POLITICAL ECOLOGY OF MILK PRODUCTION IN TÜRKİYE: CHANGING PRACTICES, RURAL LIVELIHOODS, AND DAIRY ANIMALS

by

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ABSTRACT

POLITICAL ECOLOGY OF MILK PRODUCTION IN TÜRKİYE: CHANGING PRACTICES, RURAL LIVELIHOODS, AND DAIRY ANIMALS

This thesis examines the transformation of dairy farming in Türkiye through a political ecology and multispecies justice lens, focusing on how intensification is framed, governed, and implemented. It argues that dairy intensification cannot be understood as a purely technical or inevitable response to production needs, but as the outcome of a historically shaped governance trajectory that prioritizes growth and efficiency. Empirically, the thesis combines close reading of policy and planning documents, sectoral reports, and statistical series with field material from a major sectoral event in Bursa and semi-structured interviews with the officials from the Ministry of Agriculture and Forestry in Istanbul. The analysis identifies two interconnected hegemonic discourses shaping dairy governance. The first is that milk production must expand and animals must become more "efficient" through yield increases, breed transformation, and reproductive and herd-management technologies. The second is that farmers must become more efficient by scaling up, specializing, formalizing, and integrating into industrial value chains, while small-scale farmers are framed as backward and inefficient. A key finding is the tension between official insistence that Türkiye "needs" more milk and the simultaneous portrayal of the country as already self-sufficient and a leading producer. Read together, these narratives suggest that the push for "more" milk reflects a political-economic commitment to growth as a default policy orientation. The thesis concludes that dairy intensification in Türkiye functions as a multispecies political project with uneven consequences for rural livelihoods and dairy animals.

ÖZET

TÜRKİYE'DE SÜT ÜRETİMİNİN POLİTİK EKOLOJİSİ: DEĞİŞEN PRATİKLER, KIRSAL GEÇİM KAYNAKLARI VE SÜT HAYVANLARI

Bu tez, Türkiye'de süt hayvancılığının dönüşümünü politik ekoloji ve çoktürlü adalet perspektifleri üzerinden incelemekte; yoğunlaşmanın nasıl çerçevelendiğine, yönetildiğine ve uygulandığına odaklanmaktadır. Tez, süt hayvancılığındaki yoğunlaşmanın üretim ihtiyaçlarına verilen salt teknik ya da kaçınılmaz bir yanıt olarak değil, büyüme ve verimliliği önceleyen tarihsel olarak şekillenmiş bir yönetişim hattının sonucu olarak anlaşılması gerektiğini savunmaktadır. Ampirik olarak çalışma; politika ve planlama belgeleri, sektörel raporlar ve istatistiksel serilerin yakından okunmasını, Bursa'da düzenlenen büyük bir sektörel etkinlikten elde edilen saha materyali ve İstanbul'da Tarım ve Orman Bakanlığı yetkilileriyle yapılan yarı yapılandırılmış görüşmelerle bir araya getirmektedir. Analiz, süt yönetişimini şekillendiren birbiriyle bağlantılı iki hegemonik söylemi ortaya koymaktadır. Bunlardan ilki, süt üretiminin artırılması ve hayvanların; verim artışları, ırk dönüşümü ile üreme ve sürü yönetimi teknolojileri yoluyla daha "verimli" hâle getirilmesi gerektiği yönündeki söylemdir. İkincisi ise, çiftçilerin ölçek büyütme, uzmanlaşma, formelleşme ve endüstriyel değer zincirlerine entegrasyon yoluyla daha verimli hâle gelmeleri gerektiğini savunan; buna karşılık küçük ölçekli çiftçileri geri kalmış ve verimsiz olarak çerçeveleyen söylemdir. Tezin temel bulgularından biri, Türkiye'nin "daha fazla" süte ihtiyaç duyduğu yönündeki resmi ısrar ile ülkenin aynı anda halihazırda kendine yeterli ve önde gelen bir üretici olarak sunulması arasındaki gerilimdir. Birlikte okunduğunda, bu anlatılar "daha fazla" süt üretimi yönündeki baskının, varsayılan bir politika yönelimi olarak büyümeye yönelik politik-ekonomik bir bağlılığı yansıttığını göstermektedir. Tez, Türkiye'de süt hayvancılığındaki yoğunlaşmanın, kırsal geçim kaynakları ve süt hayvanları üzerinde eşitsiz sonuçlar üreten çoktürlü bir politik proje olarak işlediği sonucuna varmaktadır.

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LIST OF SYMBOLS/ABBREVIATIONS

Abbreviation	Explanation
AoA	Agreement on Agriculture
AKP	Justice and Development Party (Adalet ve Kalkınma Partisi)
CAP	Common Agricultural Policy
CHP	Republican People's Party (Cumhuriyet Halk Partisi)
CR4	Four-Firm Concentration Ratio
DP	Democratic Party (Demokrat Parti)
EBK	Meat and Fish Corporation (Et Balık Kurumu)
ERP	Economic Reform Program
EU	European Union
GATT	General Agreement on Tariffs and Trade
IDF	International Dairy Federation
IFI	International Financial Institutions
IMF	International Monetary Fund
IPARD	Instrument for Pre-Accession Assistance for Rural Development
LPLF	Law for Providing Land to Farmers
MHP	Nationalist Movement Party (Milliyetçi Hareket Partisi)
MoAF	Ministry of Agriculture and Forestry
NGO	Non-Governmental Organization
OPDA	Ottoman Public Debt Administration
ORÜS	Forest Products Industry Corporation (Orman Ürünleri Sanayi)
SAP	Structural Adjustment Program
SETBİR	Türkiye Milk, Meat, Food Industrialists and Producers Association (Süt, Et, Gıda Sanayicileri ve Üreticileri Birliği)
SOE	State-owned enterprises
TAGEM	General Directorate of Agricultural Research and Policies (Tarım ve Orman Bakanlığı Tarımsal Araştırmalar ve Politikalar Genel Müdürlüğü)

Abbreviation	Explanation
TEPGE	Agricultural Economic and Policy Development Institute (Tarımsal Ekonomi ve Politika Geliştirme Enstitüsü)
TİGEM	General Directorate of Agricultural Enterprises (Tarım İşletmeleri Genel Müdürlüğü)
TKDK	Agricultural and Rural Development Support Institution (Tarım ve Kırsal Kalkınmayı Destekleme Kurumu)
TRGM	General Directorate of Agricultural Reform (Tarım Reformu Genel Müdürlüğü)
TSEK	Milk Industry Institution of Türkiye (Türkiye Süt Endüstrisi Kurumu)
TSKB	Agricultural Sales Cooperatives Unions (Tarım Satış Kooperatifleri Birlikleri)
TÜGSAŞ	Türkiye Fertilizer Industry Corporation (Türkiye Gübre Sanayi)
TUIK	Turkish Statistical Institute (Türkiye İstatistik Kurumu)
TZDK	Türkiye Agricultural Supply Organization (Türkiye Zirai Donatım Kurumu)
US	United States
USK	National Milk Council (Ulusal Süt Konseyi)
WB	World Bank
WTO	World Trade Organization
YEMSAN	Feed Industry Corporation (Yem Sanayi)

1. INTRODUCTION

Milk is a mammalian secretion that has been transformed into a commodity through complex systems of production and governance. Over the past decades, global milk production has increased significantly, rising from around 350 million tonnes annually in the early 1960s to nearly one billion tonnes today (World Bank, 1982; FAO, 2024). This expansion has been driven primarily by an intensification of dairy farming—most notably through increasing the amount of milk extracted per animal. In international policy discourse, this process is framed as "productivity improvement" (OECD & FAO, 2025, p. 28), with productivity defined narrowly as tonnes of milk per cow (OECD & FAO, 2025, p. 35). This definition is revealing, as it places the cow's body at the centre of how growth in the dairy sector is conceptualized and measured.

Today, roughly four-fifths of the global milk production is obtained from cows, while most of the remainder comes from buffalo; goats, sheep, and camels account for a relatively small share (OECD & FAO, 2025). According to OECD–FAO projections, global milk production is expected to continue growing at around 1.8 per cent per year over the next decade, reaching approximately 1,146 million tonnes by 2034—faster than most other major agricultural commodities (OECD & FAO, 2025). Crucially, this growth is not expected to come from an increase in the number of animals, but from further increases in yield per animal. These increases are to be achieved through continued intensification of production systems, including changes in feeding regimes, management systems and animal genetics (OECD & FAO, 2025). As a result, dairy farming has become increasingly intensified, industrialized, commercialized and concentrated, organized around the guiding principle of efficiency.

Türkiye has participated in this broader global trajectory through the policies and institutional frameworks it has adopted. Total milk production in Türkiye increased from approximately 6.5 million tonnes in 1961 to 22.49 million tonnes of raw milk in 2024 (FAO, n.d.; Turkish Statistical Institute [TUIK], 2025b). This growth has been accompanied by a strong concentration on cow's milk: in 2024, 93.6 per cent of total milk production came from cows (TUIK, 2025b). Over time, cows have become the dominant species through which milk extraction is organized in Türkiye, while other animals used in milk production have remained marginal both in volume and in policy attention.

As in the global case, this expansion has been driven primarily by rising yields per cow. In Türkiye, the average milk yield per cow per year increased from 521 kg in 1930 to 3,158 kg in 2019—

an almost sixfold increase over less than a century (Ulusal Süt Konseyi, 2022). Recent policy discourse signals an even more ambitious trajectory. According to statements by the Ministry of Agriculture and Forestry, current targets aim to triple the existing average milk yield per cow within five years (Global Farm Summit, 2024, 10:15). If realized, this would mean that, over roughly a hundred-year period, the amount of milk extracted from a single cow would have been increased by around eighteen times (Figure 1).

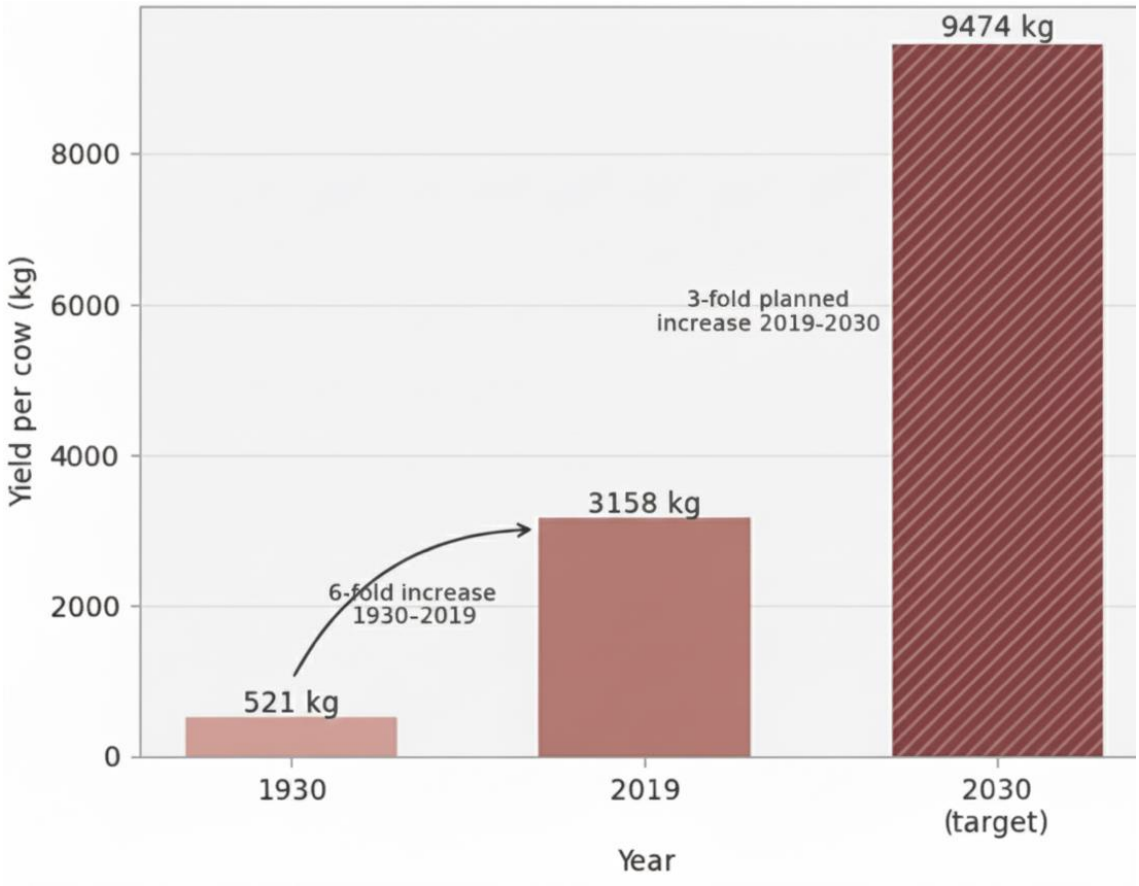


Figure 1.1. Long-term increase in average annual milk yield per cow in Türkiye and projected policy targets.

In policy discourse, these developments are consistently presented as a national success. At the same time, existing levels of production are framed as insufficient. Policy documents, sectoral reports, and official statements repeatedly construct an ongoing "need" for more production, higher yields per animal, larger-scale farms, and stronger competitiveness. This insistence is not merely descriptive; it actively shapes the sector. By framing current production levels as inadequate, governance texts legitimize a particular direction of change in which more production through intensification appears as the unquestioned solution. Discourses of self-sufficiency, food security, catching up with "developed" consumption levels, and surviving global competition are mobilized to present this trajectory as both inevitable and desirable.

This thesis approaches this trajectory not as a neutral story of modernization or progress, but as a political-ecological project. Political ecology allows milk to be analyzed not simply as a food product or an agricultural output, but as a material substance whose extraction, valuation, and circulation are shaped by power, history, and contested policy visions. Within this perspective, "efficiency" is not treated as a self-evident technical objective. Instead, it is examined as a governing logic whose meanings, uses, and consequences must be critically assessed.

In contemporary dairy governance in Türkiye, efficiency is operationalized through a narrow set of indicators: yield per animal, cost per unit, delivery into formal market channels, and compliance with industrial standards. These indicators function as criteria for deciding which farms and which animals are worth supporting, upgrading, or keeping in production. The result is a policy trajectory that favors fewer, larger, and more input-intensive "production units". Within this framing, small-scale and mixed farms are increasingly positioned as a problem: backward, informal, and economically irrational. Efficiency, in this sense, reorganizes relations between farmers, land, markets, institutions, and animals, with far-reaching socio-ecological consequences.

At the same time, dairy intensification operates directly through animal bodies and lives. Increasing productivity is achieved not only through changes in farm structure or market integration, but through interventions that treat the animal body itself as a site of optimization. Unlike crops, animals are living beings with metabolic limits and embodied capacities for stress, pain, and exhaustion. Efforts to raise extraction from animals therefore directly impose biological pressure on animal bodies. Breed transformation, reproductive control, feeding regimes, herd-management technologies, and strict profitability thresholds shape which animals remain in production, for how long, and under what conditions. For this reason, this thesis brings a multispecies lens into political ecology. This lens makes it possible to keep dairy animals analytically present—not as background "livestock", but as living beings whose reproduction, health, lifespan, and everyday experience are actively reorganized by the same governance model that reshapes rural livelihoods.

Against this background, the central question of this thesis is: how does contemporary dairy governance in Türkiye construct and justify a trajectory of intensified and "efficient" milk production, and how does this trajectory reorganize small-scale dairy farming and dairy animals' lives and bodies? I argue that dairy governance is not simply attempting to ensure food security or meet a neutral national need, as it is often claimed in policy discourse. Rather, it actively organizes both human and non-human life around a productivist regime that extracts value simultaneously from

animals' bodies and from small-scale farmers' labor, channels this value towards certain actors that benefit from this system and presents this process as rational, inevitable, and beneficial.

To make sense of how this productivist regime has come to appear as necessary and commonsensical, it is essential to situate contemporary dairy governance within its longer historical and institutional context. Today's "common sense" of efficiency rests on decades of agrarian restructuring and policy intervention. This longer history includes state-led efforts to build a national milk market and draw production into formal circuits, followed by liberalization and privatizations that expanded corporate power in processing, feed, and input provision. From the 2000s onwards, EU harmonization processes and rural development programmes further accelerated intensification through "economies of scale" framings, investment supports, and tighter regulation of informality. Attending this history prevents the current governance regime from being read as a natural evolution and makes visible that efficiency is also a political project—one with uneven consequences, producing clear winners and losers rather than an objective path of progress.

Empirically, the thesis is based on a qualitative and interpretive research design that combines close reading of policy and planning documents, sectoral reports, and statistical series with field encounters that help connect macro-level visions to how they circulate and are operationalized. The empirical material rests on three pillars: analysis of key national policy and planning documents; use of statistical data as indicators of long-term trajectories and governance narratives; and field material from a sectoral event in Bursa (December 2024) and semi-structured interviews with officials working in district and provincial directorates of the Ministry of Agriculture and Forestry in Istanbul (January 2025).

The core analytical contribution of this thesis is to show that contemporary dairy governance in Türkiye is organized through two interconnected hegemonic discourses. The first discourse claims that milk production must continue to increase and that animals must be made more "efficient production units", primarily by raising milk extraction per animal through breed transformation and reproductive and herd-management technologies, justified through imperatives such as the need to ensure supply security and self-sufficiency. The second discourse claims that farmers must also become more efficient—more specialized, more entrepreneurial, more integrated into industrial supply chains, and more willing, or compelled, to scale up. Within this framing, small farms often appear as structural obstacles to the sector's "proper" functioning. Together, these discourses normalize a direction of change that systematically pushes both animals and farmers to their limits in the name of producing more with less.

The thesis proceeds as follows. Chapter 2 establishes the conceptual and theoretical framework through political ecology scholarship on food and animal production, alongside feminist and multispecies approaches that keep animals analytically present. Chapter 3 situates the study within Türkiye's longer history of agrarian restructuring. Chapter 4 traces the history of dairy production in Türkiye. Chapter 5 explains the research design and material. Chapter 6 forms the empirical core, analysing contemporary dairy governance through the two hegemonic discourses outlined above, and shows how they are built, justified, and institutionalized. Chapter 7 discusses the findings through a political ecology and multispecies justice lens, arguing that dairy intensification in Türkiye should be understood as a multispecies political project rather than a technical necessity. A final conclusion chapter summarizes the main contributions and outlines implications for future research.

2. POLITICAL ECOLOGY OF MILK AND DAIRY

This chapter situates the thesis within the broader political ecology and critical food-and-agriculture literature, and explains why I approach milk not as a neutral "food product" but as a set of socio-ecological relations shaped by power. I first provide a brief genealogy—from peasant and agrarian studies and rural sociology to political ecology—to show how questions of agrarian transformation and socio-ecological change became central to the study of food systems. I then narrow the focus to the place of animals within these systems, and to the limits of justice framings that exclude nonhuman beings, introducing key debates that invite political ecology to take nonhuman lives seriously in analyses of exploitation and harm.

Building on this, I review feminist, postcolonial, and critical milk scholarship that shows how dairy has been entangled with colonial and developmental projects, often through extractive relations that remain hidden under the language of modernization and development. I then briefly discuss what existing political-ecology work on dairy transformation suggests for research, and I close by outlining multispecies studies and multispecies justice as the lens that allows me to connect agrarian restructuring, hegemonic policy discourses, and the lived consequences of intensification for both small farmers and dairy animals.

2.1. Political Ecology of Food and Agriculture: Background and Emergence

Food and agriculture studies have a long and rich intellectual history that continues to inform current debates. Peasant studies, rural sociology, agrarian studies, critical reworkings of these traditions, and more recent approaches such as political ecology all provide important sources for this research area (Edelman & Wolford, 2017). Since one dimension of this research concerns the restructuring of rural livelihoods, the insights of peasant and agrarian studies are especially relevant. Some of the key discussions in these fields are found both in classical and contemporary texts. One such topic has been the "agrarian question" (Kautsky, 1899/1988). That is, whether peasants can persist alongside an expanding industrial capitalist agricultural regime. It was widely debated if peasantry could limit the development of capitalism, or, if it would eventually be transformed and absorbed into it (Chayanov, 1925/1966; Kautsky, 1899/1988; Lenin, 1899/1956; Luxemburg, 1913/1951; Marx, 1867/1976).

Later, classical peasant studies were complemented by rural sociology, which brought more attention to the social and cultural aspects of everyday life in rural areas, especially in the United States and Europe (Newby, 1983; Shanin, 1971). In the mid-to-late 1970s, new rural sociology emerged in response to criticisms of conventional rural sociology (Newby, 1983). The earlier approaches were seen as naive in assuming that technological modernization in agriculture would benefit everyone (Newby, 1983). New rural sociology took a more critical perspective and focused on social inequalities, labor relations, agricultural policy, and ecological questions (Flinn, 1982; Newby & Buttel, 1980; Newby, 1983).

Some scholars became concerned about the "peasant essentialism and agrarian populism" that had developed within the field (Bernstein & Byres, 2001, p. 8). Revisions were suggested to make peasant studies more responsive to changing historical and intellectual conditions. The concept of "agrarian change" was introduced to address issues that peasant studies became limited to cover (Bernstein & Byres, 2001). These issues included transitions to capitalism, neoliberal restructuring of rural life, and the diverse dynamics of agrarian transformations across different regions (Bernstein & Byres, 2001; Borras, 2009). This shift also helped to recognize a wider variety of actors in rural contexts, such as "large landowners, plantation workers, fisherfolk, nomadic pastoralists, ethnic groups, service providers, professionals, merchants and intermediaries, among many others" (Edelman & Wolford, 2017, p. 7). The tendency of agrarian scholars toward abstract theorization was also changing with a growing emphasis on the value of contextual empirical research (McMichael & Buttel, 1990).

In the 1980s, academic work exploring the links between society, politics, and the environment began to gain more attention (Bryant, 1992). Political economy was already widely used in agrarian research to connect social relations of production with questions of power and politics (Buttel et al., 1990). Environmental problems and ecological relations added another layer to these analyses, leading to the emergence of the political ecology perspective. Both agrarian political economy and political ecology have roots in Neo-Marxist thought and share similarities in their approaches and methods; however, political ecology offers a broader lens for analysis (Galt, 2013). As Blaikie and Brookfield put it, "the phrase 'political ecology' combines the concerns of ecology and a broadly defined political economy" (Blaikie & Brookfield, 1987/2015, p. 17). It studies socio-ecological change in relation to power and politics (Bryant, 1997).

Political ecology research pays close attention to the geographical, historical, and cultural context of socio-environmental change and encourages place-specific studies (Perreault et al., 2015).

Early contributions to the field mainly focused on linking environmental problems in the Global South to their colonial histories and uneven development paths (Blaikie, 1985; Blaikie & Brookfield, 1987/2015; Bryant, 1992; Watts, 1983). Over time, political ecology has expanded to cover a wider range of contexts, including rural and urban struggles over "resources", conservation, and agrarian transformation in both the Global South and North (Neumann, 2005; Robbins, 2012).

In the context of food and agriculture, scholars began to apply a political ecology perspective to study the historical transformations of "food regimes" (Friedmann & McMichael, 1989; McMichael, 2009). This body of work examined different dynamics that have shaped food regimes over time, such as the domestication of plants and animals during the Neolithic Revolution, the homogenization of species through European colonialism (see Crosby, 1986, on "ecological imperialism"), and the industrialization of agriculture under development policies and expanding capitalism (Friedmann, 1999; McMichael, 2009). Some scholars have used "food systems" and "livelihoods" approaches to analyze the social aspects of food commodity chains, highlighting how "the modern food system only meets the needs of a small group of large farmers and multinational manufacturers and sellers of agricultural inputs, as well as food processors, distributors, retailers and certain groups of consumers" (Flachs, 2020; Jacobi et al., 2021; Pimbert et al., 2001, p. 3).

