: During the late 1990s, communities increasingly strove to restrict sea snail dredging in their “home” waters. (2) *Restrictions on the use of dredges*: Fishers in some small boat fishing communities have been less well equipped for sea snail dredging; and, partly in cooperation with State supervising bodies, opposed it because they believed it to be harmful (see Knudsen 2009). In some cases, such collective action was organized by the local fishery cooperative. Where this took place, the fishing communities were characterized by being homogenous small boat fisher communities with a strong presence of men with higher education and/or professional training, typically pensioned teachers and civil servants.

Like most fishery cooperatives in Turkey (Knudsen 1998; Knudsen 2009, Chap. 9), the cooperatives in Çarşıbaşı and Terme did not play any active role in implementing informal regulations. Fishers in these communities seem not to have tried to impose informal regulations of this kind. Neither do the four different communities in Terme each organize collective action based on their shared identity. Fishing grounds are shared between them (and fishers from other communities) in a wider region stretching from the mouth of the river Yeşilırmak to Ünye. Collective action that has taken place was organized outside of the cooperative, and was directed at protecting fishers against inspection. Fishers and the factory in Çarşıbaşı organized a patrol to warn fishers about approaching inspection vessels. The presence of owners of purse seiners or trawlers, the bonding to patrons, and the lack of resourceful educated men among them may have made the kind of collective action seen in some other communities more difficult in Terme and Çarşıbaşı.

11.6.2 State Policies

The Terme case study demonstrates that the character and quality of state welfare policies have significant impact on poverty and welfare. Until the 1980s, poverty was not considered a perceptible problem in Turkey, and “modern” poverty alleviation

policies were not developed. Poverty was supposedly managed within a “traditional” welfare system (family, community, patron-client relations). With the accession to power of the AKP – a moderate Islamic party – after the serious economic crisis in 2001, poverty came onto the public agenda as never before. However, leaning on its conservative moral position, the AKP regime favors a family-centred solidarity and “Islamic style” philanthropy and charities (often organized by municipalities) to address issues of poverty and destitution which it regards to be “beyond the reach of [the] state’s responsibilities” (Buğra and Keyder 2005, p. 31). With fundamental changes to health and social security policies, citizens’ social rights (entitlements) were weakened. Thus, state welfare policies are one of the major causes for the character of poverty seen in Terme and in Çarşıbaşı. The same argument can be made for educational policies. On the other hand, “[c]oping mechanisms of the poor, especially relying on relatives and neighbours for in-kind and cash assistance, came under stress, and the poor reported a decrease in assistance from these traditional channels” (World Bank 2003, p. i). Almost none of the respondents to our questionnaire survey in Terme reported receiving any assistance from more wealthy relatives, although many had close relatives in Western Europe and in Istanbul.

11.6.3 *Agricultural Policies*

We have identified poverty as a major driver for the expansion in sea snail fishing. Underlying this poverty are changes in agricultural economy and policies. Turkey contributes 70% of the world production of hazelnuts, and the eastern Black Sea coast is the major production region. In 1999, Turkey adopted a World Bank supported structural adjustment and stabilization program, which from 2001 included the “Agricultural Reform Implementation Project” (Eryugur 2006, p. 18). One major objective and effect of the project was the phasing out of agricultural subsidies and the restructuring (privatization) of state-controlled sales cooperatives through which subsidies were directed.

Although the state has been unable to follow WB advice to totally discontinue price support, support is smaller and less predictable than before. This has resulted in hazelnut production in Çarşıbaşı and Terme, although still a security, being less attractive than before. Partly as a result of this, Terme fell dramatically on the socio-economic development ranking of districts in Turkey.¹⁸ The relative decrease in income from the hazelnut sector is aggravated by the general diminishing value of and income from agricultural production in Turkey compared to other sectors.¹⁹ In general, people engaged in agriculture earn much less than in other sectors, and have the lowest degree of social security coverage (9%).

¹⁸From place 240 in 1996 to 436 in 2004 (out of more than 872 districts in Turkey) (SABEK 2005).

¹⁹Share of agriculture in Turkish GDP fell from 17% in 1990 to 12% in 2005, and share of economically active population engaged in agriculture has decreased from 47% in 1990 to 27% in 2006 (Çakmak and Eryugur 2008, p. 174).

11.6.4 *Why Ecological Change?*

Did the boom in sea snail fisheries result in overfishing and the resulting bust? Many assume that extensive dredging is the reason for the decline in average size of sea snails, but there is no research to back up this assumption. There are actually very few studies undertaken and many unknowns. The nature of the sea snail stock, the role in the ecosystem, and the reason for the decrease in sea snail average size are not well known. It is unclear what effect sea snail predation has on mussels, what the impact of dredging is on habitat and other species, and what effect other pressures, such as trawling, have on the same habitat.

It appears that the same process toward smaller average size is taking place in most of the Black Sea region, but researchers find there is yet too little evidence to conclude whether it is juvenation,²⁰ or fishing pressure (or some other factor or combination) that is/are responsible for the problem. Whereas large specimens of sea snails are increasingly hard to come about, fishers and scientists alike report that there are plenty of sea snails on the sea bottom. They have no problems reproducing, and there seems to be no dramatic decline in biomass. This could indicate that, at least, fishing too many under-sized (i.e., not of reproductive age) sea snails is not the problem.