Today, political ecology continues to evolve by drawing on diverse theoretical frameworks, including feminist theory, poststructuralism, actor-network theory, science and technology studies, and posthumanism (Galt, 2013; Hall, 2015). These interdisciplinary inclusions allow for a more nuanced understanding of class and gender relations, the role of technology, and the power of discourse. Furthermore, they encourage scholars to consider the agency of non-human beings in shaping agricultural outcomes.

Ultimately, the political ecology approach opens up a space for imagining socio-ecologically just futures. Place-based studies are particularly important for this as they make visible the lived experiences, resistances, and alternative visions that emerge from the field. By focusing on these local realities, political ecology enriches our understanding of the global food system and broadens our horizons with specific, real-world data (Moragues-Faus & Marsden, 2017).

2.2. Animals in Food Systems

One of the core principles of political ecology research is a commitment to social justice and political transformation (Perreault et al., 2015). Therefore, justice-related discussions around food

and agriculture are prominent in the literature. However, when justice is applied only to relations among humans, analyses become insufficient for understanding socio-environmental change. Scholars from different fields have drawn attention to the need to make justice discussions more inclusive and less anthropocentric. In social science research, animals used for food production have long been treated as passive background elements or materials. Contributions from critical animal studies (Best et al., 2007; Nibert, 2013), critical agrarian studies (Edelman & Wolford, 2017), critical environmental justice (Pellow, 2018), political geography (Hobson, 2007), and political ecology (Collard & Dempsey, 2013; Emel & Neo, 2015; Haraway, 2008) have challenged this tendency and called for extending justice discussions to other species.

Within political ecology, some scholars have criticized the field for positioning animals merely as "natural or physical resources around which swirl politics of access, capitalist logics, and contested property regimes" (Collard, 2015, p. 131). Viewing the nonhuman world solely as "resources" reflects an instrumental attitude toward living beings and life, reminding of capitalist extractivist logic. If political ecology adopts such an approach uncritically, it risks reproducing the socio-ecological injustices it seeks to expose. Yet other species have important roles in shaping our world and are affected by uneven and exploitative power relations. These multispecies relations situated within global capitalism often produce what can be described as multispecies injustices (Celermajer et al., 2020b). Therefore, political ecology scholars, committed to making socio-ecological injustices visible, are increasingly invited to include more-than-human beings in analyses of power and justice (Collard, 2015; Srinivasan & Kasturirangan, 2016).

By expanding its scope of analysis to include other species, political ecology is expected to offer "better politics, explanation, and ethics" (Robbins, 2012, p. 4). Political ecology is particularly well-equipped to study and confront multispecies injustices without depoliticizing the issues—a concern often raised about research that focuses primarily on individual consumption and lifestyle choices (Hobson, 2002; Irni et al., 2023; Moragues-Faus & Marsden, 2017). Instead of assuming that systemic change can be achieved through changing market-based consumer choices, political ecology directs attention to the power structures behind extractive and exploitative food regimes. By doing so, it can challenge the human–animal antagonism, and show that both humans and nonhumans are harmed by the same hegemonic systems (Beldo, 2017). Recognizing this shared exposure to injustices opens space for cross-species alliances for a better future.

Even in earlier stages of food and agriculture studies, a few scholars examined human–animal relationships in ways that stood apart from dominant perspectives. Harriet Friedmann, for instance,

traces the history of food regimes and identifies the domestication of species as “the most profound shift in human relations to the earth” (Friedmann, 1999, p. 33). She defines this turning point, commonly known as the Neolithic Revolution, as the beginning of human control over the reproduction of animals and plants. Friedmann argues that this shift “not only created hierarchies among species but also among human beings” and brought “servants (and slaves) of both human and other species” into households (Friedmann, 1999, p. 37).

This was a radical perspective in agrarian studies at the time. Rather than framing agriculture merely as an economic activity involving conflicting interests between peasants and capitalists, Friedmann pointed out the formation of domination relations that structured both human societies and interspecies hierarchies. Her analysis also diverges from some perspectives in environmental justice scholarship that emphasize struggles over access to and control of environmental “resources” among human groups (Escobar, 2006; Martínez-Alier, 1995). When the focus is only on the material and distributive aspects of socio-ecological problems, there is a risk of becoming blind to the relational, ethical, and ontological dimensions that also produce destruction, conflicts, and suffering (Yaka, 2024).

Friedmann (1999), identifies a second major shift in human relations to the earth with the industrialization of agriculture following European colonial expansion, arguing that this transformation integrated animals, plants, humans, and machines as standardized inputs for commodity production. She highlights how both relational and material worlds are transformed into systems of commodification and control. In doing so, she anticipates later feminist political ecology discussions that critique how capitalist modernity instrumentalizes both human and nonhuman lives.

The use of animals for industrial commodity production remains a deeply contested issue. Industrial animal farming in the age of global capitalism, treats living beings as machines to be optimized for profit (Clark & Wilson, 2021). This raises environmental, political, ethical, and relational concerns. In one of the earliest critical works on sustainable agriculture, edited by Patricia Allen (1993), several authors question whether industrial animal agriculture can ever align with sustainability values. The book gathers key critiques from animal rights and ecofeminist scholars who discuss concepts such as anthropocentrism, speciesism, ethical vegetarianism, and animal liberation—themes that continue to shape debates on animal farming today.

Feminist scholarship by itself provides a strong theoretical basis for discussions of animal commodification and consumption. Feminist scholars have sharply criticized the ways animals,

nature, and women are objectified, dominated, and exploited in patriarchal societies. In *Animal Rights and Feminist Theory*, Josephine Donovan (1990) argues that dominant animal rights approaches—both deontological (see Regan, 1983) and utilitarian (see Singer, 1975)—are shaped by rationalist and masculinist habits of Western thought. As an alternative, she proposes a cultural feminist approach informed by animal rights; one that takes emotions, relationality, and responsibility toward animals seriously.

Carol J. Adams, in *The Sexual Politics of Meat* (1990), explores how meat-eating practices reflect and reproduce patriarchal domination by drawing parallels between the fragmentation and consumption of animal bodies and that of women. Similarly, in *Feminism and the Mastery of Nature*, Val Plumwood (1993) examines how Western philosophy has relied on hierarchical dualisms—reason/nature, self/other, mind/body, human/animal—to justify both the domination of women and nature. Another feminist scholar, Greta Gaard (1993), in the preface of *Ecofeminism: Women, Animals, Nature*, describes the book as an attempt to build "a theoretical bridge for women working in the related movements of environmentalism, animal liberation, and feminism" (p. vii). These are all valuable contributions to discussions of interspecies power relations and justice, bringing the specific sensibilities and insights feminism provides.

2.3. Colonial Developmentalism through Milk and Dairy

More recently, the debates concerning animal use for human food consumption have extended to the examination of milk and dairying, which is also the focus of this thesis. Feminist scholars are again active and pioneering in this research field. In her article *Toward a Feminist Postcolonial Milk Studies*, Gaard (2013) explains why feminism is well-positioned to study milk: "milk is produced by female mammals," "feminism has been a movement for justice" and "feminist methodology puts the lives of the oppressed at the center of the research question" (p. 595). She notes that most of the critical research on milk comes from food studies, vegan feminist and ecofeminist scholars, and feminist environmental scientists, and she calls for a new framework to bring these strands together.

Gaard (2013) highlights multidimensional aspects of milk production and consumption. She points to issues such as the replacement of indigenous cattle—and the loss of traditional practices and knowledge—with high-yield European breeds in India; how European colonialism turned populations who could not digest milk into dairy consumers; the rise of urbanization and artificial infant feeding; the use of bovine growth hormones in U.S. dairies to enable the "pervasive availability of cows' milk"; the association of animal product consumption with social status; and the displacement of

small farmers due to the concentration of the dairy industry (p. 597). To address these complex and interconnected dynamics, she proposes bringing together food studies, animal studies, postcolonial studies, and feminist theory to form "a new intersectional field of feminist postcolonial milk studies" (p. 599). Notably, she describes milking as "extracting milk" from animals—a term that also captures the extractive nature of industrial dairying (p. 613).

Mathilde Cohen (2017) builds on Gaard's work by exploring the colonial history of milk consumption. She points out that humans are the only mammals that consume milk beyond infancy and from other species, and she examines the political and historical context of this practice. Using the term *animal colonialism*, she describes a dual process "consisting, on the one hand, in using animals to colonize lands, native animals, and people and, on the other hand, in imposing foreign legal norms and practices of human-animal relations upon communities and their environments" that eventually disrupts "the lives of native peoples, animals, and their environments" (p. 268). Cohen describes how, across large regions, European colonizers altered local diets, brought their high-yield cattle, and drove native breeds close to extinction in the name of modernity and progress, having a further imperialist agenda for which they used the animals as tools of domination. These dynamics, she explains, continue in the postcolonial era "under the guise of international law and commerce" and have transformed countries such as India and China—places with either subsistence-based or no historical dairying—into the world's largest milk producers (see White Revolution in India) (p. 269).

Palagummi Sainath (1996), an Indian journalist, tells what happened in some of the poorest villages in India during the White Revolution in his book *Everybody Loves a Good Drought*. In 1978, the government started a development project to reduce poverty in Orissa (an eastern Indian state now called Odisha). The officers gave people Jersey cows—a cattle breed selectively bred for higher milk yield—to be artificially impregnated with Jersey semen, so that with this new higher breed, their milk yield would significantly increase. Fearing that local cattle might mate with the Jersey cows and make the race impure, the authorities ordered the castration of local Khariar bulls, driving them to extinction in the region. Local flora was also cleared to make space for monoculture fodder trees, chosen for their supposed compatibility with the new breed. Many villagers enthusiastically joined the initiative, abandoning their traditional communal breeding practices in favor of this individualized, market-oriented model. But within a few years, the project began to unravel. Jersey calves started dying in large numbers, the foreign trees didn't grow again, and without local bulls, breeding became impossible. Villagers, once milk producers, started to buy milk from markets. Some left their villages altogether in search of work.

This case is a concrete example of colonial developmentalism and what Cohen (2017) describes as animal colonialism. Although it was framed as a development project, it ultimately harmed rural lives and livelihoods, ecosystems, and animals. Paul Robbins (2012) revisits this case from a political ecology perspective and asks questions that are highly relevant to the concerns of this thesis as well:

> Why did the development authorities make the decisions they did? Why were local practices dismissed? Who sponsored foreign high-yielding animals, ones that required high levels of purchased inputs? Who benefited from this program in terms of animal and semen sales, international consultancy fees, and administrative salaries? How does the state's relationship with non-state actors and global markets direct the choices made? Does this represent a larger development trend in the articulation of local production systems with globally distributed and marketed trees and animals? How did independent landowners become landless workers? Who claimed their abandoned farms? These questions, hallmarks of political ecology, remain. (Robbins, 2012, p. 51)

Development projects are often used to impose Western models of progress onto diverse local contexts—especially in the so-called "underdeveloped" Global South. These interventions are typically justified by labelling non-Western societies as backward, lacking, and in need of guidance (Said, 1978). Framed as supportive efforts to lift these societies out of poverty, development becomes a tool for reproducing and sustaining the very colonial power relations that created those conditions in the first place (Escobar, 1995). As Jacinta Kerketta, an Indigenous poet, journalist, and activist from Jharkhand, India, powerfully states: "You can't develop someone if you consider yourself superior to them, that only leads to oppression"*(*Roy & Hanaček, 2023, p. 309*).*

Political ecology scholars Srinivasan and Kasturirangan (2016) have further pointed out that the logic of developmentalism is deeply connected with anthropocentrism. They describe developmentalism as the idea that human well-being can be pursued at the expense of nonhuman life, that it relies on the systematic exploitation of nonhuman nature for human services. Similar to earlier critiques by scholars like Friedmann, they argue that this logic not only reinforces extractive relations with the nonhuman world but also reproduces exploitative dynamics within human societies—ultimately harming both human and nonhuman life. They caution that unless political ecology explicitly challenges human exceptionalism, its critique of development risks remaining partial and insufficient.

Rural development projects that aim to intensify milk production offer concrete cases through which the intersecting dynamics discussed above can be examined. These projects often promote the strategy of increasing production and efficiency in dairy farming by "improving" animals, farming practices and marketing methods. It is widely accepted—and publicly presented—as a way to enhance rural welfare. However, in practice, such strategies have generated significant socio-ecological harms, many of which are hidden or ignored by governmental authorities and industry actors (Bojovic & McGregor, 2023). These harms are most intensely experienced in regions where traditional subsistence dairy farming is being rapidly industrialized for commercial purposes. This is why detailed, context-specific case studies—especially from underrepresented geographies—are essential for exposing the uneven and unjust outcomes of these transitions.

2.4. Political Ecology Work in Dairy Transformations: Suggestions from the Literature

Several scholars have conducted important site-specific research—mainly in major dairy-producing regions of the Global North countries such as the United States, New Zealand, and the Netherlands—and showed how dairy intensification affects rural communities, small farmers, the environment, and both animal and human health (Bojovic & McGregor, 2025; Gillespie, 2014; Gupta, 2017; Jay, 2007; Krieg, 2014; Vogel, 2025). Such research in the Global South is scarce. Meanwhile, global dairy trends show that as many Northern markets are reaching saturation or even decline in dairy products, there is significant potential for expansion in Global South countries, where small-scale traditional dairy production is still widely practiced (Bojovic & McGregor, 2023). As such, contributions from critical scholarship on the Global South are likely to highlight different pathways and dynamics of dairy transformation, especially since these changes are unfolding in contexts already shaped by globalized markets and the hegemony of transnational dairy corporations (Ekumankama et al., 2020; García Hernández et al., 2021).

Newly flourishing research in dairy transformation in Global South countries may consider the guidance provided by other scholars. Political ecology scholars have long emphasized that socio-environmental change in one place is closely linked to processes happening elsewhere. They argue that individual case studies should be connected to broader regional, national, and global analyses in order to make sense of the larger patterns and forces at play (Swyngedouw & Heynen, 2003; Walker, 2006). Additionally, it has been highlighted that most studies on dairy remain descriptive accounts of the historical transformation of farms, and more interpretative studies are needed to examine the complex aspects of these changes (Krieg, 2014).

Clay et al. (2020), in their article *Dairy intensification: Drivers, impacts and alternatives*, make more suggestions for future research out of their review of existing studies. They underline the need for policy-oriented research that analyzes the drivers and impacts of dairy intensification. They suggest considering the synergies and trade-offs among the impacts of dairy intensification on environmental sustainability, rural economies and cultures, animal welfare, and human health (Clay et al., 2020). Clay and Yurco (2020) point to the compartmentalization in social science research studying dairy transformations. Instead, they propose drawing from the combination of agrarian political economy, development studies, and critical food studies for more holistic analyses. They also highlight that research should be carried out together with communities and people involved in the dairy system transformations to reimagine future pathways and alternatives (Clay & Yurco, 2020).

Political ecology is described as a promising approach to answer these calls from the scholars, because it can be used to link structural forces such as policies and markets with local realities, and examine how they interact (Clay & Yurco, 2020; Galt, 2013; Moragues-Faus, 2017). Thus, political ecology scholars can enrich food systems scholarship by making use of its "central concepts of justice, power, and care" (Clay & Yurco, 2020, p. 3). It is also highlighted that studies on dairy need to pay proper attention to the well-being of both humans and non-human animals (Bojovic and McGregor 2023; Clay & Yurco, 2020). For this purpose, multispecies perspectives are encouraged to be used within political ecology research both as a theoretical framework (see multispecies justice) and also as a methodology (see multispecies ethnographies) (Collard, 2015; Lowe, 2015).

2.5. Multispecies Justice in Political Ecology of Milk and Dairy

Multispecies studies examine the relationships of human beings with other beings and entities (Kirksey & Helmreich, 2010). Unlike animal studies or human–animal studies, multispecies studies emphasizes diverse entanglements within a dense web of life, where humans are co-constituted with animals, plants, fungi, viruses, rivers, mountains, glaciers, spirits, gods, artificial intelligence, and even the dead (Kirksey & Helmreich, 2010; van Dooren et al., 2016). Rather than only criticizing social constructions and structures that produce separation and domination relationships among these constituents of life, multispecies studies scholars highlight the possibility and presence of other epistemological, ontological, and ethical orientations—ones that center relationality and ongoing co-becoming among species (van Dooren et al., 2016).

A key critique in this field is directed at the conceptual standardization of humans as the liberal humanist subject—often assumed to be a Western, property-owning, right-holder male (Chao &

Celermajer, 2023). Multispecies studies scholars reject this narrow model and highlight the multiplicity of human kinds, experiences, and relations to the world (Ogden et al., 2013; Celermajer et al., 2020b). They challenge the idea of the isolated, fixed individual, and instead emphasize "becoming-with". Becoming-with is a concept that describes life as a dynamic, relational process: "a lively world in which being is always becoming, becoming is always becoming-with" (Haraway, 2008; van Dooren et al., 2016, p. 2).

Multispecies scholarship is inspired by Indigenous cosmologies that recognize the agency, liveliness, and interdependence of a myriad of beings (Celermajer et al., 2020a; van Dooren et al., 2016). In this view, agency and significance are not limited to human individuals but are shared across species, processes, and entities (Celermajer et al., 2020a). Recognizing the agency and significance of such a vast realm of beings also has political implications, especially regarding justice. The destruction of multispecies lifeways, through industrialization and capitalism in our times, requires political responses that extend beyond human-centered justice approaches (Celermajer, 2020b). Multispecies studies have the conceptual tools to answer this need.

This is where the concept of multispecies justice becomes highly relevant. Multispecies justice explores how justice can be imagined and practiced in ways that include animals, plants, ecosystems, and other more-than-human beings (Celermajer et al., 2020b; Chao & Celermajer, 2023). From this perspective, environmental struggles are never only about humans—they are always already multispecies affairs. As Haraway (2018) puts it: "There can be no environmental justice or ecological reworlding without multispecies environmental justice, and that means nurturing and inventing enduring multispecies—human and nonhuman—kindreds" (p. 102).

Multispecies studies and multispecies justice offer promising responses to the calls made by scholars mentioned above, aiming to transform anthropocentric research. Yet, multispecies approaches may create tensions and frictions with political ecology research that require careful attention. Many multispecies scholars highlight the realities of shared suffering, mutual care, and violence that shape life in multispecies worlds (Fry et al., 2022; Haraway, 2008; Kirksey & Helmreich, 2010; van Dooren et al., 2016). Some frame these relationships as "nonhierarchical, relational connections of becoming" (Ogden et al., 2013, p. 10), a view that risks normalizing or neutralizing violence and injustice. Others stress that multispecies relations are "fundamentally power-laden, hierarchical and asymmetrical" (Fry et al., 2022, p. 234)—an approach that may be more suitable for recognizing, analyzing, and challenging the power dynamics that political ecology seeks to address.

Another challenge that a multispecies lens brings is how to navigate competing ethical commitments—such as those between protecting individual animal lives, conserving ecosystems, and supporting marginalized human communities and their lifeways (van Dooren et al., 2016; Fry et al., 2022). On this matter, critical animal studies often take a rigid stance, advocating for the complete liberation of animals from human use. Multispecies scholars, on the other hand, seek to avoid imposing hegemonic ideas on local and Indigenous communities that have long coexisted with animals. Unable to offer easy solutions for these complications, multispecies scholars suggest "staying with the trouble"—an approach that embraces ethical tensions and finds them analytically and politically productive (van Dooren et al., 2016; Fry et al., 2022; Haraway, 2010).

Reflecting on their own ethical discomfort during multispecies fieldwork, Fry et al. (2022) argue that "a situated, politically-engaged and relational ethics, rather than mono-disciplinary approaches or universalist codes, allow for the ethical anxieties experienced when encountering these relations to become analytically productive and ethico-politically formative" (p. 230). This ethical complexity is also central to this thesis which examines the intensification of dairy farming from multiple, and sometimes conflicting, perspectives. Bringing a multispecies lens together with political ecology makes a richer and more complex analysis possible, accepting also the tensions and difficulties this partnership will create. In the end, this research aims to invite its readers to contemplate about a world with better multispecies justice.

3. AGRARIAN CHANGE IN TÜRKİYE

This chapter provides the historical and political-economic ground on which Türkiye's dairy transformation has unfolded. After discussing milk through political ecology and multispecies justice, I now step back and trace the longer trajectory of agrarian change in Türkiye—from the late Ottoman era and the early republic, through the post-1950 developmentalist period, to neoliberal restructuring and the deeper institutional reforms of the 2000s. The aim is to show how Türkiye's agrarian structure has been shaped through successive state-led and externally driven transformations, and how these have produced the conditions under which dairy farming exists today.

Reading this chapter helps make sense of why the pressures and "solutions" that appear in contemporary dairy governance did not emerge suddenly. They are part of a longer restructuring in which different policy eras, international conditionalities, and domestic power relations have repeatedly pushed rural life toward commercialization and capitalist integration, while also producing uneven outcomes and persistent tensions. This historical background is therefore necessary for understanding the specific dairy-focused transformations analyzed in the next chapter, and for interpreting the present situation of small family farms not as an accident, but as something shaped within these contested and shifting agrarian dynamics.

3.1. From the Late Ottoman Era to the Early Republic

In Türkiye, small family farms predominated agricultural production from Roman times through the Ottoman era and into the Republic of Türkiye (Keyder, 1983b). Proper capitalist farming with paid, full-time labor on large estates has been rare both historically and geographically (Keyder, 1983a). In Anatolia, independent small peasantry alongside central authority characterized the social structure during Ottoman times (Keyder, 1983b). Some scholars argue that this social structure resulted as a byproduct of the rivalry between the central state and local powers over the collection of agricultural surplus and taxes (Arıcanlı, 1987). According to this view, the Ottoman state strategically prevented the emergence of large landholdings to protect its authority and sources of revenue. This state policy, indirectly, helped preserve peasant independence by protecting them from becoming cheap wage laborers for landlords (Arıcanlı, 1987).

In the seventeenth century, the Ottoman Empire began to be integrated into the global economy (Pamuk, 1987). By the eighteenth century, the empire had become mainly a supplier of raw materials and a buyer of manufactured goods through a growing integration with the global markets (Keyder,

1983b). This period also marked the gradual commercialization of agriculture, as Ottoman production increasingly oriented toward world market demand (Quataert, 2000). Yet these changes did not rapidly turn Anatolian agriculture into capitalist-style farming. Because most agricultural land was legally state land (*miri*) rather than private property, peasants were not easily dispossessed through land grabbing in the Ottoman system (İnalcık & Quataert, 1994). Instead, the independence of small farmers was eroding gradually, as peasants were exposed to price fluctuations and became increasingly dependent on and vulnerable to market forces (Keyder, 1983b; Pamuk, 1987).

In the nineteenth century, Western colonial powers increased their influence over the Ottoman state and achieved important concessions in some areas (Arıcanlı, 1987). Despite mounting foreign pressure, the state resisted transferring control of agricultural revenues, its most important source of income (Arıcanlı, 1987). During this period, the Ottoman legal framework was gradually reshaped under the impact of European codes (Arıcanlı, 1987). The 1858 Land Code allowed peasants to transfer, sell, mortgage, and inherit their plots (Aytekin, 2009). In this way, land began to circulate more like property, though the state still held ultimate ownership (Aytekin, 2009). This land code, however, didn't allow European settlers to acquire large tracts of land (Arıcanlı, 1987). This was an obstacle for western powers to colonize Anatolia. In addition, the low profitability of production in Anatolia and the high cost of labor made investment unattractive for colonial forces (Kurmuş, 1974). Because land was widely available for family farmers, peasants did not have to sell their labor cheaply (Kurmuş, 1974). These conditions were not favorable for the emergence of a rural proletariat that could work for capitalist landowners (Kurmuş, 1974). As a result of all these factors, Anatolian agriculture could not be directly colonized in the nineteenth century as well (Kurmuş, 1974).

Towards the end of the nineteenth century, the Ottoman government fell heavily into debt to European creditors (Arıcanlı, 1987). This dependency laid the basis for external control over Ottoman finances. In 1881, the Ottoman Public Debt Administration (OPDA), a foreign-controlled institution, was established to secure payment of debts (İnalcık & Quataert, 1994; Arıcanlı, 1987). The OPDA functioned as a semi-colonial apparatus and exerted influence over the Ottoman economy. It also sought to directly influence agricultural production in Anatolia "through the introduction of improved methods, seeds, education, and even new crops" (Arıcanlı, 1987, p. 35; du Velay, 1978; Issawi, 1980). These interventions contributed to the gradual transformation of traditional farming, yet the commercialization of agriculture remained limited in Türkiye until the twentieth century (Pamuk, 1987; Quataert, 2000).

With the beginning of the twentieth century, the Young Turks—a reformist nationalist movement—came to power. They argued that it was necessary to create a Turkish/Muslim bourgeoisie to strengthen the state, following the European model (Arıcanlı, 1987). To catch up with European industrialized nations, the Ottoman state expanded its efforts to promote commerce and industry (Pamuk, 1987). This idealization of Europe and the need to catch up with the West have played a major role in shaping Türkiye's approaches to modernity and progress, to the extent that they can be seen as a form of mental colonization. This orientation produced a developmental mindset that continued long after the end of the Empire and still echoes in contemporary policy visions.

After the collapse of the Ottoman Empire following World War I and the War of Independence, the Republic of Türkiye was proclaimed in 1923. In its early years, the republic largely preserved the land regime inherited from the Ottoman Empire. Under this system, most agricultural land was technically owned by the state (*miri* land), while peasants held long-term usufruct rights. This structure distinguished Anatolia from Western European contexts, where capitalist private ownership of land had long been institutionalized and used for the enclosure of commons. The 1920s, however, marked what Keyder describes as a period of "exceptional openness of the Turkish economy" (Keyder, 1981, p. 3), during which Western powers deepened their dominating influence over the country. This openness was used to position Türkiye as a peripheral economy of exploitation within the context of European capitalism (Keyder, 1981). One of the key mechanisms of this integration was the transformation of agriculture from subsistence farming toward commodity production, in which small farmers remained the primary producers but became increasingly exposed to market dynamics as farming became increasingly commercialized (Keyder, 1981).

A turning point in the property regime came with the Turkish Civil Code of 1926, adapted from the Swiss Code. This law, along with subsequent land-registry reforms, turned large portions of state-owned land into private property (Demir & Çoruhlu, 2009). These legal steps prepared the ground for later land reform debates, which focused on how land would be distributed and controlled. A land reform to allocate state land to landless or land-poor peasants entered the agenda in the mid-1930s (Karaömerlioğlu, 2000; Zürcher, 2004).

The land reform proposal triggered intense debate in the Assembly. The idea received strong resistance from large landowners among the ruling elite of the single-party regime (governed by the Republican People's Party - CHP). The issue remained unresolved throughout the 1930s. During this period, the Great Depression and later World War II harmed agriculture in Türkiye (Karaömerlioğlu, 2000). After the war, major transformations in Türkiye's agriculture started (Keyder, 1983b). Despite the opposition from big landowner deputies such as Adnan Menderes, the Law for Providing Land to

Farmers (LPLF) was passed in 1945 (Karaömerlioğlu, 2000). The following year, this opposition led to the founding of the Democrat Party (DP) by former CHP members who were aligned with the interests of large landowners. As part of the land reform implementation process, villages were surveyed and landless peasants were allocated land. The land they received was formally registered as "property," and by the 1950s, this notion had become widespread among rural populations (Arıcanlı, 1987).

The motivations behind the land reform remain debated, as it was a top-down initiative that did not emerge from people's demands. Peasants themselves were not organized to push for such interests (Karaömerlioğlu, 2000). Some scholars interpret the reform as a strategy to curb the power of local notables and to prevent the formation of very large private estates (Arıcanlı, 1987). Others argue that leaders such as İsmet İnönü—and earlier, Mustafa Kemal Atatürk—wanted to support rather than harm big landowners, whom they regarded as "efficient and rational" producers (Karaömerlioğlu, 2000, p. 119). Some scholars also read the reform as a populist move to secure peasant support in elections. At the time, peasants made up about 80% of the population, their support mattered politically (Karaömerlioğlu, 2000). In this context, land reform could help the ruling Republican People's Party (CHP) turn peasants against the opposition, seen as the party of large landowners, including future prime minister Adnan Menderes (Karaömerlioğlu, 2000).

In the end, the outcome contradicted these expectations. The reform remained limited in scope, focusing on the distribution of state-owned or marginal lands to landless and small-scale peasants. It did not include the redistribution of large estates held by powerful landlords (Aydın, 2010). Moreover, it failed to strengthen the CHP's political position. In contrast, the Democrat Party (DP) gained the support of large landowners, tradesmen, and the conservative rural population. In 1950, the single-party rule of the CHP came to an end when the DP won the general elections and came to power.

3.2. The Post-1950 Developmentalist Period

The 1950s marked a new phase in Türkiye's integration into the global capitalist order. Its national bourgeoisie was rising to political power under Democrat Party rule. Internationally, Türkiye joined GATT (General Agreement on Tariffs and Trade) -later replaced by WTO (the World Trade Organization)- in 1951 (World Trade Organization, n.d.). The country became a NATO member in 1952 and aligned itself more closely with the Western bloc. This decade is also considered a turning point in Türkiye's agrarian transformation. Research on rural change identifies the years 1945–1955 as a "decade of transition" (Stirling, 1993, p.182). During this period, both the socio-economic

structure of the countryside and agricultural production methods underwent significant change. The legal foundations for private ownership of land had already been laid by the 1926 Civil Code and the 1945 land law, but it was in this period that private titles became more common among rural producers, changing peasants' relations to land (Arıcanlı, 1987).

In terms of national agricultural policy, the period from 1950 to 1980 is usually described as state-led developmentalism (Aydın, 2010; Öztürk et al., 2021). Policy objectives centred on import substitution, self-sufficiency in domestic production and consumption, and the protection of the national economy from international competition (Aydın, 2010; Öztürk et al., 2021). State involvement in agriculture included the provision of credits, subsidies for inputs, support prices and guaranteed purchase of major crops (Aydın, 2010). Commodity boards managed procurement of agricultural production in line with established minimum prices, organized their storage and distribution (Keyder & Yenal, 2011). Although Türkiye followed a protectionist model similar to many other countries at the time, external influences played an important role in shaping national agricultural dynamics (Keyder & Yenal, 2011).

After the Second World War, US hegemony became a central force shaping development trajectories in Europe and the so-called peripheral countries. Financial aids from the US government were pushing peripheral countries towards capitalist development. In Türkiye, Marshall Plan aid was a key mechanism of this process (Aydın, 2009; Keyder, 1983b; Öztürk et al., 2021). Between 1948 and 1952, Türkiye received a total of 184.5 million US dollars under the Marshall Plan, of which about 38.3 million dollars was directed specifically to agriculture (Öztürk et al., 2021). These funds financed mechanization, infrastructure, training and technical assistance in the agricultural sector through state institutions (Öztürk et al., 2021). Tractors, chemical fertilizers and pesticides were introduced and spread in this period (Özer, 2014). These changes were followed by increases in agricultural production (Özer, 2014). However, catalyzing the commercialization of agriculture, they also accelerated the differentiation within peasants and set the stage for major social shifts in the countryside.

These externally funded development programs played a key role in shifting agriculture from subsistence farming toward more commercial, capitalist, input-intensive and export-oriented production (Aydın, 2010). They often necessitated partnerships with transnational capital (Aydın, 2010). This triggered the dispossession of peasantry in Türkiye (Ribeiro & Hoşgör, 2025). With the mechanization and commercialization in agriculture, an agricultural surplus labor was created which led to waves of migration to the cities (World Bank, 1974). The share of the urban population rose

from 18.5% in 1950 to 35.9% in 1970 (World Bank, 1974). Since the 1950s, the relative indicators such as rural population share, agricultural employment and agriculture's share in total GDP have all shown a steady decline (Öztürk et al., 2021). These trends point to the gradual dissolution of small farmers and of the traditional peasantry. Despite these changes, Western hegemony in agriculture continued, and the governments of Türkiye maintained their partnership with international donors in rural development programs (Aydın, 2009).

In the 1960s, intensive production methods were supported by state policies to replace extensive methods to continue increasing trends in agricultural production (Aydın, 2010). During the 1960s and 1970s, Green Revolution technologies were actively promoted by policies. These included new high-yield crops, artificial fertilizers, modern infrastructure, irrigation systems, along with subsidized inputs and low-interest agricultural credit (Aydın, 2009; Aydın, 2010; Öztürk et al., 2021). Throughout these years, the World Bank (WB) supported the governments of Türkiye in adapting rural populations to the Green Revolution model (Aydın, 2010). The five-year development plans adopted between 1963 and 1980 reflected this orientation and aimed to modernize agriculture through productivity-increasing technologies (Aydın, 2010). These policies and applications also resulted in further increases in agricultural productions during the 1970s (Öztürk et al., 2021).

These developments were linked to changing expectations from agriculture in the emerging industrial and intensive food regime (Friedmann & McMichael, 1989). In this global context, major companies in advanced capitalist countries became increasingly interested in processing agricultural raw materials into marketable commodities (Friedmann & McMichael, 1989). As a result of the influence of capital over policies, agricultural production was encouraged to move away from domestic use and subsistence, and toward supplying inputs for industrial manufacturing (Friedmann & McMichael, 1989). In this period, both national and international policy directions pushed agriculture toward replacing traditional crops with high-value cash crops and expanding the production of commercial animal feed (Aydın, 2010).

This new food regime required the internationalization of agricultural production and integration of different sectors (Aydın, 2010). Transnational companies played a significant role in this shift. They became the suppliers of agricultural inputs, the processors of agricultural outputs and distributors of manufactured foods (Aydın, 2010). Through this vertical integration of agro-food commodity chains, agro-capital accumulated in the hands of a few, reinforcing the subordination of small producers to the capitalist class (Friedmann & McMichael, 1989). Countries in the process of capitalist development implemented policies favoring the interests of transnational corporations

(Aydın, 2010). Such policies increasingly made peasant farmers reliant on imported inputs and on infrastructure such as large dams (Aydın, 2010). The result was that the gains from agricultural exports frequently failed to cover the expenses on imports, contributing to significant trade deficits (Aydın, 2010).

Türkiye faced severe external debt problems throughout the 1970s, culminating in a balance-of-payments crisis and a partial debt moratorium in 1978. Growing external debt and the oil-price shocks weakened the capacity of the state to resist economic and political conditionalities (Karakaşlı & Kumral, 2023). Meanwhile, in the 1973–80 period, US hegemony shifted from national-developmentalism toward neoliberal globalization (Karakaşlı & Kumral, 2023). International Financial Institutions (IFIs) used the economic and political crises of the late 1970s to push for liberalization agendas. The International Monetary Fund (IMF) and the World Bank have played an active role in reshaping the economies of peripheral countries through structural adjustment processes (Keyder & Yenal, 2013). Caught in a debt trap, Türkiye underwent a transformation by these efforts.

3.3. Liberalization in the 1980s and 1990s

Following the crises of the late 1970s, the 24 January 1980 Decisions introduced a major stabilization and liberalization package under the leadership of Turgut Özal. These measures marked the end of the import-substituting, state-led development model and the beginning of an export-oriented neoliberal strategy (Aydın, 2010; Keyder & Yenal, 2013). The military coup of September 1980 violently crushed political opposition and removed social and union resistance to this new policy direction. Throughout the 1980s, debt-rescheduling agreements and stand-by arrangements with the IMF and the World Bank tied Türkiye more firmly to the emerging "Washington Consensus" agenda. This refers to a set of policy recommendations promoted by the IMF, World Bank and later the WTO to integrate developing countries into a liberal global economy (Öztürk et al., 2021). Under these commitments, Türkiye undertook extensive economic liberalization and began adapting its institutions for fuller participation in global trade (Keyder & Yenal, 2011; Keyder & Yenal, 2013).

Türkiye's neoliberalization process reshaped agricultural policy more slowly and inconsistently than other sectors, but its effects were deep. Powerful actors such as the IMF, World Bank, WTO, the US and the EU played a central role in this restructuring (Aydın, 2009; İslamoğlu, 2017). The IFIs stopped supporting state-interventionist development projects, framing this shift as a move toward "efficiency gains" (Aydın, 2009, p. 228; Aydın, 2010). In the 1980s, Structural Adjustment Programs (SAPs) imposed by the IMF and the World Bank pushed agrarian policy toward liberalization,

deregulation and privatization. The state began to withdraw from price supports, input subsidies and credit mechanisms. Taxes and fees on imported food products were reduced, leading to an increase in food imports (Öztürk et al., 2021). These shifts accelerated peasant dispossession and deepened rural inequalities (Ribeiro & Hoşgör, 2025).

After the mid-1990s, Türkiye moved faster toward internationalization with the growing dominance of transnational capital (Aydın, 2009). In 1994, a severe balance-of-payments and financial crisis led to the 5 April Decisions. This stabilization package had important effects on agricultural support. These measures initiated a gradual reduction of subsidies and a restructuring of the support system in line with IMF and World Bank demands (Aydın, 2009). In 1995, Türkiye became a WTO member automatically when GATT was replaced by the WTO, and accepted the Agreement on Agriculture (AoA). This agreement brought agriculture under global trade rules for the first time. It required countries like Türkiye to reduce tariffs, limit domestic support and phase out export subsidies (Öztürk et al., 2021). Türkiye also signed the IMF's Staff Monitored Programme in 1998, which pushed further institutional changes aimed at deeper integration into international markets (Aydın, 2009).

Türkiye's relationship with the European Union reinforced these dynamics. Türkiye joined the Customs Union in 1996 and was recognized as an official EU candidate in 1999 (European Council, 1999). This process required the alignment of Türkiye's agricultural policy with the EU's Common Agricultural Policy (CAP). However, there were significant structural differences between Türkiye and that of EU member states. According to the 2001 General Agricultural Census, Türkiye had around 3.1 million agricultural holdings with an average size of roughly 6 hectares (FAO, 2001). Most farms were small and fragmented. Eurostat data show that the average agricultural area per holding in the EU-15 was about 18.7 hectares in the 1999/2000 period (Eurostat, 2003). Türkiye's integration into the EU system had an uneven nature. Türkiye was expected to be ready for free trade and reach similar "efficiency" levels, even though its agrarian structure was dominated by small family farms rather than the more consolidated holdings seen in many EU states (Aydın, 2010).

The 1990s also saw the rise of privatization of state-owned enterprises (SOEs). Türkiye's Seventh Five-Year Development Plan (1996–2000) defined privatization as a central component of economic restructuring (DPT, 1996). The plan presented privatization as necessary for efficiency, competitiveness and reducing fiscal burdens, in line with IMF, World Bank and WTO commitments (DPT, 1996; World Bank, 1994). It called for the privatization of SOEs, the removal of state-guaranteed purchase prices, the reduction of input subsidies and the restructuring of agricultural sales

cooperatives (Aydın, 2010; DPT, 1996). In the following years, many agricultural SOEs were privatized—such as the Milk Industry Institution of Türkiye (*Türkiye Süt Endüstrisi Kurumu*, TSEK), Meat and Fish Corporation (*Et Balık Kurumu*, EBK), Feed Industry Corporation (*Yem Sanayi*, YEMSAN), Forest Products Industry Corporation (*Orman Ürünleri Sanayi*, ORÜS), Türkiye Agricultural Supply Organization (*Türkiye Zirai Donatım Kurumu*, TZDK) and Türkiye Fertilizer Industry Corporation (*Türkiye Gübre Sanayi*, TÜGSAŞ) (Aysu, 2002; ESK, n.d.; Gönenç & Rehber, 2007; Öztürk et al., 2021). Agricultural Sales Cooperatives Unions (*Tarım Satış Kooperatifleri Birlikleri*, TSKB) were not fully privatized but were restructured and withdrawn from direct state support.

These privatizations had serious consequences for rural communities. For decades, these institutions had acted as buffers that mediated farmers' relations with markets by collecting, processing and selling their production (Aydın, 2009; Öztürk et al., 2021). Their withdrawal opened new space for private actors, and national and transnational capital expanded rapidly (Öztürk et al., 2021). Until the 1980s, the retail sector was dominated by small independent shops. During the 1990s, supermarket chains and large food companies grew quickly (Keyder & Yenal, 2013). By the mid-1990s, supermarkets controlled nearly 30% of the urban retail market (ZET Nielsen, 1995, as cited in Keyder & Yenal, 2013). This "supermarketization" increased the bargaining power of retailers. Food processing firms entered retail to protect their position, and vertical integration intensified. These changes strengthened capital concentration in food supply chains and further marginalized small-scale local actors (Adaman & Akkoç, 2023; Keyder & Yenal, 2013).

This neoliberal reconstruction was not politically easy for national governments. Coalition governments of the 1990s faced a tension between the large electoral weight of rural populations and the external pressures of the IFIs (Aydın, 2009). Throughout the 1980s and 1990s, governments continued to intervene in agricultural affairs by adjusting prices or reintroducing subsidies—despite IMF and World Bank objections (Aydın, 2010). Yet the country's "debt dependence" reduced its capacity to resist external pressures (Aydın, 2009, p. 226). As a result, policy choices favored the expansion of competitive global food markets and strengthened national and transnational food corporations at the expense of smallholders and domestic food security (Aydın, 2009; Aydın, 2010; McMichael & Myhre, 1991).

The shocks experienced by rural producers during these decades did not lead to broad or sustained political mobilization. The revolutionary left had been violently crushed after the 1980 coup, and collective action was heavily restricted in the following decade (Karakaşlı & Kumral,

2023). Civil society organizations such as farmers' cooperatives and associations also remained too weak to influence agricultural policymaking (Aydın, 2010).

3.4. Agricultural Transformation in the 2000s and Beyond

Neoliberal restructuring in agriculture became more institutionalized and deeper after 1999. That year, Türkiye signed a stand-by agreement with the IMF for macroeconomic stabilization. This agreement laid the basis for the agricultural reforms of 2000–2001. From December 1999 onwards, Türkiye submitted four letters of intent to the IMF, outlining its commitments. These letters also listed the agricultural policy changes the government planned to implement (Aydın, 2010). In 1999, Türkiye also launched the Agricultural Reform Project (*Tarım Reformu Projesi*) as part of its efforts to align with the EU's CAP (Öztürk et al., 2021). In 2000, Türkiye signed the Economic Reform Loan (ERL) agreement with the World Bank, which financed the reforms promised in the 1999 agreement. Türkiye confirmed its commitment to structural change in agriculture in its 2001 letter of intent to the IMF (IMF, 2001). After the 2000–01 financial crisis, these steps were consolidated under the 2001 Economic Reform Program (ERP), supported by significant World Bank funding (Aydın, 2010).

In agriculture, the Agricultural Reform Implementation Project (ARIP) was launched in 2001 as part of the ERP (Karapınar et al., 2010). The World Bank monitored ARIP with substantial financial support (Aydın, 2009). The World Bank group identified the single most critical issue in Türkiye's agricultural sector as "the inefficient and costly system of agricultural support policies" (World Bank, 2001, p. 7). ARIP's logic and purpose were explained as follows:

> "In light of the economic crisis that began in February 2001, reaching the objective of sustained growth and reduced economic vulnerability requires Türkiye to undertake accelerated structural reform, while working quickly to recover from the crisis and mitigate its worst effects. Thus, the Bank Group's strategy now is to focus on helping Turkey recover from the crisis while dealing with the deeper causes of the crisis - especially its large and inefficient public sector and fragile banking system - and address increasing social hardships. The Turkish Government requests intensive financial and technical help from the Bank Group and an acceleration of IBRD's assistance focussed on the structural and social issues.. Most relevant for the ARIP, accelerating the structural reform program to achieve growth is more urgent than before. Finishing the half completed agricultural reform is vital not only to attain promised productivity improvements but also to aid farmers who may be negatively affected in the short run by

> the reforms: the old distortions and subsidies have been tackled and are being phased out, but the direct income supports, help for farmers to change to more profitable crops, and assistance for transforming the cooperatives into viable and effective units have barely begun." (World Bank, 2001, p. 5)

The passage positions Türkiye as a country in need of urgent "help" and presents accelerated structural reforms for "growth" and a shift toward more "profitable crops" as necessary steps to overcome the crisis—even though these measures were expected to harm farmers in "the short run". This reveals how the Bank's intervention promoted a deeper marketization of agriculture by redefining the priorities of agricultural policy through crisis discourse.

With ARIP, Türkiye committed to radical changes in agricultural policy consistent with the global neoliberal project (Öztürk et al., 2021). ARIP aimed to abolish most price and input subsidies, eliminate subsidized agricultural credit, privatize remaining state agricultural enterprises and restructure agricultural sales cooperatives (İslamoğlu, 2017; Keyder & Yenal, 2011; Öztürk et al., 2015). These instruments were replaced by a system of direct income support payments to shift "towards a more market-oriented agricultural policy" and "increase the efficiency of the economy" (OECD, 2011, p. 11). However, the implementation of ARIP was partial. The state did not withdraw completely, instead, it repositioned itself as a complementary actor to market mechanisms (Keyder & Yenal, 2011). Even so, ARIP accelerated the privatization of institutions such as TZDK, Çay-Kur, TEKEL and the sugar factories, and it reshaped the cooperatives law (Aydın, 2009).

The justification for these reforms was that agricultural supports were said to be "irrational and burdensome" for the budget and that they "only benefited rich farmers" (Hazine Müsteşarlığı, 2000, p. 162). Yet empirical research does not support this claim. Agriculture's share in total GDP spent on support was small—about 0.8% in 1999–2000—and large landowners made up only a small fraction of those receiving support (Oyan 1997, 1999, 2003). Moreover, information presented in a booklet prepared by the Ministry of Agriculture and Rural Affairs shows that direct income payments disproportionately went to large landholders: 17% of farmers with more than 100 hectares of land got 51% of all payments (Oyan, 2013, p. 123). Scholars argue that these reforms weakened rural communities, undermined agricultural institutions, and harmed millions of small farmers. They also facilitated the entry of transnational agribusiness, encouraged corporate forms of organization, and deepened market

dependencies (Aydın, 2009; İslamoğlu, 2017; Keyder & Yenal, 2011; Öztürk et al., 2015). Indeed, during the ARIP years (2001–2008), agriculture's share in total employment fell sharply—from 37.6% to 23.2% (İslamoğlu, 2017).

In 2002, AKP (*Adalet ve Kalkınma Partisi*, Justice and Development Party) came to power in the aftermath of the 2001 debt crisis and began its long-lasting rule. Türkiye's EU accession negotiations formally began in 2005. This pushed the government to reform agricultural policies in line with the CAP. CAP promoted an entrepreneurial model of farming (İslamoğlu, 2017). Farmers were expected to operate at larger scales and to work with transnational agribusiness firms through contract farming within vertically integrated food chains. In this system, farmers' survival depended on "their ability to manage assets, their productivity or ability for efficient production (to minimize costs) and adaptability to changing market conditions" (İslamoğlu, 2017, p. 7). As a result, this vision implicitly assumed the elimination of large numbers of small farmers especially in countries like Türkiye where the agrarian structure was not compatible with this model and therefore required radical transformation (İslamoğlu, 2017). The Agricultural Law (No. 5488) of 2006 reflected these priorities of CAP.

Contractual relations in agriculture existed earlier, but they were between farmers and state institutions such as cooperatives or factories (İslamoğlu, 2017). In the 2000s, these relations shifted toward the private actors in the competitive global agriculture markets. According to Aydın (2010, p. 156), farmers had to be "impoverished" and "helpless" to be persuaded into contracts with international capital. Laws such as the 2001 Tobacco Law, the 2001 Sugar Law, the 2006 Agricultural Law and the 2006 Seeds Law pushed farmers toward contract farming by restructuring markets in favor of agribusiness (Aydın, 2010). Regulations introduced in 2008 and strengthened in 2014 further reinforced this system and contributed to farmers' proletarianization (İslamoğlu, 2017).