Thus, it is important not to rush to conclusions about the damaging effects of small boats' fishing pressure without evidence to substantiate it. It is often the case that causes other than small boat fishing pressure (e.g., big boat fishing) exerts more pressure on the stocks and habitat in question. This is not to say that dredging and small-scale trawling is not harmful, which fishers themselves readily accept.²¹

11.7 Conclusions

The findings of this study show that a range of variables not specified by the vicious circle thesis can have significant impact on resource use and poverty. Much of this is summarized in Fig. 11.5. Additionally, there are some issues of relevance for poverty in our case studies that are not accounted for in this figure.

It is wise not to too readily accept the implicit assumption of Malthusian overfishing implied in the vicious circle model (Pauly 1994). There has been a dramatic degradation of the resource (reduced average size), but it is not at all clear that this is caused by overfishing (and thus part of a vicious circle). It is, therefore, not possible to provide evidence for a vicious circle dynamic operating in this case.

²⁰Internal dynamic toward younger age at reproduction, and smaller average size typical of introduced invasive species.

²¹After sea snail fisheries (and associated illegal trawling) discontinued in Trabzon, fishers report during conversations with us in 2008 and 2009 that catches of red mullet are again very good, after having been very meager during the 1990s and early 2000s.

Secondly, small-scale sea snail fishing does not always “rhyme” with poverty. Many fishers have moved out of destitution by engaging in sea snail fishing; and some have even built careers on sea snails that have made them into relatively wealthy, small capitalists (owners of trawlers).

State policies beyond those narrowly defined as fishery management, e.g., the construction of harbors, agricultural policies, and welfare policies have impact on sea snail fishing and poverty/wealth of fishers (Knudsen et al. 2010). Some policy developments, both within and outside of fisheries management, result from Turkey’s engagement with supra-national bodies such as the WB and the EU.

The boom years of the sea snail fisheries clearly created a frontier situation, especially in Terme. In such a situation, with the race to extract the resource rent, the state constructing fishers’ activities as criminal, and the fishers finding that they have “no relations to the state,” co-management between state and communities of fishers is hardly a realistic option. Collective action among fishers also seems to be limited. The degree and character of fishers’ collective action is shaped by the nature of the community (e.g., the frontier situation in Yalı Mahallesi), the educational level, and the politics of relations to external actors such as state representatives and business patrons.

There are cultural and political dimensions to fishers’ poverty. That Romani fishers generally are poorer than fishers from the other communities in Terme is probably best explained by their cultural stigma and political marginalization which have been sustained throughout Turkey for decades. Also, poverty is sustained by intra-sectoral institutional mechanisms, such as the relations between crew and owners of purse seiners. This relation is characterized by power inequality, unpredictability, lack of social security, and in general a lack of formal regulation and control. The political marginalization of small-scale fishers and crew limits their participation and ability to influence the issues that impact on their capabilities. Thus, lack of capacity to participate can be considered a dimension of poverty (Baum 2001, p. 1843). While Sen shifts attention from means to ends, we can argue with Marshal Sahlins that, “[p]overty is not a certain small amount of goods, nor is it just a relation between means and ends; above all it is a relation between people” (Sahlins 1972, p. 37).

Political marginalization – political not only in the meaning of formal politics, but also including participation in informal networks of influence etc. – thus, bereaves people of capabilities, reduces their freedoms to be able to satisfy ends (cf. Sen 1999, p. 90). It can thus make sense to consider the ability to organize for collective action, and engage in co-management with the authorities; a capability which small-scale fishers in Terme and Çarşıbaşı largely seem to be deprived of, partly because of their limited education, and the lack of men with experience from public employment among them.

Based on this study, we argue that fishery development not only should go hand in hand with fishery management, but also with social policies aimed at reducing poverty and inequality. It is not developments in the fisheries that cause capabilities deprivation among small-scale fishers in Terme and in Çarşıbaşı. It is first and foremost exclusion from other capabilities, or entitlement breakdown

(Béné 2003, p. 968) – also from capabilities that we have come to expect modern states to provide – that make people poor. Yet, as was seen in the Çarşıbaşı case, changes in the resource base can also contribute to increased poverty. It makes sense to account for the degree to which the “vicious circle” operates, but analysis of the relation between small-scale fishing and poverty should not be restricted to variables included in the thesis.

In this respect, our assessment of the “vicious circle” thesis parallels Ottar Brox’ assessment of the tragedy of the commons thesis, from which the “vicious circle” thesis can be said to be derived: “The common property theory should not be considered a statement about the world in the sense that it can be falsified by evidence, but rather as an analytical tool, a part of the language we use in describing and explaining the world” (Brox 1990, p. 227).

The thesis helps us ask good research questions, stimulates us to look for important causal relationships, and specify the conditions under which the vicious circle dynamics operate or not. Yet, to give good answers, we might find that our study should venture outside of the kind of variables assumed to be of importance in the model. There might be more important causes for poverty among fishers outside of the fisheries than within the fisheries. Especially the reasons why people are poor, to start with, need more comprehensive explanation. Why is the distribution of land unequal? Why are prices of agricultural produce falling? Why are the unemployment rates so high? Why are health and social services so poor, and access to quality education and access to universities so unequal? Poverty in fisheries is most meaningfully studied as an aspect of overall poverty in a region or country, yet with the added attention on the degree to which a “vicious circle” dynamic is in operation. After all, the entitlements established in small boat fishing – the more or less collective right to use finite, often unregulated natural resources – are of a quality different from most other entitlements.

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