Under such contracts, farmers no longer fully controlled what or how much they grew, or which seeds and inputs they used; production followed company specifications (Aydın, 2009; İslamoğlu, 2017). Agribusiness firms provided "information, credits, seeds, and other inputs" for farmers (Aydın, 2009, p. 234). In these agreements, pricing and payment terms were often left vague (Keyder & Yenal, 2011). Buyers generally preferred large farms, although small farmers also entered into contracts. These asymmetries placed significant power in the hands of contractor firms. Contract farming was imposed by powerful institutions and policy frameworks, however, these dynamics stand in clear tension with ideas associated with food

sovereignty. Food sovereignty emphasizes farmers' control over production decisions and people's right to define their own food systems and sustain autonomous livelihoods (Rosset, Patel & Courville, 2006).

Despite the risks it posed, the contract farming model continued to expand. Many farmers adopted it because it guaranteed—at least in principle—that their products would be purchased (Keyder & Yenal, 2011). Yet, buyers still retained the right to reject products on quality or marketability grounds. Promoted as a means to increase efficiency, raise production and improve incomes, the model ultimately undermines food security and food sovereignty by transforming resilient traditional food systems into commercial structures oriented toward supplying industrial value chains. As agrarian scholars note, it contributes to de-peasantization and deepening inequalities (Aydın, 2010; İslamoğlu, 2017). Indeed, between 2001 and 2006, two million families left agriculture, and the number of people working in the sector fell from 8.08 million to 6.08 million (TZOB, 2007).

The mid-2000s also marked a shift in agricultural policy toward stronger central-state control (İslamoğlu, 2017). The Ministry of Food, Agriculture and Livestock introduced a national production map in 2009 and channelled substantial grants to selected sectors, especially animal farming. In the same years, the EU programme IPARD (Instrument for Pre-Accession Assistance for Rural Development) began to operate in Türkiye, supporting investments in line with the CAP and strengthening the state's role in directing production patterns. During this period, the Land Law (5403/2005) and its 2014 amendment (Law No. 6537) aimed to curb land fragmentation by defining minimum parcel sizes, regulating inheritance-based divisions, and encouraging land consolidation. However, structural inequalities persisted. Producers cultivating more than 100 decares had better access to credit, cooperatives and state support, while those with less than 100 decares—56% of all producers—remained the most disadvantaged and vulnerable to elimination (İslamoğlu, 2017).

AKP's neoliberalism diverged from the classical model that emphasizes minimal state intervention. Scholars describe Türkiye's trajectory as "neoliberal developmentalism" (Adaman et al., 2019) and "authoritarian neoliberalism" (Tansel, 2020). The state has intervened extensively—not to protect smallholders, but to facilitate capital accumulation through large-scale urban and rural restructuring. AKP's programme focused on rapid economic growth. In its first decade of rule (2002–2013) the privatization of public assets accelerated to an unprecedented level, as they "began to privatize everything privatizable"

(Karakaşlı & Kumral, 2023, p. 28). Total privatization revenue between 1986–2003 had been 8.24 billion USD, but between 2004–2013 it reached 35.3 billion USD, with a peak of 12.5 billion USD in 2013 (ÖİB, 2017). Alongside these neoliberal steps, the government also chose not to fully follow IFI instructions and instead expanded social assistance programmes, adopting a hybrid model of neoliberal governance (Karakaşlı & Kumral, 2023; Tansel, 2020).

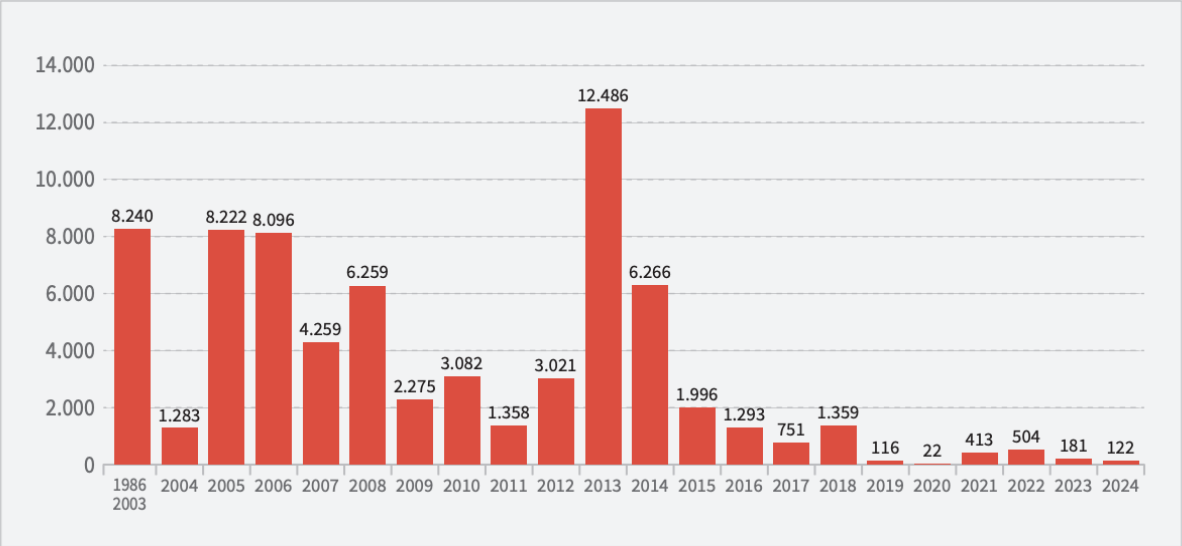


Figure 3.1. Privatization revenues in Türkiye by year (million USD). Source: Privatization Administration of the Republic of Türkiye (ÖİB), 2024.

AKP's development strategy, which was narrowly focused on GDP growth, helped construct the narrative of Türkiye as a "rising power" between 2007/08 and 2016 (Tansel, 2020). This discourse became hegemonic and obscured the social and environmental costs of growth, such as deepening inequalities, environmental destruction, labor precarity and rural dispossession. AKP generated its own bourgeoisie through massive construction-led investments such as bridges, highways, airports, housing projects and shopping malls. These mega projects were often given to construction firms with close ties to Erdoğan and they were backed by state-guaranteed payments. Environmental regulations were loosened for these "creative destruction" projects, and resistance against them was frequently repressed (Karakaşlı & Kumral, 2023, p. 32).

In AKP's second decade (2013–present), privatization slowed as fewer public assets remained to be privatized (Figure 3.1.). The Turkish lira began to melt: the exchange rate, which was 1.9 TL per USD in 2013, rose to 4.8 in 2018 and exceeded 40 TL per USD by 2025. The 2018 currency and debt crisis sharply increased inflation and weakened households' ability to afford basic goods. In response, the government relied increasingly on cheap food imports

to manage popular discontent. This made it harder for small farmers to survive and deepened their dependence on debt, loans and credit (Karakaşlı & Kumral, 2022). Indebtedness is now one of the most severe structural pressures on rural producers.

As the destructive consequences of AKP's neoliberalism became more visible in its second decade of rule, from 2013 to the present, the government became increasingly authoritarian to maintain its agenda, often using brute force against resistance and opposition. Rural producers became increasingly discontent with a regime that was eroding their livelihoods. During harvest seasons, when their products had no market value, many farmers left them in the fields or discarded them as a form of protest. We have witnessed elderly peasant women being beaten by police or gendarmerie while trying to protect their fields, forests and orchards. Yet these protests did not evolve into a unified stronger collective struggle, as the peasantry in Türkiye has historically been weak in terms of organization and political mobilization (Ribeiro & Hoşgör, 2025). The current political climate further constrains mobilization. After the Gezi Protests in 2013 and the 2016 coup attempt, the government intensified repression, frequently labelling local environmental or agrarian protests as acts of terrorism or attempts to overthrow the state (Karakaşlı & Kumral, 2023).

With the 2017 referendum, Türkiye shifted from a parliamentary system to a presidential one. The AKP formed an alliance with the MHP, the ultranationalist party that had been in opposition to the AKP since 2002. With this blend of racism, radical Islamist conservatism and neoliberal authoritarianism, the country has been experiencing severe challenges in terms of democracy, social and environmental justice. The government's tendency to treat every component of life as a source of economic value reinforces neoliberal hegemony across society.

Neoliberalism, as a hegemonic ideology, penetrates social life by transforming everyday relations into objects of economic calculation—an "economization" and, consequently, a "de-politicization" of the social (Madra & Adaman, 2013, p. 692). This invasion of neoliberal ideology and commodification in rural life pushes peasants to think in terms of cost–benefit analyses and to use every possible means to maximize profit and minimize costs (Keyder & Yenal, 2013). However, this mentality contradicts the peasant way of life, which historically relied on non-commodity circuits, communal relations and moral economies (Öztürk et al., 2015).

These shifts raise a broader question about the long-term fate of the peasantry under neoliberal restructuring. The internalization of neoliberal rationality by peasants represents a deeper and more lasting transformation than its material effects. Indeed, Hobsbawm identified the death of the peasantry as the "most dramatic and far-reaching social change" of the late twentieth century (Hobsbawm, 1995, p. 289). But he also noted that "only one peasant stronghold remained in or around the neighborhood of Europe and the Middle East – Turkey, where the peasantry declined, but, in the mid-1980s, still remained an absolute majority" (Hobsbawm, 1995, p. 291). Today, the persistence of millions of small family farms in rural Türkiye shows that his observation is still relevant. Despite decades of neoliberal restructuring, deepening depeasantization and environmental plunder, smallholder farming still plays a central role in shaping Türkiye's agrarian landscape.

4. TRANSFORMATION OF DAIRY FARMING IN TÜRKİYE

This chapter moves from the broad agrarian trajectory outlined in Chapter 3 to the specific sector through which this thesis thinks with those transformations: dairy. While agrarian change describes the long-term restructuring of rural life in Türkiye, dairy farming offers a particularly clear window into how these shifts become concrete—through the remaking of production practices, market channels, institutions, and everyday relations around animals. Here I trace how dairy farming, historically dominated by small family producers and informal circuits, has been steadily targeted as a "problem" to be modernized, formalized, and scaled up.

The chapter therefore follows the key policy and market interventions that have reorganized dairy production over time: early state-led industrialization and attempts to build a national milk market; neoliberal liberalization and privatizations that expanded corporate power in processing, feed, and retail; and the post-2000 period in which EU harmonization, rural development funds, and "efficiency" and "economies of scale" framings accelerated intensification. This background is necessary for the later analysis of contemporary governance discourses, because it shows how today's push for productivity, standardization, and competitiveness has been built through specific institutions and incentives—and how it has uneven consequences, sharpening rural precarity while also reshaping the bodies and lives of dairy animals.

4.1. Early Structure and State-led Modernization

The structure of dairy farming in Türkiye is historically mainly composed of small family farmers keeping a few animals and using milk largely outside formal market channels, such as consuming it on their farms, exchanging between neighbors, and selling it locally (Gönenç & Tanrıvermiş, 2008). Local animal breeds and traditional farming practices evolved and developed over very long periods of time and were adapted to regional climates and geographies. Yet, despite their resilience, these practices and breeds were increasingly labelled primitive, inefficient, and unproductive. National and international policy and industry actors have targeted this smallholder structure as something that has to be replaced or modernized.

From the late 1940s and 1950s, post-war development policies began to change the traditional ways of dairy production. Expansion of arable land and mechanization were actively promoted, often at the expense of pastures and meadows where animals grazed (Akbay & Boz, 2005; Arıcanlı, 1987).

Although dairy production had long been organized through family farming, the early Republican period introduced the first attempts at modern, industrial dairying. The first pasteurized milk production in Türkiye began in 1927 at Atatürk Forest Farm (Tarım ve Orman Bakanlığı Tarımsal Araştırmalar ve Politikalar Genel Müdürlüğü [TAGEM], n.d.). It was followed by the establishment of milk-powder factories in Kars and Bursa in the 1930s (TAGEM, n.d.). In 1945, the Kars Milk Factory was opened under the State Agricultural Enterprises Institution. In 1957, with UNICEF funds, the first modern milk factory was opened at Atatürk Forest Farm.

The state worked with FAO and UNICEF experts to plan the development of the dairy sector (Gönenç & Rehber, 2007). Despite state encouragement, private investment in the dairy industry was found insufficient. In 1963, the government stepped in and established the Milk Industry Institution of Türkiye (TSEK) as a SOE (State Planning Organization, 1963). This marked the beginning of rapid industrialization in milk processing (TAGEM, n.d.). The TSEK's main goals were to stabilize producer and consumer prices and keep them at moderate levels; to encourage and guide private processors; to purchase raw milk from producers and process milk into dairy products in its plants (Hatirli et al., 2006). In the following decades, the TSEK played a key role in creating a national dairy market. By the mid-1990s, it operated 34 plants and processed around one quarter of marketed cow's milk in Türkiye (Gönenç & Rehber, 2007). Through the TSEK, the state implemented dairy policy tools such as premiums paid to farmers according to milk quality and incentives for cooperativization among farmers (Yavuz, 2000). Though sometimes criticized, the TSEK and other SOEs were important public institutions that functioned as regulatory tools in the sector.

In Türkiye, milk was mostly consumed outside of the registered economy. Even as the state expanded dairy infrastructure through the TSEK, direct on-farm consumption and informal sales remained widespread (Duman, 2003). These practices were increasingly framed as a problem to be eliminated. Governments, NGOs, international organizations and industry bodies launched campaigns such as school milk programmes to promote the consumption of processed milk from formal markets (Gönenç & Tanrıvermiş, 2008). UNICEF supported free school milk in the late 1950s and early 1960s, followed by joint initiatives of the Ministry of National Education and the TSEK in the 1980s, and another programme was run in the early 2000s with SETBİR's involvement (Tan, 2003). A more direct instrument was the milk premium policy introduced in 1987. Premiums were paid to the farmers per kilogram of raw milk they delivered to large-capacity processing plants (Gönenç & Rehber, 2007). The push to draw milk into industrial commodity chains has remained a core feature of the state's dairy policy.

In the same year, 1987, the government also initiated imports of breeding (*damızlık*) dairy cattle. The ministry explained the rationale as follows: "to improve the country's cattle sector, to increase the share of high-yield culture breeds within the existing cattle population, to raise meat and milk yield per animal, to reduce input, production and marketing costs in order to increase profitability, and to ensure the continuity of dairy cattle enterprises" (TAGEM, n.d., p. 75, author's translation; see Appendix A.1 for the original Turkish). Between 1987 and 1998, Türkiye imported a total of 149,109 pregnant heifers. Of these imports, 78.8% were Holstein Friesian, 11.8% Simmental and 9.4% Brown Swiss, mainly from the United States, Germany and Italy (TAGEM, n.d.). Artificial insemination was also made part of this modernization agenda. Artificial insemination began to receive state support in 1987 because it was considered essential for "transforming local cattle breeds into high-yield breeds through crossbreeding" (TAGEM, n.d., p. 75, author's translation, see Appendix A.2 for the original Turkish).

4.2. Liberalization, Privatizations and Growing Corporate Power

Alongside the state-led efforts toward modernization, industrialization and commercialization of dairying, dairy farming was also affected by the neoliberal restructuring of the 1980s. In 1984, the TSEK's monopoly on milk powder imports was abolished, opening the way for private actors in the import sector (Yavuz, 2000). This was followed by the wave of privatizations: the TSEK's enterprises were privatized in 1995, and during the same period the state feed company YEMSAN was also transferred to the private sector (Gönenç & Rehber, 2007). Feed constitutes a major cost in intensive dairy farming, where confined animals no longer have access to grass and depend almost entirely on purchased feed. Before its privatization, YEMSAN produced around 17% of the compound feed in Türkiye through its 26 feed factories (Yurdakul et al., 1999). With the loss of such state institutions, dairy farmers became more vulnerable and increasingly dependent on volatile input markets after privatization.

Although these neoliberal reforms were justified in the name of efficiency, fiscal discipline for a better economy, and establishing "free markets", empirical research presents a different picture. Hatirli et al. (2006), document a significant increase in concentration of private firms in the fluid milk subsector: between 1980 and 1998, the four-firm concentration ratio (CR4) increased by around 26% and reached 50%, indicating strong market power among processors. After the TSEK's privatization, less than ten companies controlled half of the domestic milk market (Öztürk et al., 2021). This increased concentration in the market allowed firms to make significant cost gains. However, Hatirli

et al. (2006) show that these decreases in costs were not passed on to consumers; on the contrary, firms used their market power to raise the prices of commodities.

Gönenç and Rehber (2007) show that after the TSEK's privatization, producer prices for raw milk fell by 11–18% across regions, while consumer prices increased. Thus, the efficiency gains did not advantage the majority of people who are either dairy farmers or consumers. Regional disparities also widened: production increased by 64% in the Aegean, 16% in Marmara and 19% in the western Black Sea region, while it declined by 13% in the northeast and 36% in the southeast (Gönenç & Rehber, 2007). Before privatization, the TSEK plants were relatively homogeneously distributed across regions. After privatization, however, plants located in western Türkiye were purchased by large domestic and foreign companies, while about half of the plants in the eastern regions were closed (Gönenç & Rehber, 2007). As a result, western Türkiye became the industrial hub of dairying, even though roughly half of the animal herds in Türkiye were located in the eastern regions—areas that are found unattractive for private investment (Akbay & Boz, 2005).

To understand to whose benefit these systemic changes were mobilized and at the expense of what/whom, we can take a more specific look at the composition of the dairy market after privatizations. Koç Holding, one of the prominent bourgeoisie families in Türkiye, purchased 68% of SEK shares in 1997. In this period, two transnational dairy giants—Nestlé and Danone—entered the market through mergers and acquisitions (Gönenç & Rehber, 2007; Keyder & Yenal, 2013). In 1999, the six largest dairy companies were accused of jointly depressing raw milk prices, and the case was even brought to the Turkish Competition Committee (Official Gazette of the Republic of Türkiye, 2000). Gönenç and Tanrıvermiş (2008) argued that liberalization reforms may have contributed to "an increase in market concentration, noncompetitive practices and abuse of dominant market positions" (p. 7). Gönenç and Rehber (2007) stated that these outcomes emerged because privatizations were realized without taking measures to regulate markets and developing a dairy sector policy, in contrast to the way such processes were managed in the EU and the USA. In the end, these scholars showed that privatization did not create a more efficient competitive free market but turned an existing public monopoly into a private one where only few private actors benefited the most, causing unfavorable consequences for the rest of the society.

Taken together, these findings offer strong evidence against the arguments used to legitimize marketization and liberalization in the dairy sector. As explained in the Chapter 3 on Agrarian Change in Türkiye, the privatization programme itself was driven by conditionalities imposed by international financial institutions on countries struggling with debt problems. These reforms, rather than being

benevolent efforts to improve national economies, reflected broader capitalist–imperialist agendas. Their combined effect was to concentrate power, capital, means of production, and the ability to shape production methods and relations in the hands of fewer people. However, the small-scale and decentralized structure of Türkiye's dairy landscape—often looked down on and found backwards—created some difficulties for multinational dairy giants. For example, this structure did not fit well with Nestlé's main objective "to achieve sustainable, capital efficient and profitable long-term growth" and the company withdrew from the milk processing sector in Türkiye in 2004, selling its factory in Gönen and the MIS brand to Danone (Nestlé, 2003).

The 1990s and 2000s were also the period when supermarket chains expanded rapidly, especially in western Türkiye. The retail sector began to consolidate and multinationalize, affecting the marketing of milk and dairy products as well (Gönenç & Rehber, 2007; Keyder & Yenal, 2013). Traditionally, milk was processed into cheese, yoghurt and ayran in small local facilities called *mandıra*, and these products were consumed or sold outside the formal economy. Such practices, together with direct or "street" milk sales, were increasingly framed as obstacles to sectoral development. The government, however, did not choose to strengthen farmer cooperatives or widen their capacities to address these issues; the opposite happened. As a consequence of the ARIP reforms, a law adopted in 2000 ended state financial support to agricultural sales cooperatives, pushed them to privatize their processing facilities, and restricted their activities to primary processing, prohibiting them from manufacturing food products ready to be sold on the market (Keyder & Yenal, 2011).

4.3. Drive for Efficiency and Economies of Scale in the EU Accession Period

When the AKP government came to power in 2002, it reintroduced and expanded several forms of agricultural support, including direct income payments, deficiency payments, livestock subsidies and rural development grants (Keyder & Yenal, 2013). At the same time, contract farming in "animal husbandry, beekeeping, dairy products and poultry production" was promoted as a state policy, placing farmers in direct relations with industrial firms under uneven power dynamics (Aydın, 2009, p. 235). The neoliberal logic of commodification and marketization of everything was becoming widespread, and in this environment, state interventions—although using old policy tools—functioned largely as complementary and supportive mechanisms for this transformation, even though usually framed in the language of rural development.

In 2004, the EU agreed to open accession negotiations with Türkiye, and with this process the claim that Türkiye's agricultural and rural structure was incompatible with EU-standards became

increasingly mainstream. The report *Turkey in the European Union: Consequences for Agriculture, Food, Rural Areas and Structural Policy* (Oskam et al., 2004), prepared at the request of the Dutch Ministry of Agriculture, exemplifies this view. The report describes Türkiye's dairy sector as largely informal and highly fragmented: only about 20% of milk production reached modern processing plants, while the majority remained within local production or informal markets (Azabağaoğlu et al., 2003; Terberg, 2004, as cited in Oskam et al., 2004). The report further estimates that only about 6–7% of total milk production was processed by dairies meeting EU-standards (Azabağaoğlu et al., 2003, as cited in Oskam et al., 2004). To provide a comparative perspective, data from the International Dairy Federation (IDF)'s *World Dairy Situation* report show that, in 2004, milk deliveries to industrial processors reached 99% in the United States, 98% in the Netherlands, and 95% in the former EU-15 countries (IDF, 2005).

The report by Oskam et al. (2004) also highlights the farm-level realities that contributed to the incompatibility of Türkiye's dairy sector with the EU. According to its data, more than two-thirds of cattle farmers in Türkiye kept only 1–4 animals, about one-quarter kept 5–19, and only around 2% could be classified as large enterprises with up to 1000 animals. The sheep and goat farming was described as even more fragmented. In addition to these numerical observations, the report notes that "traditionally, keeping a few livestock has been considered a form of insurance by Turkish smallholder farmers rather than a main enterprise" (p. 163). In other words, animal farming in Türkiye was characterized as lacking a commercial and entrepreneurial mindset, and this orientation was also incompatible with the model in the EU. Therefore, dairy farming required a comprehensive restructuring.

Institutional efforts to control, standardize and intensify dairy production accelerated in the mid-2000s. In 2004, the Food Law No. 5179 was introduced with the aim of restricting the informal milk and dairy sector. As explained in the IPARD Programme report:

> "Yet, this partly 'uncontrolled' situation is supposed to change in the future: in order to restrict the informal sector, Law on Food No. 5179 was passed in 2004. Although its enforcement faces some difficulties, the selling of the products without the permission from the Ministry of Agriculture and Rural Affairs has been banned. In particular, the selling of street milk is forbidden and controls are expected to be reinforced in the future." (Republic of Türkiye Ministry of Agriculture and Rural Affairs, 2007, p. 21)

Two years later, in 2006, a new Agricultural Law (*Tarım Kanunu*) responding to this "need" to restructure dairying was adopted. The law defined its objectives as increasing agricultural productivity, diversifying products, improving quality, strengthening competitiveness, expanding the use of technology, developing agricultural input and product markets, enhancing agriculture–industry integration and supporting the formation of economically viable farm units (Agricultural Law No. 5488, 2006). For animal farming, the law set out priorities such as breed improvement (*ırk ıslahı*), the expansion of forage production, increasing efficiency, encouraging farm specialization, ensuring hygiene conditions, improving animal health and welfare, establishing an animal identification system and strengthening the processing and marketing of animal products through improved control and quality standards (Agricultural Law No. 5488, 2006).

EU pre-accession rural development funds opened a new operational phase in dairy farming. Under the IPARD programme, Türkiye prepared a 2007–2013 rural development plan that prioritized investment in the milk and meat sectors to comply with EU standards (Republic of Türkiye Ministry of Agriculture and Rural Affairs, 2007). In this framework, animal farming policies were reorganized through a wide set of support instruments. These included incentives for forage production, certified fodder seed use, contractual livestock breeding, the purchase of pregnant heifers with stud or pure race certificates, and calves born through artificial insemination (Republic of Türkiye Ministry of Agriculture and Rural Affairs, 2007). Milk producers selling to licensed processing plants received per-litre payments, with additional bonuses for membership in producer organizations and for registering animals in the pedigree system (Republic of Türkiye Ministry of Agriculture and Rural Affairs, 2007).

In 2008, Türkiye introduced a major revision in support policies for animal farming increasing per-animal direct payments in order to encourage larger herd sizes. In the same year, the National Milk Council (Ulusal Süt Konseyi, USK) was formally established to coordinate the sector and guide national dairy policies within the framework of the Agricultural Law. All these instruments directed dairy farmers toward the use of high-yield, pure-race culture breeds selectively bred for "more efficient" milk production, inseminated with commodified semen and fed by commercial feed. These shifts altered not only the scale and composition of herds but also the bodies, lives and everyday experiences of the animals, and they transformed farmers' relationships with them drastically. Farmers themselves were also expected to become "more efficient". In practice, this system favored only those who can survive and thrive in an increasingly input- and capital-intensive, monocultural production model embedded in vertically integrated commodity chains and requiring the mindset of a businessman. Those unable to fit were left to gradually vanish away.

Indeed, the IPARD funds—880 million euros—attracted and drew business circles from a variety of sectors. Enjoying the access to this abundance of funds, large business groups such as "Koç, Ata, Sancak, Doğan, Cingilloğlu, Arıkanlı, Esas, Silkar and Söktaş Holdings, Saray Carpets, Ramsey Textiles and Orka" entered the field (Aydın, 2009, p. 235). Most of these new actors had no previous experience in farming. Yet, using the EU funds, they established large farms specialized in dairy and livestock production. Investors such as the Koç, Ata and Sancak Groups founded the largest agricultural and animal farming enterprise in Şanlıurfa and bought the state farm in Denizli–Acıpayam (Aydın, 2010). These actors were able to mobilize capital, manage bureaucratic procedures, and that way, could benefit from IPARD grants. They were filling the space left by bankrupt small farmers pushed out of production. Their entry also brought a commercial, profit-driven corporate mindset into dairy farming in rural Türkiye, and have been increasingly replacing more traditional approaches to farming.

With this trajectory, structural barriers in dairy farming became more visible. Even though, in 2010, the Agricultural Bank of Türkiye introduced long-term, zero-interest credits for dairy farmers, the deepening inequalities made it difficult for small producers to benefit from such opportunities (USDA Foreign Agricultural Service, 2014; Council of Ministers Decision, 2010). In 2011, milk incentive payments accounted for the largest share (26%) of all supports for animal farming (TAGEM, n.d.), but again, bigger-scale commercial producers were more advantageous to enjoy these.

According to Bor (2014), in the early 2010s, the economically optimal herd size in Türkiye was around 750 animals (240 milking cows and 60 dry cows, with their youngs). His calculation showed that establishing a new dairy farm in Türkiye required an average investment between 2.7 and 3.5 million USD (Bor, 2014). He concludes that "small farming is not viable in this context" and points to the fact that small-scale agricultural production was disappearing rapidly (Bor, 2014, p. 60). During the same period, the dairy processing industry received substantial investment, new labels entered the market, and retail chains and discount markets launched their own private brands, resulting in more consolidated market power in processing and retail sectors (Bor, 2014).

Economies of scale increasingly became the obligation for viability in dairy farming during the 2000s. Ministerial and institutional support schemes were restructured accordingly. The Agricultural and Rural Development Support Institution, (Tarım ve Kırsal Kalkınmayı Destekleme Kurumu, TKDK— the main channel of EU-linked rural supports) defined a small farm as an enterprise with at

least ten certified purebred animals (Serhat Kalkınma Ajansı, 2011). Many state supports such as the access to low-interest credit also required a minimum herd size of ten cattle (Serhat Kalkınma Ajansı, 2011). This threshold excluded the majority of dairy farmers from these supports, because in 2010, approximately 76 % of Türkiye's dairy cattle farms held fewer than ten animals (Zeybek, 2019). In practice, this subsidy restructuring functioned as a filter, making resources available for larger and more industrialized enterprises, while small family farmers were increasingly left out and marginalized.

Market dynamics reinforced this exclusion and elimination by scale. As contract farming became more widespread, dairy farmers needed to enter into these contractual relations to have some feeling of security. However, milk processors preferred buying from large-scale farms to minimize transaction costs. According to Özgür Bor (2014), this means farms that keep around 240 dairy cows and can provide 4,000–6,000 litres of milk per day were economically preferable. Small farmers were increasingly pushed into two ways: attempt to scale up—an option often financially or structurally impossible—or quit dairy farming. The consequences were visible in the size of herds. In 2002, approximately 4,000 farms in Türkiye held more than fifty cattle; within ten years, this number increased by 550%, reaching 24,000 (Zeybek, 2020). This dramatic increase reflects the restructuring of dairy farming into fewer, larger, more concentrated units.

4.4. Spatial Restructuring and the Intensification of Rural Precarity and Exploitation

Spatial restructuring in dairy farming was also driven by institutional tools. The 2000s witnessed successive legal and administrative changes that gradually altered the spatial organization of rural life and animal farming. Amendments to the "Pasture Law" (No. 4342) allowed pasturelands to be allocated to energy, mining, industrial and infrastructural projects particularly through "public interest" clauses. From the capital's point of view, grasslands shaved and carved for extractive projects is probably a "more efficient" mode of land use, rather than leaving those areas for animals to graze. In parallel, the Law on Agro-based Industrial Zones (2009) promoted concentrated and integrated animal farming operations linked with industrial feed systems, again using the arguments of efficiency in production.

The Metropolitan Municipality Law (No. 6360), introduced in 2014, brought an additional transformation in the spatial organization of rural life. Under this law, the villages of thirty provinces were reclassified as metropolitan neighborhoods. As a result, the number of legally recognized villages was almost halved (Ribeiro & Hoşgör, 2025). In the years that followed, this new status

began to be used to restrict the keeping of a few household animals near dwellings, because areas that had long been villages were now legally considered urban neighborhoods. Many families were therefore forced to sell those animals or send them to slaughter. It's been argued that this reclassification also made it difficult to generate accurate data on rural populations, and has shifted decision-making authority from village communities to metropolitan municipalities (Ribeiro, 2020). The government justified this law on the grounds that it would create a "more efficient" administrative structure (Ribeiro, 2020).

Apart from the spatial fabric, the social fabric in rural Türkiye has also been undergoing significant change. Villages are now inhabited by fewer people. Younger generations, especially young women, have moved to cities in search of education and jobs, leaving behind ageing populations and fewer people who can work in agricultural production (Öztürk, 2014). These shifts are closely related to broader processes of de-agrarianization. Under such pressuring conditions, rural households diversify their income sources and increasingly delink their livelihoods from land and farming (Keyder & Yenal, 2011). Communal solidarity and mutual help traditions—such as collectively moving herds to summer pastures (*yayla*) or looking after each other's animals—are also being lost within this new system (Öztürk, 2014).

In recent years, inflation and currency depreciation have caused dramatic increases in agricultural input costs, leading agricultural product prices to rise as well. In dairy farming, the government has kept milk prices under pressure as a way to lessen the effects of inflation on consumers. Small-scale dairy farmers now live in a constant state of uncertainty, squeezed between rising input prices, pressured milk prices and shrinking public support. Keyder and Yenal describe how farmers increasingly talk about production as "gambling," expressing their inability to predict whether their production will reach the market and cover its costs (Keyder & Yenal, 2011, p. 63). Indebtedness is also common; many farmers find themselves trapped in a vicious circle of borrowing from banks, input suppliers, merchants, middlemen or informal lenders. Alongside these unfavorable conditions, they also face persistent pressure to produce more, to be more efficient and competitive. Their traditional ways are found backwards, inefficient and obstacles to Türkiye's development, progress and rise.

Under these conditions, smallholders respond by intensifying their production practices and labor. They use more unpaid family labor, cut even necessary expenditures and tolerate very low payments for their efforts. This is a form of self-exploitation: farmers try to keep production going by sacrificing from themselves (Keyder & Yenal, 2013). But this exploitation does not stay limited

to themselves; it also extends to the nature and animals they depend on. In this sense, the exploitation of farmers cannot be separated from the intensified exploitation of animals and the environment. The same mechanisms that push smallholders to work harder for less also demands that animals produce more under worse conditions.

5. METHODOLOGY

This thesis is based on a qualitative and interpretive research design that brings together policy documents, sectoral reports, statistical data and multi-sited fieldwork. My aim was not to measure the dairy sector in a technical way, but to understand how policies, institutional visions and long-term structural shifts have reshaped dairy farming in Türkiye, and who benefits and who loses as a result. I follow the direction of change, the arguments that justify it, and the consequences that emerge when national macro-visions meet everyday realities, with a particular focus on small-scale farmers and on animals whose lives and bodies are reorganized by these governance efforts.

The research was originally planned as a qualitative project combining policy and document analysis with multi-sited ethnographic fieldwork. I first designed the study around the İzmir region, especially the Küçük Menderes Basin, and conducted more than twenty in-depth interviews with farmers, cooperative and union representatives, veterinarians, public officials, NGO workers, academics, feed-company employees and a journalist. These interviews produced a rich body of material about local realities, everyday struggles and multispecies relations.

However, as the work progressed, two points became clear. First, tracing the historical transformation and long-term trajectory of dairy farming in Türkiye was a necessary foundation for any more local or micro-level analysis. Second, disruptions in the research process and time limits made it unrealistic to analyse the full İzmir interview material in the depth it deserves, and to situate it properly within the region's specific agrarian history and market structure. For these reasons, I decided to focus the thesis on the analysis of policy documents, institutional reports, sectoral data and a smaller set of field encounters, and to leave the systematic analysis of the İzmir interviews for future work.

In practice, the empirical core of the thesis rests on three main pillars: contemporary policy and planning documents, official statistics and sectoral data, and observations and semi-structured interviews from shorter field visits in Bursa and Istanbul.

Table 5.1. Key policy, planning, and sectoral documents analyzed in the thesis.

Document	Publishing Institution	Year	Document Type
Administrative Activity Report	Ministry of Agriculture and Forestry (MoAF)	2024	Administrative report
Strategic Plan (updated)	Ministry of Agriculture and Forestry (MoAF)	2024–2028	Strategic policy document
Milk Sector Policy Document	General Directorate of Agricultural Research and Policies (TAGEM, MoAF)	2023–2027	Sectoral policy document
Milk and Dairy Products Outlook Report	General Directorate of Agricultural Reform (TRGM) & Agricultural Economic and Policy Development Institute (TEPGE, MoAF)	2024	Sectoral outlook report
Livestock Sector Report	General Directorate of Agricultural Enterprises (TİGEM, MoAF)	2024	Sectoral report
Livestock Specialisation Commission Report (12th Development Plan)	Presidency of Strategy and Budget	2023	Development plan commission report
National Rural Development Strategy IV	Ministry of Agriculture and Forestry (MoAF)	2024	National strategy document
Milk Report	National Milk Council (Ulusal Süt Konseyi)	2021	Sectoral report

I selected the sources listed in the table above because they are recent, central to current dairy policies, and produced by institutions that set sectoral priorities, allocate resources, design regulatory tools, and shape how farmers and animals are expected to fit into the production regime (Table 5.1.). I read these documents repeatedly and comparatively, paying attention to how they define "problems" in the dairy sector and how they mobilize notions such as efficiency, competitiveness, modernization, supply security and self-sufficiency. I trace how these concepts are operationalized in concrete policy instruments and how they are used to justify a long-term shift toward intensification, industrialization, commercialization, and consolidation in dairy farming in Türkiye. In this way, these documents are both sources of information and objects of analysis.

Official statistics were useful to trace broad tendencies, such as changes in herd structures, species composition, yield levels and production volumes. I mainly used the TUIK and FAO series to follow these trends. Yet, during my visits to provincial and district offices of the Ministry of Agriculture and Forestry, several officials openly stated that detailed data are difficult to access from outside the Ministry and that some series are incomplete or unreliable. The last full Agricultural Census in Türkiye was carried out in 2001, and the next one will become available in 2026 (TarımTürk, 2025). Thus, to have a picture of the agricultural system in Türkiye with precise numbers is very problematic. Even some policy documents I reviewed acknowledge that statistics may distort or only partially reflect reality. For all these reasons, I suggest the statistical data I used to be treated with caution. I used these data mainly as indicators of trajectories and as politically produced tools used in constructing particular narratives about growth, productivity and success, rather than as exact descriptions of reality.

Document analysis is complemented by field material. Field material was important for two reasons. First, political ecology has long stressed the importance of connecting policy visions with the lived realities they produce. Second, the existing literature on dairy farming in Türkiye – in both academic and policy texts – remains limited when it comes to animals' lived experiences, and is often highly technical and shaped by productivist concerns. To explore layers that do not appear in documents, I conducted multi-sited fieldwork in Bursa and Istanbul.

In December 2024, I attended the Global Farm Summit in Bursa, a large sectoral event bringing together the Minister of Agriculture, senior Ministry of Agriculture and Forestry (MoAF) officials, producer associations, agribusiness and biotechnology firms, banks, feed companies, cooperatives and rural producers. Over several days I followed keynote speeches, panel discussions and corporate demonstrations, took detailed field notes, and later checked some of the talks against publicly released recordings. In addition to observing public sessions, I engaged in conversations with summit participants during breaks, in which I introduced myself and my thesis topic, and asked them questions directly related to dairy production. Taken together, this material is best understood as participant observation combined with semi-structured interviews. This setting allowed me to observe how state, market and industry actors imagine the future of dairy farming, and how they present the current trajectory of change as both necessary, unavoidable and sometimes desired.

In January 2025, I visited district and provincial directorates of the Ministry of Agriculture and Forestry in Istanbul and spoke with officials working in units relevant to dairy farming, including animal health and breeding, food and feed regulation, rural development and organization, agricultural infrastructure and land assessment, and agricultural data (see Table 5.2). These interviews consisted of three one-on-one semi-structured interviews and two small focus groups involving a total of nine participants, conducted in office settings. In all cases, I informed participants that I was conducting research for a master's thesis on the transformation of dairy farming in Türkiye. I did not request audio recordings and instead took detailed notes during and immediately after the interviews. My aim was to understand how national-level policies are interpreted and applied in everyday bureaucratic practice: how officials perceive the long-term restructuring of dairy farming, how they understand changes in production practices and relations, and how they view the consequences of these policies for small-scale farmers and dairy animals.

Table 5.2. Branch directorates and professional roles of Ministry of Agriculture and Forestry officials interviewed during fieldwork in Istanbul.

Branch Directorate	**Professional Roles**
Food and Feed Branch Directorate	Food engineers
Animal Health and Breeding Branch Directorate	Veterinarians; veterinary health technicians
Agricultural Infrastructure and Land Assessment Branch Directorate	Agricultural engineers; environmental engineers
Rural Development and Organisation Branch Directorate	Agricultural engineers; veterinary health technicians
Coordination and Agricultural Data Branch Directorate	Food engineers

In analysing the materials I do use in the thesis, I relied on close, iterative reading rather than a fixed coding scheme. Themes emerged gradually as I moved back and forth between policy documents, strategy papers, sectoral reports, statistical series, speeches, field notes and interviews with officials and experts. Certain clusters became central: the push for efficiency and ever-higher production; scale and consolidation; feed dependence and input markets; indebtedness, precarity and self-exploitation; the transformation of breeds and animal bodies; and the tensions between official visions of development and changing multispecies relations.

My research is informed by political ecology and multispecies scholarship. Although most of my empirical material comes from documents and interviews with humans, I tried to pay attention to what animals experience as a result of the systems in which they are kept and the changes occurring in those systems. My background in environmental sciences, political ecology and NGO work on food systems shapes my sensitivities. I am personally concerned about the effects of capitalist accumulation and the drive for endless growth on animal suffering, rural precarity and ecological degradation, and I am sympathetic to both peasant struggles and critical animal perspectives. I do not claim to have conducted a full multispecies ethnography, but these perspectives shaped the questions I asked and the way I interpreted the material. They influenced my perspective, for example, when thinking about how herd-management technologies, reproductive biotechnologies, breed transformations and the commercialization of dairying translate into lived experiences for animals, and when noticing how the absence of animals as living beings in official sources reflects the priorities of governance.

Ethically, I followed a simple procedure. I explained the project to all participants, clarified that participation was voluntary, and asked for permission before recording any interview. Where I did not record, I took written notes with explicit consent. I anonymized all personal data and avoided naming specific small settlements or offices when this could make individuals identifiable. In the thesis I do not use real names, except for public figures giving public speeches. All policy and sector

documents used in the thesis are publicly available; translations from Turkish are mine, and I tried to preserve the political nuances of key terms.

The research has clear limitations. The absence and unreliability of official data are problematic; access to detailed data remains limited; and the documents I analyzed, while central, are not exhaustive. Different institutions sometimes report different figures for similar indicators, and officials interpret the same policies in divergent ways. I do not see these contradictions as a simple error to be corrected, but as part of the reality I try to understand. Finally, the decision not to analyse the İzmir interviews leaves out an important layer of context-specific experience of this transformation. Despite these limitations, the combination of historical analysis, contemporary document analysis, official statistics and limited multi-sited fieldwork offers a strong basis for examining contemporary dairy governance in Türkiye and for understanding how dominant discourses and institutional tools reshape the lives of dairy farmers and animals.

6. HEGEMONIC DISCOURSES IN DAIRY GOVERNANCE

In this chapter, I analyse how national policy and planning documents, sectoral reports and statistical series frame the present and future of dairy farming in Türkiye, what they present as problems, priorities and solutions, and what arguments they use to justify these positions. The core material consists of the most recent and relevant governmental documents available: the 2024 Administrative Activity Report, the 2024–2028 Strategic Plan, the Milk Sector Policy Document, the Milk and Dairy Products Outlook Report 2024, the 12th Development Plan and its Livestock Specialization Commission Report, the 2024 Livestock Sector Report, and the National Rural Development Strategy IV. I read these documents together with the National Milk Council's 2021 Milk Report, the Turkish Union of Chambers of Agriculture's 2023 evaluation, and long-term FAO and TUIK data on milk production, consumption, self-sufficiency, species composition and farm structure. I also draw on my field material, especially speeches delivered at the 2024 Global Farm Summit by the Minister of Agriculture and Forestry and the Director General of Livestock, and interviews with ministerial officials working at provincial and district directorates of the MoAF.

Taken together, this material reveals two interconnected hegemonic discourses that organize dairy governance. The first is that milk production and "animal efficiency" must be continuously increased, mainly by raising milk yield per animal, replacing native breeds with high-yield culture breeds and intensifying herd- and reproductive-management technologies in the name of supply security and self-sufficiency. The second is that farmers should produce larger quantities of milk more "efficiently" by expanding farm size, specialising, integrating into industrial value chains and entering contract relationships with processors, while small-scale and mixed farms are problematized as backward and inefficient. In this chapter, I trace how these two discourses are constructed and justified in policy texts and sectoral reports, and how close reading reveals significant internal contradictions, omissions and tensions within the documents themselves. My fieldwork material complements this analysis, especially for aspects that are largely absent from policy texts, such as the concrete consequences for animals' lives and the conditions of small dairy farmers.

6.1. Hegemonic Discourse 1: "Milk production and animal efficiency must be increased."

The first discourse, common in most policy documents, centres on the claim that Türkiye must continue expanding milk production and that animals must be turned into more "efficient" production units. Policy documents and sectoral reports repeatedly invoke population growth, self-sufficiency

and “supply security” to argue for further increases in milk production, even though the same texts show that Türkiye is already a major milk producer with high per capita consumption and self-sufficiency levels.

In the following subsections, I examine how this discourse is built: first by questioning the asserted “need” for more dairy production and consumption; then by tracing the long-term shift towards cows as the main milk species and the associated rise in yield per animal; by analysing the role of breed transformation, herd management and reproductive biotechnologies in making animals more “efficient”; and finally by showing how these trends are framed in policy texts that present intensification as a technical requirement for supply security, even when in some upper-level documents a partially different language and approach can be found.

6.1.1. Questioning the “need” for more dairy production and consumption

A frequent starting point in policy debates is the claim that Türkiye “needs” more animal products and therefore dairy production must increase. This is usually supported by two arguments: population growth (and, implicitly, rising demand) and per capita consumption comparisons with “developed” countries, where consumption in Türkiye is presented as “low” and in need of catching up. Critical food-systems research has long questioned the link between population growth and the argument for more production, emphasising that food problems are fundamentally about distribution and access rather than absolute scarcity (Adaman & Akkoç, 2023). Yet these perspectives receive little attention in policy documents. When it comes to animal products, policy and sectoral documents in Türkiye (as well as some academic work) adopt a narrow productivist approach and repeatedly assert the need for further growth without questioning its premises.

At the same time, a closer reading of these policy documents reveals data indicating that per capita milk consumption in Türkiye is already high, and that the country ranks among the leading dairy producers in both Europe and the world. This tension becomes particularly visible in Minister of Agriculture and Forestry, İbrahim Yumaklı’s speech at the 2024 Global Farm Summit in Bursa. He uses two parallel narratives: one built on notions of scarcity, insufficiency, inefficiency and urgency; the other celebrating Türkiye’s record-breaking position in production, the expansion of the sector and its competitiveness, and the aspiration to strengthen export performance.

Referring to population growth, urbanization and record numbers of tourists, in his speech Yumaklı stated that “in the coming period this sector must grow much more” and that this is “not just

a wish but an obligation" (author's translation; see Appendix A.3 for the original Turkish). He repeatedly insisted that Türkiye must "direct its production perspective to efficiency and quality criteria," and spoke of the ministry's target to triple the current average yield per animal—3,158 litres—within five years. As he put it, "If you want to compete with a country where cows on average give 40–50 kilograms of milk, you cannot do this with 20 kilograms; your costs are too high." He added, "We are not only trying to catch up with global trends, but to create a mental transformation that will go beyond that," and continued: "It is time to produce milk from dairy breeds and meat from meat breeds. Resources are limited, and we must use them in a profitable way." Producers and enterprises that meet efficiency criteria, he noted, "will benefit strongly from the Ministry's support."

In the same speech, he emphasized Türkiye's position in the global dairy sector: "We are first in Europe in both cattle and small ruminant numbers," and "in milk production, we are second in Europe and eighth in the world". Yet, at the same time, he warned that "it would be a serious mistake to consider current conditions sufficient." He spoke of the need to "continue to work intensively to move up these steps, and to expand efficient and high-quality production," and argued that "as a country, we have the potential to meet all our needs—plant and animal production alike—but we must now orient our production perspective toward efficiency and quality." He then asked, "What will happen then? We will meet our own needs, and export doors to surrounding countries will open wide." For him, the essential point was that "all of us must get used to global competition and prepare ourselves accordingly," that "we must work harder and stay focused," and that "our focal point is efficiency and quality." Closing his speech, he "praized" farmers by saying: "The producers of this country sacrifice from themselves; they dedicate their lives to this. This is something that deserves appreciation and gratitude, not criticism."

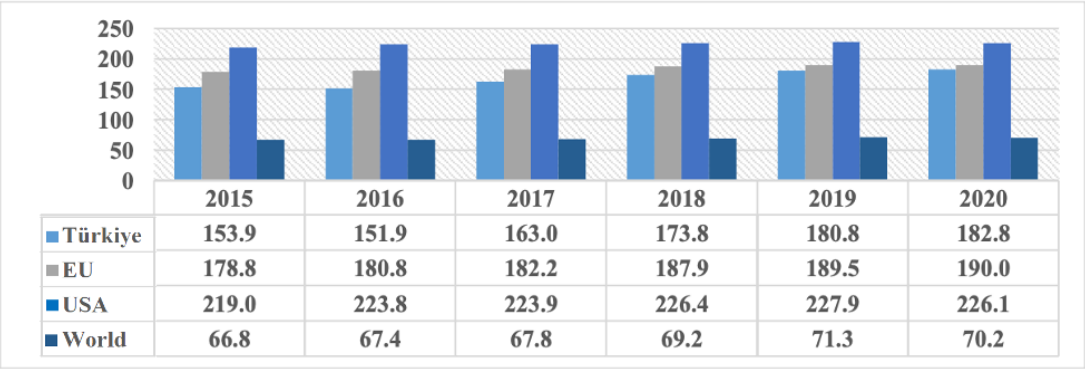
After the Minister's speech, a farmer intervened from the audience, pointing out that the difficulties farmers face were not being addressed. He shouted: "We cannot survive. Our president talks about cows giving 90 litres; the minister speaks as if he lives in another world. We cannot live like this" (field notes, Bursa, 2024, author's translation; see Appendix A.4 for the original Turkish).

This situation makes it clear that the push for ever-greater production comes with its own "costs", and that some suffer heavily under these pressures. This raises an important question: is this growth truly needed, and what consequences follow these policies? Here, my aim is not to provide an exhaustive assessment of these outcomes, but rather to remain within the realm of the policy documents themselves and examine how they frame the present and future of dairy farming. I focus on the direction these documents construct, and on the arguments they use to justify their normative

claims. Since one of the central pillars of the hegemonic discourse around dairy is the idea of low consumption levels and an urgent need to increase production to meet rising demand and ensure self-sufficiency, I begin with these claims.

In the issue of per capita consumption, it is important to note that the National Milk Council itself emphasizes that official figures do not reflect real consumption (Ulusal Süt Konseyi, 2022). Per capita figures are calculated only from milk delivered to industrial processors and turned into packaged dairy products. In other words, "consumption" here refers to industrially processed and packaged dairy, not all forms of milk use. Unsurprisingly, countries where a high proportion of milk is delivered to processors appear to have much higher consumption levels. The Council notes that globally around half of all milk produced is not delivered to industry and therefore does not enter official statistics. In "developing countries", this share can reach 80% according to FAO (Ulusal Süt Konseyi, 2022). For Türkiye, TUIK data show that in 2024 only 57.7% of raw milk produced by agricultural holdings was delivered to collection centres and thus registered (TUIK, 2025). This means that official per capita consumption figures for Türkiye likely underestimate actual consumption by a wide margin.

Keeping this in mind, the Milk Sector Policy Document presents per capita "milk-equivalent" dairy consumption as 153.9 kg in 2015 and 182.8 kg in 2020, compared with 190 kg in the EU, 222.6 kg in the US and a world average of 70.2 kg in 2020 (TAGEM, n.d.; Figure 6.1). The National Milk Council's report gives an even higher figure of 274 kg per person for 2021 in Türkiye (Ulusal Süt Konseyi, 2022). Taken together, these numbers make the urgent calls to raise supposedly "low" levels of milk and dairy consumption in Türkiye—and to "catch up" with developed countries—appear far less compelling.



	2015	2016	2017	2018	2019	2020
Türkiye	153.9	151.9	163.0	173.8	180.8	182.8
EU	178.8	180.8	182.2	187.9	189.5	190.0
USA	219.0	223.8	223.9	226.4	227.9	226.1
World	66.8	67.4	67.8	69.2	71.3	70.2

Figure 6.1. Per capita dairy consumption (milk-equivalent) in Türkiye, the United States, the European Union, and the world average. Dairy products are converted into milk equivalents (excluding butter). Source: Our World in Data (2023), cited in TAGEM (n.d.).

Self-sufficiency calculations in the same policy documents further show that Türkiye already appears more than self-sufficient in milk. The Milk Sector Policy Document reports self-sufficiency levels of 104.2% for 2021, 102.5% for 2020, 103.8% for 2019 (TAGEM, n.d.). According to FAO-based figures used in the same document, the share of milk delivered to industry and self-sufficiency levels in various countries were as follows: in 2021, the EU-27 delivered 93.8% of milk to industry and had a self-sufficiency level of 117.1%; the United Kingdom delivered 99.9% of milk to industry and had a self-sufficiency level of 90.9%; the United States delivered 100% of milk to industry and had a self-sufficiency level of 112.8% (TAGEM, n.d.). In 2021, official figures indicate that only 47% of total milk production in Türkiye was delivered to industry; yet, if we follow the calculation logic described above, this registered share alone still resulted in a self-sufficiency level of 104.2% (TAGEM, n.d.).

FAO data used in the Milk Sector Policy Document show that Türkiye is the ninth milk-producing country in the world in terms of amount (TAGEM, n.d.; Table 6.1). Above Türkiye there are very large countries in that list such as India, the United States, China, Brazil and Russia. According to FAO 2023 data, Türkiye ranked eighth globally in terms of the monetary value obtained from cow's milk production in 2022 (TAGEM, n.d.; Figure 6.2).

Table 6.1. Major milk-producing countries worldwide (thousand tonnes). Source: FAO (2024), cited in TAGEM (n.d.).

Country	**2018**	**2019**	**2020**	**2021**	**2022**
India	187,749	198,440	209,960	221,092	213,771
USA	98,714	99,109	101,318	102,671	102,747
Pakistan	53,949	55,957	57,782	59,666	61,614
China	35,029	36,332	38,745	41,215	39,894
Brazil	35,197	36,250	36,668	36,527	35,944
Russia	30,606	31,354	32,219	32,333	32,978
Germany	33,110	33,103	33,189	32,507	32,399
France	26,023	26,036	26,289	25,829	25,029
Türkiye	**22,121**	**22,960**	**23,504**	**23,200**	**21,563**
New Zealand	21,947	21,786	21,871	21,886	21,051
United Kingdom of Great Britain and Northern Ireland	15,311	15,671	15,686	15,670	15,541
Poland	14,179	14,511	14,831	14,890	15,218
Netherlands	14,426	14,944	14,932	14,608	14,979
Italy	13,132	13,300	13,510	13,998	13,972
World	867,757	887,593	917,186	936,563	926,178

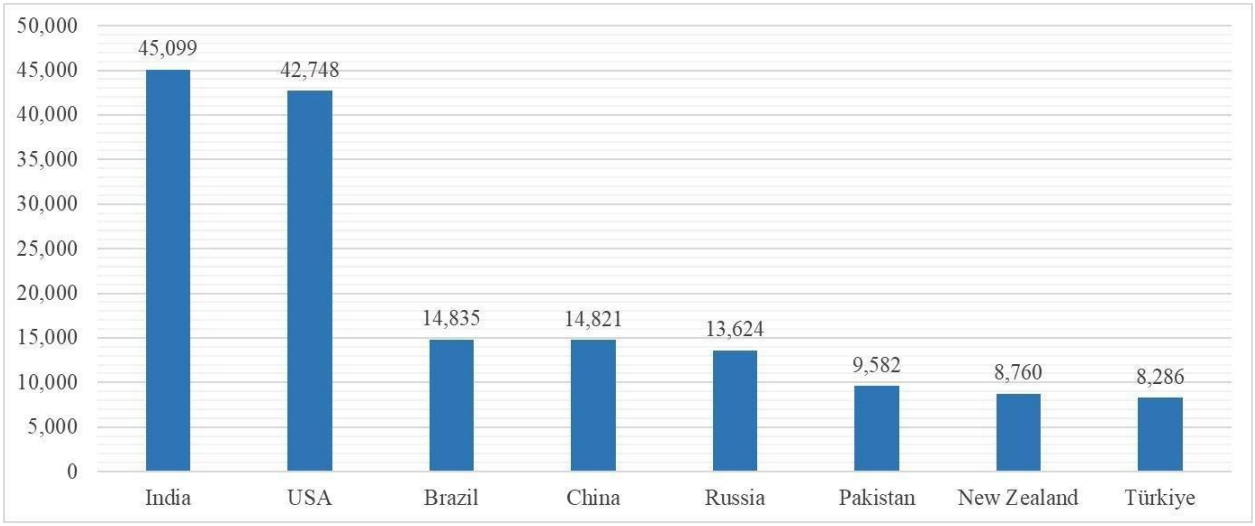


Figure 6.2. Value of cow's milk production by country (million USD), 2022. Source: FAO (2023), cited in TAGEM (n.d.).

Even as official sources frame milk production as abundant and report high levels of self-sufficiency and consumption, policy targets continue to insist on further increases in milk production. The Milk Sector Policy Document projects that by 2027 raw milk production will be 17.7% higher than in 2020, and reach around 25.4 million tonnes (TAGEM, n.d.). Its projections indicate that, if per capita consumption remains at the 2022 level of 252 kg/year, Türkiye will have a surplus of around 2.4 million tonnes of milk in 2027. Under an alternative scenario where per capita consumption rises continuously, it is projected to reach 288 kg/year in 2027, in which case the document foresees a milk deficit of around 800 million tonnes—an extreme number (TAGEM, n.d.). After presenting this highly unlikely scenario, the document warns of possible "supply crises" during the planning period and calls for necessary measures to be taken (TAGEM, n.d., p. 71-72). On the other hand, another key document, the TRGM/TEPGE Milk and Dairy Products Outlook Report 2024, clearly states that "the milk sector is strong enough to comfortably meet possible demand increases" (Tarım Reformu Genel Müdürlüğü Tarımsal Ekonomi ve Politika Geliştirme Enstitüsü [TEPGE], 2025, p. 19).

Taken together, these elements suggest that, within official accounts, the "need" for more production is constructed discursively through selective use of statistics and per capita comparisons, rather than emerging from an identified lack of milk. When unregistered production and the self-sufficiency figures presented by the state's own institutions are considered, the argument that dairy production must expand to ensure "food/supply security" appears weak. In this section, I deliberately worked only with the arguments, data and indicators mobilized by the government itself, in order to examine how this need is justified within official discourse. I therefore did not question whether

society actually needs to consume such quantities of milk—indeed, the discourse often appears to presume that milk "needs to be consumed" at these levels. Nor did I address issues of unequal access to food or the large amounts of waste generated within the current food system. While these questions are crucial, they fall beyond the scope of this thesis, which focuses specifically on how policy discourse frames production imperatives and reorganizes dairy farming accordingly.

6.1.2. Cows as main milk machines: species composition and yield

TUIK data show that total raw milk production in Türkiye reached 22.49 million tonnes in 2024 (TUIK, 2025b). Of this amount, 93.6% (21.04 million tonnes) came from cows, 4.0% from ewes, 2.1% from goats and 0.3% from buffalos (TUIK, 2025b). This overwhelming dominance of cows is the outcome of deliberate policy choices; it has not always been this way. In 1961, cows' milk accounted for 74.2% of total raw milk production (FAO, 2004, as cited in Gönenç & Tanrıvermiş, 2008). By 2000 this share had risen to 89.2%, and today it is over 93% (FAO, 2004, as cited in Gönenç & Tanrıvermiş, 2008; TUIK, 2025b). In its 2024 Livestock Sector Report, TİGEM notes that since the early Republican period cattle raising has been considered the most important branch of animal production and has always received more attention than other livestock sectors (Tarım İşletmeleri Genel Müdürlüğü [TİGEM], n.d.). Today, "when animal husbandry is mentioned, cattle breeding is understood" (TİGEM, n.d., p. 8).

The preference for cows is explained through the well-known language of "efficiency". According to the MoAF, efficiency of an animal in milk production refers to the milk yield per animal, in other words, the amount of milk extracted from an animal (T.C. Tarım ve Orman Bakanlığı, 2025a). TUIK data show a strong and long-term increase in milk yield per cow (Table 6. 2). The National Milk Council notes that the last TUIK data series on the number of milked animals used for calculating yield was published in 2019 (Ulusal Süt Konseyi, 2022). Using these data, the Council shows that the most dramatic change has occurred in cows' milk. In 1930, the average yield per cow was 521 kg; this rose to 1,351 kg in 1990, 3,030 kg in 2014 and 3,158 kg in 2019 (Ulusal Süt Konseyi, 2022). For sheep, goats and buffalos, yields have remained the same.

Table 6.2. Milk production indicators by species in Türkiye: number of milked animals, total production (1000 tonnes), and yield (kg per animal). Source: TUIK (2023), cited in TAGEM (n.d.).

Species	Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sheep	Milked animals	10,584	11,561	13,068	14,287	14,524	15,363	15,149	17,503	18,819	19,837
	Milk production	817	893	1,007	1,101	1,114	1,177	1,160	1,345	1,446	1,521
	Yield	77	77	77	77	77	77	77	77	77	77
Goat	Milked animals	2,583	3,033	3,502	3,943	4,400	4,578	4,555	4,964	5,327	5,471
	Milk production	273	321	369	416	463	481	479	523	562	577
	Yield	106	106	105	105	105	105	105	105	105	106
Cattle	Milked animals	4,362	4,761	5,431	5,607	5,609	5,536	5,432	5,969	6,338	6,581
	Milk production	12,419	13,802	15,978	16,655	16,999	16,934	16,786	18,762	20,037	20,782
	Yield	2,847	2,899	2,942	2,970	3,031	3,059	3,090	3,143	3,161	3,158
Buffalo	Milked animals	35	40	47	52	55	63	63	69	76	79
	Milk production	35	40	47	52	55	63	63	69	76	79
	Yield	1,004	1,004	1,001	1,000	998	996	996	999	998	1,000

The 2024 Livestock Sector Report attributes this intensification of milk production per animal to what they call the "biological advantages" of cattle: high ability to convert roughage and concentrate feed into meat and milk, high milk yield, long lactation period enabling year-round milk, adaptability to different climates, and strong response to breeding and reproductive control (TİGEM, n.d., p. 8). In practice, these "advantages" mean that cattle are the species whose bodies can be most intensively manipulated to maximize milk extraction. The more their "conversion" capacities are pushed upward through genetics, feeding, herd management and reproductive technologies, the more valuable and preferable they become for actors who profit from the sector. In this discourse, cows appear as machines whose settings can be adjusted to raise output.

Figure 6.3. Promotional display at the Global Farm Summit 2024 in Bursa depicting a machine-like dairy cow. Photograph by the author.

Interestingly, the USK 2021 Milk Report touches upon the biological reality of cows as mammals and explains how and why the secretion of milk occurs. The report defines milk as a secretion of the mammary glands that appears in all mammals after giving birth and as an important food meant to nourish the animal's offspring (Ulusal Süt Konseyi, 2022). Yet TUIK data indicate that in 2024 only 4.8% of raw milk was used as animal feed after milking (TUIK, 2025b). The overwhelming majority is channelled into "human" consumption within a neoliberal capitalist system. In this trajectory, cows' reproductive and lactation capacities are reorganized almost entirely for market purposes. The massive increase in milk yield per cow is therefore not a natural development but the result of policies, technologies, market pressures and scientific interventions that re-shape animals' bodies for higher extraction, in line with the capitalist logic of actors who seek continuous growth in returns.

6.1.3. Breed transformation, herd management and reproductive biotechnologies

One of the main mechanisms used to explain and achieve higher milk extraction from an individual cow—what the Ministry calls animal efficiency—is changing the cattle breeds. According to data cited in the Milk Sector Policy Document, average yield per cow in 2019 was 3,861 kg for culture breeds, 2,722 kg for crossbreds and 1,303 kg for native cattle (TAGEM, n.d.). Policies have systematically changed the composition of cattle populations in Türkiye in favor of high-yield culture breeds (Figure 6. 4.). TUIK figures show that in 1991, among 11.97 million cattle in Türkiye, 10% were culture breeds, 34% crossbred and 56% native. By 2024, out of 16.82 million cattle, 49% were culture breeds, 45% crossbred and only 6% native (TUIK, 2025a). As the Milk Sector Policy Document notes, "thanks to measures taken and supports provided by the state, these ratios have almost completely reversed" (TAGEM, n.d., p. 34). The outcome is visible in total production: bovine milk output rose from 8.6 million tonnes in 1991 to 21 million tonnes in 2024 (TUIK, 2023; 2025c).

Culture, Crossbred and Native Cattle Population in Türkiye (%)

Years	Cattle - Culture	Cattle - Crossbred	Cattle - Native
1991	10	34	56
2020	49	42	9
2021	49	43	8
2022	49	43	8
2023	49	44	7
2024	49	45	6

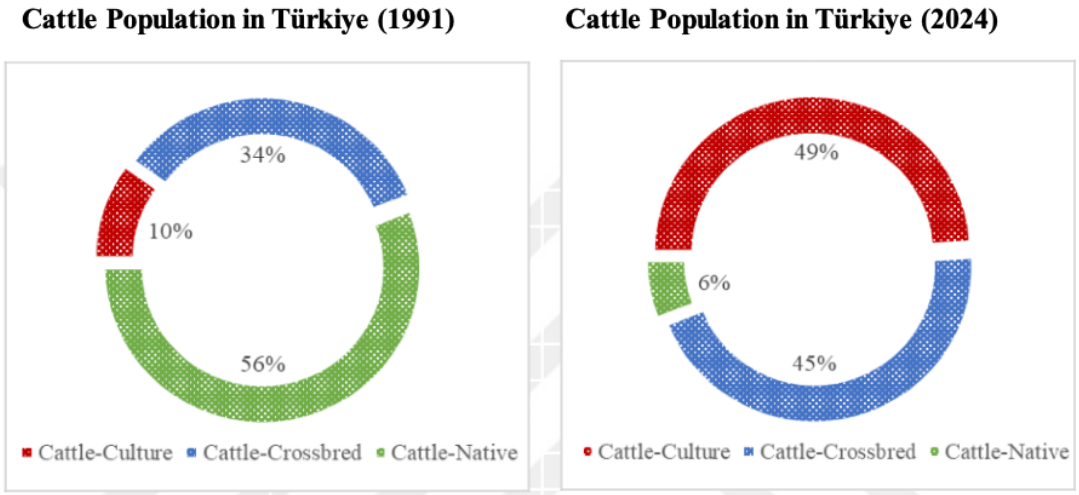


Figure 6.4. Composition of the cattle population in Türkiye by breed type (percent), selected years. Source: General Directorate of Agricultural Enterprises (TİGEM), n.d.

The 2024 Livestock Sector Report states with pride that all breeding cattle in TİGEM's own herds are culture breeds. Their distribution in 2024 was: 28% Black Angus, 27% Holstein (Black-and-White), 20% Simmental, 17% Brown Swiss, 3% Limousin, 3% Jersey and 2% Red Angus (TİGEM, n.d.). Among these, Holsteins are the most widely used in dairy farming because they have a "fully dairy capacity", shown by "long and pronounced milk veins as a sign of their dairy ability" (TİGEM, n.d., p. 20, author's translation). The report gives an average lactation yield of around 8,000 kg and notes that with improving Holstein's conditions, even higher yields can be obtained (TİGEM, n.d.).

TİGEM also emphasizes the importance of some tools used to increase milk yield per animal, such as reproductive control, genetic selection and artificial insemination (TİGEM, n.d.). For reasons of maximising profitability, herd-management and reproductive-management systems—now increasingly supported by AI and digital technologies—are mobilized to regulate animals' bodies more closely. To "make production more efficient", hormonal interventions and supplemental

feeding are used to control reproduction, even though these practices require additional costs, specialized personnel, and may also increase calf losses (Kara & Bekyürek, 2020, p. 75, author's translation). Using prostaglandins and progesterone, oestrus synchronization methods have been developed for the control of the reproductive systems of cows. Hormonal regulation of reproduction also includes "early induction of puberty, suppression of reproductive activity, induction of twinning, termination of pregnancy, induction or delay of labor, stimulation of ovarian activity in the early postpartum period, ovulation induction, and applications related to embryo transfer and in vitro fertilization" (Kara & Bekyürek, 2020, p. 75, author's translation).

An example of the technological monitoring of animals for profitability comes from a study examining "Turkey's leading brand in milk and dairy products that operates with the mission of spreading the goodness and abundance of milk, Sütaş" (Erdem & Aysuna Turkyilmaz, 2021, p. 326): "When its cows are first born, it [Sütaş] tags them with an earring, then later at adolescence, it gives them a necklace and installs a pedometer on their feet. The "RIFD" earrings enable it to identify its calves and access all background information. The microphones installed in the rumination collars it puts around the cow's neck enable it to assess rumination and swallowing sounds to monitor the cow's health. With the pedometer it installs in their feet, it can gauge their steps and keep track of their heat cycles" (Erdem & Türkyılmaz, 2021, p. 339).

There is, in short, a crowd of scientists and technicians working on the sexual and reproductive systems of cows, seeking every possible way to maximize the "profitabilities" of the animals for the industry. Even if this reduces their health or lifespan, cows can be sent to slaughter and sold as meat, still generating profit, while new animals are continually produced—much like manufactured products on a line.

A complementary perspective on how these herd-management logics operate in practice came from an official working within the MoAF, a trained agricultural engineer with a long background as a veterinary health technician and more than two decades of field experience. Speaking about large commercial farms, he explained that "big enterprises generally keep Holstein dairy cattle because their milk yield is high" (field notes, İstanbul, 2025, author's translation; see Appendix A.5 for the original Turkish). He described these farms as running their production in a fully professionalized way, guided by strict profitability thresholds. As he put it, "generally, cows that fall below 22–23 litres are sent to slaughter and removed from breeding because they are not found profitable any more." He added that "I am talking about Holsteins; other breeds cannot meet this level. If you fall even half a litre below the threshold, you go to the slaughterhouse; there is no exception, you go

directly to slaughter." Herds are then renewed through "heifers coming from below or breeding animals purchased from outside."

He also described in detail how calf management works in these professional operations. In the farms he referred to—typically those with "100 or more lactating cows," which means "200–250 animals when you count heifers, young stock and calves"—the central priority is to prevent calves from consuming saleable milk. As he put it, "in fully professional enterprises the calf does not drink milk; they feed them with milk powder. Except colostrum of course, the first milk we call *ağız sütü*; they give that. It cannot be sold anyway. If it could be sold, they would not give that either." After this, "the calf is immediately separated and weaned from milk; they feed it by bottle with milk powder." He added that "they usually do not keep the calves. They sell them within a few days." Male calves are sold "immediately," whereas females are "kept for breeding." In this system, he emphasized, "they operate entirely with herd-management logic."

These observations are valuable because they come directly from the field and from the long practical experience of a MoAF employee; such details do not appear in policy documents or in academic work on dairy in Türkiye. They also illustrate how everyday practices in commercial farms align with the broader technological and managerial direction promoted by governmental institutions. In this wider system, alongside reproductive and herd-management practices, genetic selection and artificial insemination became central tools for transforming animals into more efficient production units. TİGEM actively promotes the wider use of artificial insemination and places strong emphasis on genetics (TİGEM, n.d.). In modern intensive dairy farming, animals do not mate naturally: male and female animals are kept apart, and only females are retained for milking. They are impregnated by technicians who insert bull semen into their vaginas.

Under the "Project for Increasing Animal Production", the MoAF reports that in 2024, a total of 2,241,256 doses of bull semen were produced in six semen-production centres, and 3,391,766 doses of "high-genetic-value" bull semen were imported (T.C. Tarım ve Orman Bakanlığı, 2025a). These centres collected semen from a total of 88 bulls: 21 Holstein, 50 Simmental, 4 Brown Swiss, 4 Jersey, 4 Charolais, and one each of Limousin, Belgian Blue, Aberdeen Angus, Beefmaster, and buffalo (T.C. Tarım ve Orman Bakanlığı, 2025a). On average, this corresponds to 25,468 doses of semen obtained per bull in one year, or approximately 70 doses per bull per day. For dairy farming, the use of Holsteins and Holstein semen is almost exclusive. This means that the 21 Holstein bulls kept in these centres were used to inseminate hundreds of thousands of cows in 2024.

Şen et al. (2021) state that artificial insemination expanded in Türkiye "as a result of efforts to mate native breeds with cultural breeds" in order "to rapidly improve" the "low-yielding native breeds in Turkey" (Şen et al., 2021, p.1). Analysing 5,673,405 Holsteins born between 1975 and 2012 and registered in the herdbook of the Cattle Breeders' Association of Türkiye, they found that these animals descended from 11,883 sires. The ten most frequently used sires alone were fathers of 10.61% of all the population; the most used bull had 101,004 progeny (Şen et al., 2021). The study notes that frequent use of a small number of sires increases inbreeding in population and reduces genetic variation, creating long-term reproduction problems and "reduced production and profitability" (Şen et al., 2021, p. 3). Nonetheless, the study concludes that because artificial insemination "facilitates access to superior animals that provide economic benefits", its use will continue to expand (Şen et al., 2021, p. 5).

Despite these risks, policies continue to promote artificial insemination and "genetically superior high-yield breeds" as the main route to higher efficiency. TİGEM states that the need for breeding cattle (*damızlık sığır*) "is rapidly increasing every day" in order "to raise national cattle yields to EU levels and achieve the required genetic progress" (TİGEM, n.d., p. 21, author's translation; see Appendix A.6 for the original Turkish). This is reflected in trade figures: in 2024, Türkiye imported 123,141 head of breeding cattle at a total cost of 326.1 million USD (2,649 USD per head), while exporting none (TİGEM, n.d.). These figures cover only breeding cattle; Türkiye also imports animals for fattening (*besilik*) and slaughter (*kasaplık*). One sector report notes that Türkiye imports around 10% of all cattle traded globally (ISO, 2025).

Yet a field perspective adds more layers to the technical lens adopted in policy documents about these technologies and practices. The tools have direct and profound effects on animals' lives. A Ministry official stated that, "in the farms, there is no bull at all; artificial insemination is used" (field notes, İstanbul, 2025, author's translation; see Appendix A.7 for the original Turkish). Hormonal interventions are central to this system. As he explained, "with oestrogen treatment and supplementation, cows are made to come into heat one after another at the same time. The farmer does not inseminate every day. He gives drugs to animals and ten days later, the animals come into heat. They are injected at the same time." This synchronization is a key part of herd management: "they come into heat at the same time, they are inseminated at the same time, therefore they give birth at the same time, in the same cycle. For the enterprise, this makes follow-up extremely easy." In such operations, he repeated, "males are not used; there is never a bull in these enterprises."

He connected these changes to broader transformations: “After 2000, things changed. The bull disappeared. Milk processing also changed. There was not so much packaged yoghurt or packaged milk. There were two or three brands. There were no collectors, no producers like today.” The change in processing capacity coincided with the transformation of breeds. “Our animal breeds were more local; because the population consisted of native breeds, unit milk yield was low.” His own field experience illustrates the scale of this historical shift: “Thirty years ago, when we were working in another city, nearly 90% of the animal population consisted of local and crossbred animals. At least half were native” Today, he said, the situation is the reverse: “Now you cannot find native breeds. There are crossbreds, but you cannot find a fully native animal. The Anatolian Black (*kara sığır*), the Eastern Anatolian Red (*Doğu Anadolu kırmızısı*), the Southern Anatolian Red (*Güneydoğu Anadolu kırmızısı*), the Anatolian Grey (*boz ırk*), the South Anatolian Yellow (*güney sarısı)*, and the Zavot, our native breeds, you cannot find them in the field anymore. They are gone.” He added that even research institutes struggle to locate genetic material: “Sometimes institutes ask for them for research; they cannot find pure ones. They are all crossbred, the pure ones no longer exist. We lost many of our native breeds.”

He also reflected on how artificial insemination was practiced when native animals were still present. “When I was working in the field in artificial insemination, local breeds were common,” he said. A critical issue was that these animals were too small to be impregnated with culture-breed semen and give birth to those big animals; many died or became severely injured: “For example Montofon and Simmental have big heads; their calves are born with big heads. You cannot inseminate a narrow-hipped cow with those breeds; she cannot deliver.” Farmers, however, insisted: “But the farmer wants it, saying ‘make it Simmental’ because the calf will be good.” Sometimes animals in poor condition were brought to be inseminated: “A cachectic animal comes, she is dying from weakness, she cannot take care of herself.” At that time, he recalled, “animals were all local; at best crossbred. Purebred animals did not exist in villages—speaking for Anatolia in general.”

These experiences reveal how the shift from native, low-yield animals to high-yield culture breeds—something strongly desired at the policy level—unfolded in real life and with what consequences. In documents, this transformation appears as a purely technical improvement: replacing “inefficient” animals with breeds that produce several times more milk. From a distance, this promise seems economically appealing to those who have interests. Yet people working in the field witnessed its real implications. Native animals, which were smaller and biologically incompatible with large culture-breed calves, often died or were severely injured during attempts to convert them to high-yielding animals. The loss of native breeds—both through individual animals

dying and entire populations becoming extinct—was therefore not incidental but the direct outcome of these sustained policies. Today, however, the same institutions that promoted their erasure and replacement now struggle to locate pure genetic material. His testimony crystallizes this contradiction: after decades of effort that systematically eliminated native breeds, their absence has become a problem in itself.

6.1.4. Policy framing: the need for efficiency for supply security

The MoAF 2024 Administrative Activity Report provides a detailed view of how these trends for higher production, higher yields and "more efficient" animals are institutionalized. Under the "Agriculture" programme, the sub-programme titled "Supply security in animal products" sets the target of contributing to an increase in the quantity and value of animal products and controlling price changes (T.C. Tarım ve Orman Bakanlığı, 2025a). The report does not present these aims as political or economic choices but as technical necessities for ensuring "security". The performance indicators attached to this programme show which aspects of production the ministry cares most about: For 2024, the indicator for milk yield per bovine animal was set at 3,300 kg, and the report states that this target was reached. The planned increase rate in bovine animal numbers was 0.3%, yet the actual increase reached 2.5%, meaning that the ministry, in fact, aimed for fewer animals but ended up with a greater increase. The target for raw milk production was 22.13 million tonnes, and the reported outcome was 22.31 million tonnes. Another indicator concerned the proportion of culture breeds within the national herd: a 51% share was targeted, while the recorded outcome was 49%. The ministry also aimed to increase the share of milk delivered to industry by two percentage points, and this increase was achieved.

While the programme name "supply security in animal products" suggests a broad public concern, the indicators and the logic behind them imply a narrower interpretation of "security": securing cheap, stable input for the industry through measures such as higher milk yield per animal, more animals, greater reliance on culture breeds and a higher share of milk sent to industrial processors. This orientation is further reinforced in the "Agricultural research and development" sub-programme. One of its central aims is to increase production and quality in animal farming by using high-yield breeding animals, developing rearing systems and technologies suited to different ecologies, and increasing international competitiveness.

The MoAF's 2024–2028 Strategic Plan identifies 30 overarching targets (T.C. Tarım ve Orman Bakanlığı, 2025b). Several of these concern dairy farming, including ensuring supply security in

animal products, increasing yield and quality, improving animal-health services and protecting animal welfare, increasing opportunities for family farms, women and youth, strengthening producer organizations, planning production and expanding contract farming, reducing dependence on imported inputs, preserving genetic resources and biodiversity and improving adaptation to climate change and drought (T.C. Tarım ve Orman Bakanlığı, 2025b). However, when these broad aims are translated into measurable performance indicators, they become much narrower.

For dairy farming, the only indicator directly related is the increasing share of culture breeds in the cattle population, with a target of raising it from 49% in 2024 to 56% in 2028 (T.C. Tarım ve Orman Bakanlığı, 2025b). Within the broader "supply security" goal, the Plan sets targets for raising the increase rate in bovine numbers from 0.1% in 2023 to 5.9% in 2028 and increasing raw milk production from around 21.9 million tonnes in 2023 to 135.76 million tonnes by 2028 (T.C. Tarım ve Orman Bakanlığı, 2025b). This implies more than a six-fold increase in just five years. The strategy offered for achieving these targets centres on modernising farms, bringing them to a "sustainable scale", and increasing productivity and efficiency "in order to ensure self-sufficiency in animal products, especially milk" (T.C. Tarım ve Orman Bakanlığı, 2025b, p. 46, author's translation). This stands in tension with The Milk Sector Policy Document by TAGEM, and Milk and Dairy Products Outlook Report 2024 by TRGM/TEPGE, which explicitly state that Türkiye is more than self-sufficient in milk and the sector can easily meet possible demand increases (TEPGE, 2025).

The same Strategic Plan sets out the legal duties of the MoAF in areas relevant to dairy: developing and expanding contract farming, changing pasture allocations, increasing animal production, disseminating high-yield breeds, and protecting and developing native genetic resources (T.C. Tarım ve Orman Bakanlığı, 2025b). These duties place strong emphasis on expanding production, reorganising herds through breed change and integrating producers into agro-industrial systems via contract farming. In its forward-looking strategy section, the Plan presents "lack of sufficient yield and quality in animal production" as a key problem. The solutions again focus on breed improvement and reproductive control: Yield per animal will be increased through breeding; high-quality breeding animals will be supplied to producers; reproductive performance will be increased; artificial insemination will be expanded; genomic selection will be initiated.

These elements together show how "supply security", "insufficient yield" and "self-sufficiency" discourses are used to justify accelerating intensification: increasing cattle numbers, increasing the proportion of culture breeds, raising yield per animal and enlarging farm scales. Yet these strategies conflict with several other goals presented in the same document. It is difficult to reconcile

intensification with objectives such as improving animal welfare, supporting family farms, reducing dependence on imported inputs, preserving genetic resources, protecting biodiversity or strengthening climate adaptation and drought resilience. Intensification tends to increase pressure on animals' bodies, deepen producers' dependence on external inputs and increase their vulnerability to market and climate shocks. Indeed, the Strategic Plan acknowledges the risk of "producers quitting animal farming" (T.C. Tarım ve Orman Bakanlığı, 2025b, p. 47). But despite these tensions, the Strategic Plan's operational logic remains centred on increasing production and efficiency.

6.1.5. A partially different language

The 12th Development Plan (2024–2028) prepared by the Presidency's Strategy and Budget Directorate is one of the key upper-level documents guiding the MoAF strategies. Its tone in its Livestock Specialization Commission Report differs somewhat from the purely technical and economistic language of the MoAF reports reviewed. Although it also presents low yields and small-scale production as problems, it offers a broader diagnosis. It highlights the lack of long-term livestock policy, dependence on imported inputs, the distorting effects of import policies on domestic production, insufficient fodder-crop cultivation and the general problem of low yield and quality in animal production (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023).

The Plan also notes broader global shifts. It states that "alternative proteins" and plant-based dairy substitutes are gaining attention worldwide, and that some consumers perceive them as healthier or more sustainable. It recognizes that plant-based substitutes—soy, almond, rice, oat drinks—have grown notably in North America, Europe and East Asia, driven by concerns about the environmental impacts of dairy production, health considerations and lactose intolerance. It also notes that consumers increasingly prefer traceable animal products, higher animal-welfare standards and antimicrobial-free foods. In parallel, the Plan emphasizes the growing importance of One Health approaches that connect human health, animal health, animal welfare and environmental protection.

At the same time, the Plan openly acknowledges severe animal-welfare problems in Türkiye's dairy sector. It notes that calf mortality is around 15% in Türkiye compared to 2–3% in "developed" countries, and that many income losses are rooted in animal-welfare issues. Restrictive housing, insufficient space, poor indoor climates and mistakes in feed and water provision are identified as conditions that harm animal welfare and reduce productivity. Yet even when animal welfare is acknowledged in such documents, it is largely framed through its consequences for human health or productivity: the risk of diseases passing to humans, the potential decline in milk quality, or the

economic losses associated with stressed or sick animals. In this framing, welfare becomes a technical variable to optimize rather than a concern for the animals themselves. The documents thus reveal a perspective in which animals are primarily valued for the productivity they enable, and their well-being is mentioned only insofar as it affects human-oriented outcomes.

A notable shift in this document appears in the way native breeds are discussed. Whereas previous documents largely framed native breeds as obstacles to competitiveness, growth and progress, the 12th Development Plan states that Türkiye lacks sufficient local genetic resources adapted to its conditions, and that climate change will negatively affect animal production. It calls for the acceleration of breeding programmes for native breeds, their preservation through pure-breeding and selection, the investigation of their adaptive traits—such as heat and disease resistance—for future planning, and the support of small family farms that rely on native breeds (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). This turn is worth attention; however, this renewed interest in native animals remains tied to production concerns: native breeds gain value now mainly because they are considered more reliable for maintaining output under changing climatic conditions.

The Plan also signals a shift away from a strictly global-competitiveness orientation toward domestic adequacy, cooperation and circularity, noting that global policy trends are moving in these directions. Reviewing the experience of the 11th Development Plan period, it states that strategic priorities for the new period include fair and traceable supply chains for animal products, resilience and circular-economy principles. It notes that high inflation and rising input prices—particularly fertilizer and feed—will affect related sectors such as dairy, and that disruptions in global trade of these inputs lead to higher costs worldwide. The Plan suggests that this situation may increase attention to circular agriculture and reduce dependence on external inputs.

However, this change in tone in this document is not reflected consistently in lower-level policy documents, that are, in principle, prepared under the guidance of this upper-level plan. The ministry's strategic plans, sectoral reports and implementation tools continue to prioritize culture breeds, high-yield animals and intensive, input-dependent production systems oriented to market integration and global competition. Despite the partial shift in discourse at the upper level, the operational trajectory remains aligned with the long-standing emphasis on efficiency, productivity and growth. Whether this partial shift at the upper level will bring about any substantive change in future policy trajectories remains an open question.

6.2. Hegemonic Discourse 2: "Farmers should produce more milk, more efficiently with a more competitive spirit integrated better into formal markets."

The second widespread discourse in official documents focuses on the scale and organization of dairy farms and on what is presented as the "proper" way of dairy production. Policy documents repeatedly treat small, fragmented and mixed farms, traditional methods and informality as key problems for the sector, and argue that farms must become larger, more specialized, more modern and more tightly integrated into formal value chains and global markets, often through contract farming. At the same time, these texts invoke employment, rural development and food security to justify a trajectory of capitalist expansion, consolidation, intensification and industrialization of dairy production. This produces a clear contradiction: most dairy farmers in Türkiye are small-scale family farms, and policies that frame small scale as a weakness necessarily undermine the rural livelihoods they claim to support.

In the following subsections, I first use TUIK data and ministerial speeches to show the structural shift in farm scales; then examine how the National Rural Development Strategy IV simultaneously highlights and problematizes small family farms; analyse how the MoAF's Strategic Plan promotes farm enlargement and contract farming; discuss the cost–price squeeze and feed dependence that shape farmers' everyday conditions; and finally trace how small producers are discursively marginalized even though policy documents themselves acknowledge that small-scale family farms still carry much of the burden of milk production and value creation.

6.2.1. Evidence of structural change in farm scales

The earliest data I could find in the TUIK system on the scale of farms with cattle is from 2006. Even though there was a General Agricultural Census in 2001, I could not find information on cattle-farm scales in the 2001 Agricultural Holdings Survey. This may suggest that the distribution of farm sizes by animal numbers may not have been prioritized enough to be systematically recorded at the time. TUIK's Agricultural Holdings Structure Survey from 2006 (released in 2008) shows that in Türkiye, 81% of all holdings with bovine animals kept fewer than 10 cattle, and 99.2% kept fewer than 50 cattle (TUIK, 2008; Table 6.3). We can reasonably consider holdings with fewer than 10 animals as small-scale family farms; they made up the overwhelming majority in 2006. The next available survey for 2016 (released in 2018) shows that holdings with fewer than 10 bovine animals now accounted for 66.7% of all holdings, holdings with fewer than 50 animals accounted for 95.5%,

and holdings with more than 50 bovine animals increased their share from 0.7% to 4.5% (TUIK, 2018; Table 6. 4).

Table 6.3. Milk production indicators by species in Türkiye: number of milked animals, total production (1000 tonnes), and yield (kg per animal). Source: TUIK (2023), cited in TAGEM (n.d.).

Büyükbaş hayvan sayısına göre işletme büyüklüğü (baş) Holding size according to number of bovine animals (head)	**Büyükbaş hayvanı olan işletme** Holdings having bovine animals	**Büyükbaş hayvan** Bovine animals	**Küçükbaş hayvan sayısına göre işletme büyüklüğü (baş)** Holding size according to number of sheep and goats (head)	**Küçükbaş hayvanı olan işletme** Holdings having sheep and goats	**Küçükbaş hayvan** Sheep and goats
Türkiye- Turkey			**Türkiye-** Turkey		
Toplam- Total	**100,0**	**100,0**	**Toplam-** Total	**100,0**	**100,0**
1-4	59,7	21,6	1-4	18,6	1,0
5-9	21,3	21,3	5-9	10,8	1,6
10-19	12,8	25,4	10-19	17,2	4,9
20-49	5,4	22,9	20-49	25,3	16,8
50-149	0,7	7,0	50-149	21,1	36,1
150-299	0,0	1,2	150-299	5,6	24,1
300 +	0,0	0,6	300 +	1,5	15,6

Not: Örnekleme ile yapılan bu çalışmanın genişletme katsayısı desimalli kulanıldığından rakamlar yuvarlamadan dolayı toplamı vermeyebilir.
Note: Since expansion coefficient of this sampling survey was used with decimal, total numbers may not be exact due to the rounding of the numbers.

Table 6.4. Distribution of holdings with bovine animals and animal numbers by holding size (percent), 2016. Source: Turkish Statistical Institute (TUIK), 2018.

(%)

Büyükbaş hayvan sayısına göre işletme büyüklüğü (baş) Holding size according to number of bovine animals (head)	**Büyükbaş hayvanı olan işletme** Holdings having bovine animals	**Büyükbaş hayvan** Bovine animals
Toplam- Total	**100,0**	**100,0**
1-4	44,5	7,9
5-9	22,2	10,5
10-19	17,0	16,4
20-49	11,8	24,8
50-149	3,9	20,9
150-299	0,4	5,1
300 +	0,2	14,4

TÜİK, Tarımsal İşletme Yapı Araştırması, 2016
TurkStat, Agricultural Farm Structure Survey, 2016
Tablodaki rakamlar yuvarlamadan dolayı toplamı vermeyebilir.
Figures in table may not add up to totals due to rounding.

This indicates a clear process of consolidation: the share of the smallest farms declined, while the share of larger farms increased. Salih Çelik, Director General of Livestock at the Ministry of

Agriculture and Forestry, in his speech at the 2024 Global Farm Summit, stated that: holdings with up to 20 head, which he described as "family farms", still make up around 82% of all enterprises, yet "when it comes to the share in total milk, they do not even reach 30%" (field notes, Bursa, 2024, author's translation; see Appendix A.8 for the original Turkish). He continued: "In our big enterprises, that is where the real quality milk is." In this framing, small family farms appear numerically dominant but are implicitly portrayed as taking up space while contributing little, whereas large-capacity enterprises are positioned as the real sources of valuable and "quality" production. The discourse thus downgrades small farms in both volume and value, while celebrating large operations as successful.

A veterinarian working within the MoAF described this move toward larger scales as a deliberate outcome of policy choices. He underlined that "the breaking point, the year of transformation in animal husbandry came around 2009–2010, when the Ministry changed the form of some supports and incentives" (field notes, İstanbul, 2025, author's translation; see Appendix A.9 for the original Turkish). According to him, "after some of the supports changed shape, the number of medium and large-scale enterprises started to increase," and he linked this shift to the earlier waves of imported "culture breeds" entering the country in the 1970s and 1980s.

By contrast, an agricultural engineer working in a rural development unit within the MoAF stressed that Türkiye's agricultural structure has always been based on small and fragmented holdings. In his view, "this is actually how it should be; but now, these farms are defeated by capitalism, otherwise they should not be gathered in the hands of three or five people" (field notes, İstanbul, 2025, author's translation; see Appendix A.10 for the original Turkish). At the same time, he added that "if small farms are to continue, they must somehow be subsidized." His comments highlight the tension between policies that push for consolidation and a different understanding of rural life, in which small farms remain strong in their position in the rural fabric. He also acknowledges that, under current economic conditions, such farms cannot survive without support; the structure of the sector no longer allows them to sustain themselves independently.

However, TİGEM's 2024 Livestock Sector Report interprets the ongoing consolidation as a success story, noting that "in recent years, as a result of the increase in state supports, the number of large-capacity modern cattle enterprises has risen rapidly" (TİGEM, n.d., p. 9, author's translation; see Appendix A.11 for the original Turkish). Yet, from the perspective of rural livelihoods and the wellbeing of animals, the meaning of this change should be reconsidered. Producing larger amounts of milk with fewer animals and fewer small farms means that production is concentrated in large,

fully commercial factory-farm settings. Indeed, this trajectory is officially declared by IFCN (International Farm Comparison Network). Their calculations suggest that globally around 71 million small-scale dairy farms are expected to close by 2050, and that the average herd size will rise to 6.4 cows per farm (Ulusal Süt Konseyi, 2022). This implies a massive elimination of small dairies worldwide.

6.2.2. Rural development rhetoric and the place of small family farms

The National Rural Development Strategy IV (2024–2028) offers a clear example of the ambivalent treatment of small family farms (Tarım ve Orman Bakanlığı, 2024). Its first objective is stated as ensuring the economic sustainability of agricultural production and long-term food security (Tarım ve Orman Bakanlığı, 2024). It stresses the need to align agriculture with market conditions, consumer expectations and economic sustainability. "Restructuring" in agriculture is presented as an obligation to increase competitiveness and support sustainable rural development (Tarım ve Orman Bakanlığı, 2024, p. 79). The Strategy proposes measures to increase productivity, capacity and product quality in agricultural and food production; prevent and reduce food loss and waste; raise farmers' professional knowledge and organization; strengthen agro-industry linkages; develop non-farm rural industry; modernize agri-food enterprises; improve food safety; and reduce informality.

At the same time, the document recognizes that Türkiye historically has a widespread rural settlement pattern, high rural population density and significant agricultural potential. It notes that agricultural holdings are structured between two poles: competitive medium and large enterprises oriented to world markets, and small traditional family farms oriented to local markets and household consumption. It explicitly states that the continued presence of traditional small family farms is important not only for a dynamic rural economy but also for the sustainability of rural environments and wildlife. One of the listed aims is to "protect and sustain traditional subsistence/semi-subsistence small family farms" (Tarım ve Orman Bakanlığı, 2024, p. 25).

This formulation is reminiscent of how policy documents talk about native breeds: on the one hand, they promote high-yield, more efficient culture breeds; on the other hand, they call for "protecting and sustaining" local genetic resources to prevent their disappearance. Small family farms, like native breeds, are presented as something that is already vanishing and that should perhaps be preserved – but mainly as a residual category, not as the main basis of production.

The same Strategy document notes that agricultural employment has declined significantly. In 2013, 20.6% of total employment (5.04 million people) was in agriculture; by 2023 this had fallen to 14.8% (4.70 million people), while the national unemployment rate increased (Tarım ve Orman Bakanlığı, 2024). Yet in its SWOT analysis, one of the "weaknesses" of rural areas is stated as "small farm sizes and high unit production costs" (Tarım ve Orman Bakanlığı, 2024, p. 73, author's translation). The small scale of farms is problematized from a competitiveness and cost perspective, even while small family farms are declared important for rural life and the environment.

Accounts from field-level officials show how these macro-level discourses translate into everyday tensions. One veterinarian working within the MoAF explained that in peri-urban settings, many households keep "2–3–5 animals in makeshift barns" and try to gain income by selling milk (field notes, İstanbul, 2025, author's translation; see Appendix A.12 for the original Turkish). These are often migrant families from Anatolia who have "spent their whole lives keeping animals and cannot detach themselves from them." He underlined that although the Ministry classifies these as "small enterprises", their care style and relationship are very different from the professional farms. He described how an older woman "still calls her cow 'Nazlı, Nazlı' while caressing her" — Nazlı being both a common female name and a term meaning delicate. He stressed that such units "do not fit Istanbul conditions" and cannot meet formal criteria, which is why they end up selling milk informally "on street corners, by the roadside, to neighbors and relatives" to survive. In this way, small farms become "problems" for the ministry officials who are responsible to prevent their informal business.

6.2.3. Increasing farm size and contract farming

The MoAF's 2024–2028 Strategic Plan takes a more direct stance. In its SWOT analysis, the Plan lists as threats the small, fragmented and scattered structure of agricultural land and the inability of small farms to keep up with technological developments (T.C. Tarım ve Orman Bakanlığı, 2025b). As a need, it identifies increasing farm sizes, and encouraging the employment and training of herd managers and caretakers (T.C. Tarım ve Orman Bakanlığı, 2025b). Under the "supply security in animal products" programme, the Plan again states the target of increasing the production and value of animal products and controlling price changes. The key diagnoses include "insufficient farm sizes"; the response designed for this is to increase farm size, modernize operations and bring them to a "sustainable scale" (T.C. Tarım ve Orman Bakanlığı, 2025b, p. 46). Under the "Rural development" programme, the Plan notes that agro-industry integration must continue to be developed and that farm scales must be increased.

In practice, the repeated call to "increase farm size" does not mean that existing small farms are on their way to becoming larger. As explicitly foreseen—and as has been happening for some time—many small farmers leave dairy farming, while new capital-intensive enterprises enter the sector or existing large actors expand. The way policy targets are presented often creates the impression that small farms will grow, but it is more accurate to say that small farms and traditional farmers disappear, and their place is taken by large units built solely for profit-making. In the same vein, the promises of "employment" and "rural development" likely signify something different from what is commonly assumed: in the emerging regime of large-scale operations, "employment" increasingly refers to wage labor in integrated corporate facilities rather than independent farming.

A central instrument used for the transformation towards bigger scale farms is contract farming. One of the Strategic Plan's highlighted goals is to plan production and expand contract farming (T.C. Tarım ve Orman Bakanlığı, 2025b). One performance indicator for this goal is the quantity of milk produced under contract. The Plan foresees increasing contract raw milk from 10 million tonnes in 2023 to 63.52 million tonnes in 2028. Given the total production targets, this implies that around half of milk production is envisaged to be under contract by the end of the period. However, as mentioned before, contract farming is often seen as a threat to what remains of farmers' autonomy and independence, since it shifts control over production decisions and inputs towards processing companies and buyers, working against the stated goal of rural welfare (Keyder & Yenal, 2011).

Field interviews confirm that large companies prefer to work directly with large farms, not with small producers. An official working within the MoAF described how regulations aim at creating a chain from farm to milk collection centre, from there to processing plants, and how farms within this chain can access raw-milk subsidies per litre, and the ones who cannot find a place in such a system cannot. He also underlined that "the big producers, for example Danone or Sek, do not enter the collection-centre chain at all. They sign contracts with big production farms and collect the milk themselves" (field notes, İstanbul, 2025, author's translation; see Appendix A.13 for the original Turkish). In his words, "this is the main side of the business; it has to work this way." For companies, buying from a farm with "1,000 milking cows producing 20–40 tonnes of milk per day" is more economical than collecting small quantities from scattered holdings. Only a small part of their supply comes through collection centres and small farms; he estimated that for some firms "maybe 10–20% of the milk comes from collection centres".

The same pattern was described by the rural-development official mentioned above. According to him, “small family farms either close down or shrink further and keep just enough cows to meet the household’s needs” (field notes, İstanbul, 2025, author’s translation; see Appendix A.14 for the original Turkish). What remains, he said, are “large dairy farms” that sell their milk to big companies, often at a premium price: if “ordinary citizens” receive 10 TL per litre, large farms might receive “12 TL, depending on fat content”. Here, contract farming and direct supply relationships reinforce a dual structure in which big farms gain better prices and hold bargaining power, while small farms are increasingly unwanted and pushed to the margins.

6.2.4. Cost–price squeeze and feed dependence

One of the strongest contradictions in the current model is the cost–price squeeze faced by dairy farmers. The National Milk Council emphasises the importance of the milk–feed price ratio: how much compound feed a farmer can buy by selling 1 litre (or kg) of raw milk. A ratio of 1.5 is usually considered the minimum sustainable level (Ulusal Süt Konseyi, 2022). For 2021, the average milk–feed ratio in Türkiye was 1.01 – already well below this threshold, and this figure does not include other costs such as electricity, fuel, veterinary services or labor (Ulusal Süt Konseyi, 2022; Figure 6. 5).

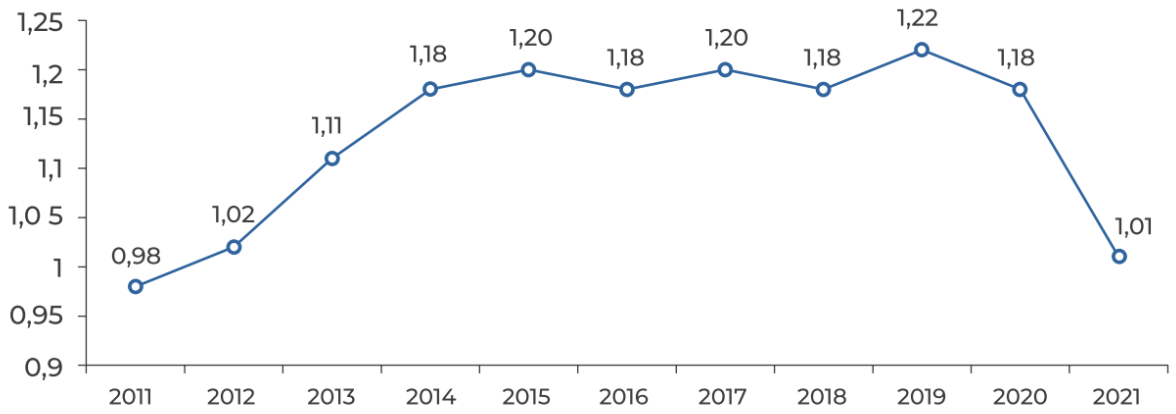


Figure 6.5. Raw milk–feed parity by year. Source: National Milk Council (Ulusal Süt Konseyi, 2022).

A MoAF official explained how this ratio results in the creation of an informal milk market. He estimated that the farm-gate price for milk in early 2025 was “around 12–17 TL per litre” depending on animal breed and transport costs (field notes, İstanbul, 2025, author’s translation; see Appendix A.15 for the original Turkish). In his words, “in our country an animal gives on average 20–30 litres

of milk per day. If they sell to a wholesaler at these prices, it does not cover feed costs." He calculated that "if you have 20 litres of milk and sell at 12 TL, you get 240 TL. Today the daily feed cost of one animal already exceeds 250 TL." For this reason, he said, "people are now forced to package the milk and sell it illegally in 5-litre plastic cans. Otherwise it is not possible". In this way, informal milk sales appear not as a simple "preference" or cultural habit, but as a survival strategy under an impossible cost–price squeeze.

Another official working in the animal-health and breeding unit described another layer of this squeeze: the forced feed purchase from the dairy processors. He explained that most processors require that "if they buy your milk, you also have to buy their feed. Every dairy factory has its own feed factory" (field notes, İstanbul, 2025, author's translation; see Appendix A.16 for the original Turkish). In his words, "this is the vicious circle: the farmer does not even see money. The milk payment goes directly to the feed bill." He estimated that "90% of milk factories work with such agreements." Small producers, with "5–6 cows and no land to grow feed" and often without access to cooling tanks in their villages, have no option but to sell quickly to whichever company operates in the area and accept this tied relationship: "If he does not sell to company A, he will sell to company B and buy its feed. The system is built on this".

The Turkish Union of Chambers of Agriculture (TZOB) reports that in December 2023, annual consumer inflation was 64.8%, food inflation 72.0%, and producer prices for agricultural products in November 2023 were 50.47% higher than in the same month of the previous year (Türkiye Ziraat Odaları Birliği [TZOB], 2024). Within this, fattening feed (*besi yemi*) prices rose by 39.8% and dairy feed (*süt yemi*) by 41.1% (TZOB, 2024). TZOB also notes that the USK often updates its recommended raw milk price late and sets it below prices forming on the open market. Despite rapid inflation and the depreciation of the Turkish lira, especially affecting imported inputs, there was no update in USK's recommended raw milk price between October 2022 and August 2023. In some months, the Council's own calculated cost of production per litre exceeded the recommended price. In this period, the milk–feed ratio declined from 1.38 to 1.27, moving even further away from the desired 1.5 (TZOB, 2024).

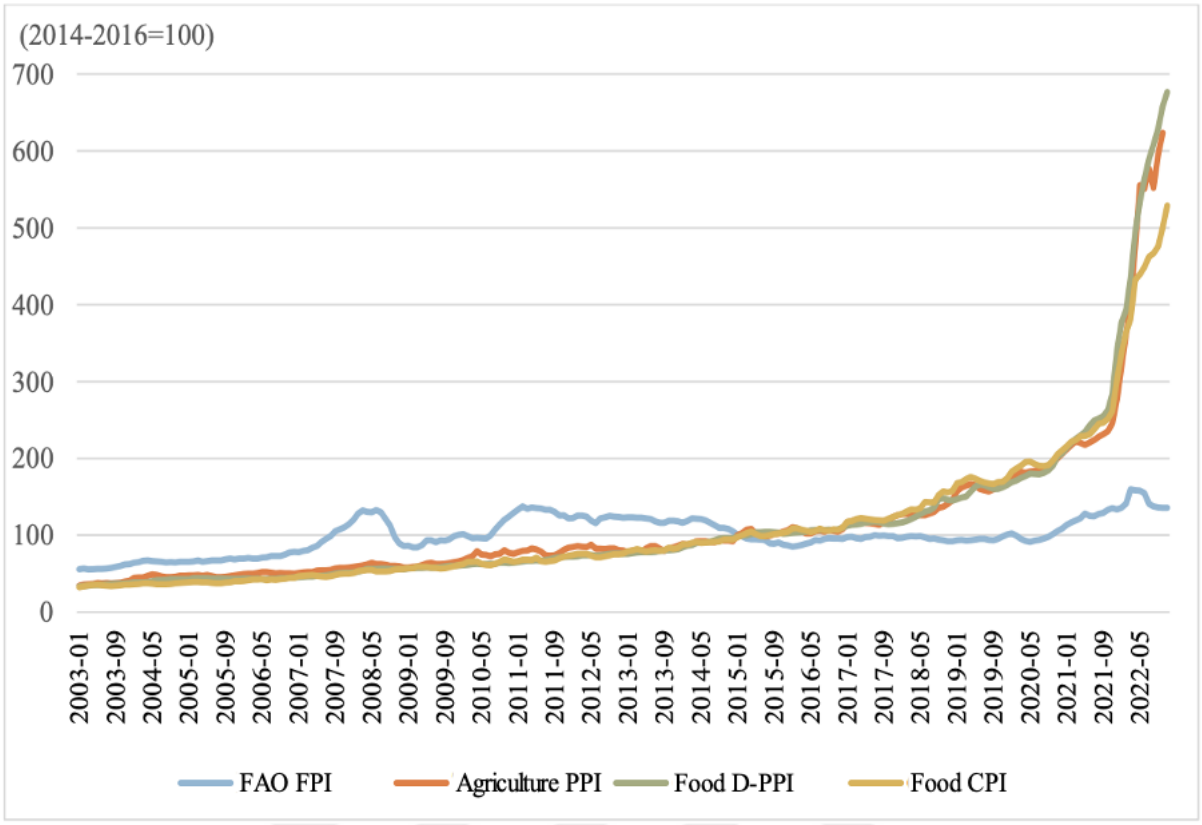


Figure 6.6. Food price indices in Türkiye and FAO (2003–2022). Source: FAO (2022b, 2022d, 2022e), cited in Presidency of the Republic of Türkiye, Strategy and Budget Directorate (2023).

TAGEM's Milk Sector Policy Document underlines that feed is the largest cost item in dairy, representing 50–70% of total production costs depending on farm type and technology (TAGEM, n.d.). It notes that roughage (kaba yem) – basically the feed that substitutes for the grasses which would naturally be cows' main food – comes from natural pastures and cultivated fodder crops. But it describes Türkiye's pastures as having lost productivity mainly due to early and over-grazing, without mentioning land conversion for energy, infrastructure or other investments (TAGEM, n.d.). The document emphasizes that most animal farms now rely heavily on compound feed (*sanayi yemi*), and that insufficient roughage results in a 40–50% increase in compound-feed use and thus in feed costs (TAGEM, n.d.).

According to the 12th Development Plan, the feed industry in Türkiye is only 55% self-sufficient in compound feed (*karma yem*); of the 27.1 million tonnes produced, 12.3 million tonnes depend on imported feed materials (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). In 2022, although similar volumes of feed raw materials were imported, the import bill increased by 20% compared to the previous year and reached 6.5 billion USD (T.C. Cumhurbaşkanlığı Strateji ve Bütçe

Başkanlığı, 2023). To address this import dependence, the MoAF's Strategic Plan states that roughage production must be increased to meet needs (T.C. Tarım ve Orman Bakanlığı, 2025b).

Instead of questioning the production model that creates this feed dependence in the first place, many governmental documents reduce the problem to "import dependence" in feed. It is true that commercial feed production relies heavily on imported raw materials, but this framing obscures a deeper structural issue. Even if all feed ingredients were produced domestically, farmers would still be locked into a system of purchased-input dependence created by intensive dairy production methods. These methods require continuous use of compound feed, and processors use this dependency to impose tied arrangements in which farmers have to accept unfavorable terms.

Policy responses to this problem focus strongly on expanding fodder-crop cultivation. The Milk Sector Policy Document reports that fodder-crop area increased from 760,000 ha in 2002 to 2.75 million ha in 2022, and suggests that this should reach 6 million ha (TAGEM, n.d.). It cites the 11th Development Plan's proposal to increase the share of fodder crops in total arable land from around 5% in 2019 to at least 20% in 2023 (TAGEM, n.d.). In practice, this means dedicating an increasing share of agricultural land to monoculture feed production for animals that will later be consumed by humans, instead of directly producing crops as human food. This follows the dominant global trend of using fertile land for feed crops rather than for food, locking land and farmers into livestock-centred production.

6.2.5. Discursive marginalization of small farmers

Some of the most explicit statements about small farmers appear in TAGEM's Milk Sector Policy Document 2023–2027. In its overview of sector problems, the document lists among the main issues: informality; small farm size and hygiene problems; animal diseases; feed problems; low productivity; insufficient product and milk quality; lack of knowledge; lack of finance; marketing difficulties; weak organization; and the fact that young people do not prefer engaging with agriculture.

It singles out "the existence of small-scale family farms lacking modern production methods" as a key problem in the milk sector (TAGEM, n.d., p. 60). It argues that the small scale of animal-farming holdings reduces their effectiveness in rural economic development, especially because many farms are "polycultural" (crops and animals combined) and have not "completed their specialization" (TAGEM, n.d., p. 60). As a result, the document claims, rational and efficient use of resources is not possible. It further states that in many small farms, animal production is treated as a side activity

while crop production is primary, leading to the continuation of traditional production and marketing methods. Small farms are depicted as unable to overcome basic deficits in access to information, technical infrastructure, modern machinery, product quality and marketing.

In terms of "education needs", the document argues that especially in small-scale enterprises there is a serious lack of professional knowledge and that production technologies appropriate to "our age" are not used: "Producers do not have sufficient knowledge regarding the production of roughage, its storage and its feeding to animals. For this reason, very serious losses occur. The great majority of them do not know how to take care of and feed animals" (TAGEM, n.d., p. 63, author's translation; see Appendix A.17 for the original Turkish). In this perspective, farmers must be trained so that they can conduct "more conscious" production. The lack of technical information is framed as their ignorance or backwardness.

The document hardly uses a rural-development language; instead, it defines the main functions of animal farming as ensuring adequate and balanced nutrition for the population, generating foreign exchange, creating employment and supplying raw materials to various industries. In line with this framing, it criticizes the traditional small-scale approach to animal farming and argues that "in order for a field of activity to be evaluated as a sector, there must first be an entrepreneur. The entrepreneur must enter this field with the aim of making profit, and his or her purpose must be to produce goods and services for the market" (TAGEM, n.d., p. 68, author's translation; see Appendix A.18 for the original Turkish). Small traditional producers who do not fit this model appear as obstacles to production rather than as subjects whose practices might point towards different, less extractive forms of production.

This language frames small farmers as problems to be corrected. As Öztürk et al. (2015, p. 344) put it, "in simple terms, the main narrative is of a massive assault on peasant agriculture." The negativities mentioned about small and traditional farms arise from the deep structural differences and inequalities between traditional animal farming and modern intensive industrial methods. The techniques required in intensive systems – such as ration formulation, silage technology, manure management and reproductive management – are technical domains requiring specialized expertise. It is unrealistic to expect people who have kept animals for generations in extensive, low-input ways to master these methods and apply them correctly within a few years of rapid and radical change.

Field interviews also reflect this policy framing and show how this approach to small-scale dairy farming plays out in practice. A MoAF official explained that "to carry out production economically

in a proper way, the number of animals must reach a sufficient level in our inventory" and claimed that "you cannot do this with three to five animals; at least 50 animals are needed for an enterprise to stand on its feet" (field notes, İstanbul, 2025, author's translation; see Appendix A.19 for the original Turkish). However, in peri-urban Istanbul many households keep only a few animals, and this form of animal keeping often "resembles practices found in Anatolia". Despite making very little profit, people continue such practices because "this culture cannot be abandoned." In his view, these forms of production arise from "the sociological structure of our society," and "despite the Ministry's efforts, solutions for these are difficult, because people do not want to give up these ways."

The rural-development official similarly emphasized that smallholders' criteria do not match those of the milk sector. In his words, "in the village, Ayşe Teyze [a hypothetical elderly peasant woman] does not care about the breed, type or yield of the animal. She wants it to look decent and be docile. She wants a calm animal that she can caress, that does not kick while being milked" (field notes, İstanbul, 2025, author's translation; see Appendix A.20 for the original Turkish). He explained that "two litres less milk does not matter, as long as when she calls 'come, my daughter' the animal runs from the garden to her." He also noted that in traditional small-scale settings these animals are treated "almost as a family member" and are not sold until they are very old or very ill.

I do not use these narratives to romanticize small farming, but they show how the Ministry's language of "unprofessionalism" overlooks the social and affective dimensions of relations between people and animals. The gap between policy discourse and field realities is not only technical; it reflects different understandings of what farming is for. Because the aims and values of the small farmers mentioned here do not fit the entrepreneurial, profit-maximising subject imagined in policy documents, they are deemed unwanted and treated as problems to be solved.

6.2.6. Small, "inefficient" farms as the backbone of value creation

The same policy texts that describe small farms as a weakness also acknowledge that globally, and in Türkiye, a large share of milk production still comes from such farms – and that this production generates significant value for others. TAGEM, citing FAO, notes that in many so-called "developing countries" dairy production usually takes place in subsistence and small-scale farms (TAGEM, n.d.). Animals used in these farms are well adapted to local environments and do not require purchased inputs or special management, but they are described as having low genetic potential for milk production (TAGEM, n.d.). The document contrasts the situation that approximately one third of milk

production in “developing countries” comes from buffalo, goats, camels and sheep with the situation in “developed countries” where almost all milk is produced by dairy cattle (TAGEM, n.d.).

The same document highlights the case of India. India has long been the world’s largest milk producer and, as of 2022, accounted for 23.1% of global milk production (TAGEM, n.d.). It is also described as the lowest-cost milk producer in the world. The Milk Sector Policy Document states that, unlike Western large-scale farm systems, a large share of milk in India comes from very small holdings with one to three milking animals, which are crucial for the livelihoods of more than 600 million rural people (TAGEM, n.d.). In other words, the backbone of the most “productive” dairy country is not industrial mega-farms but millions of very small farms.

TAGEM also states that in Türkiye there are around 1.1 million dairy-cattle holdings, 67.42% of which have fewer than ten animals. These farms are described as “negatively affecting the performance of all the policies the state applies”, and their small and dispersed structure is presented as a fundamental obstacle to the functioning of the sector (TAGEM, n.d., p. 29, author’s translation; see Appendix A.21 for the original Turkish). According to the document, farms with fewer than ten cows can sustain themselves only through crop production and other farm activities, and they are too small to meet regulatory standards or supply output to the market. It is argued that the small and scattered structure of these farms increases the cost of milk production and also raises transportation costs for delivering milk to processing facilities. This causes difficulties for processing plants in finding sufficient milk at all times, and therefore creates problems for the continuity of raw-material supply. By contrast, farms with 120 or more dairy cows are described as able to compete in the market and to comply easily with EU requirements (TAGEM, n.d.).

Despite this discursive downgrading of small farms, these policy documents at the same time underline that dairy is one of the most important sources of value creation in agriculture in Türkiye. In 2020 the total agricultural production value was 354.6 billion TL, and 30.6% of this came from animal products (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). Excluding poultry meat, the value of animal production was 108 billion TL; of this, 51% (55.3 billion TL) came from milk (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). Between 2019 and 2020, the value of milk production increased by 26.6%, while the value of meat production increased by 6.8% (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). More recent FAO data show that in 2023 raw milk of cattle was the top agricultural commodity in terms of gross production value in Türkiye (FAO, 2025).

Figure 6.7. Top 10 commodities in Türkiye by production volume and gross production value (thousand USD), 2023. Source: FAO, 2025.

At the same time, the same report admits that the burden of this value creation is largely carried by farmers (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). It observes that globally, part of the price increase at producer level is absorbed by other actors in the supply chain such as wholesalers, processors and retailers, while in Türkiye the opposite happens: price increases are higher after the farm gate. This is interpreted as a sign that full competition conditions do not exist and that the supply chain does not function efficiently (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). In its SWOT analysis, the report lists among the weaknesses: the absence of an effective organizational structure to regulate markets for live animals and animal products; dependence on imported inputs such as feed, vaccines, breeding animals and genetic material; unregistered production and unfair competition; failure to reach an optimal farm size; high financial burdens on livestock enterprises; weak monitoring and evaluation of livestock policies; accelerating concentration and monopolization trends in processing and marketing of animal products; instability in input and output prices; the effects of climate change; and the spread of animal-free diets (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023).

Despite all these difficulties, official sources show that a very large amount of milk is produced in Türkiye, and the government also takes pride in this milk production. Earlier sections showed that, according to official statistics, Türkiye ranks ninth globally in terms of total milk production and eighth in terms of the monetary value obtained from cow's-milk production (TAGEM, n.d.). Türkiye is described as more than self-sufficient in milk, and policy projections foresee surplus production in

the coming years (TAGEM, n.d.). According to the National Milk Council's 2021 report, based on TUIK data, Türkiye's exports of milk and dairy products increased by 67.7% since 2015, with a 36% increase in 2021 alone (Ulusal Süt Konseyi, 2022; Figure 6. 8). In 2021, for the first time, exports exceeded 500 million USD and reached 516.7 million USD (Ulusal Süt Konseyi, 2022).

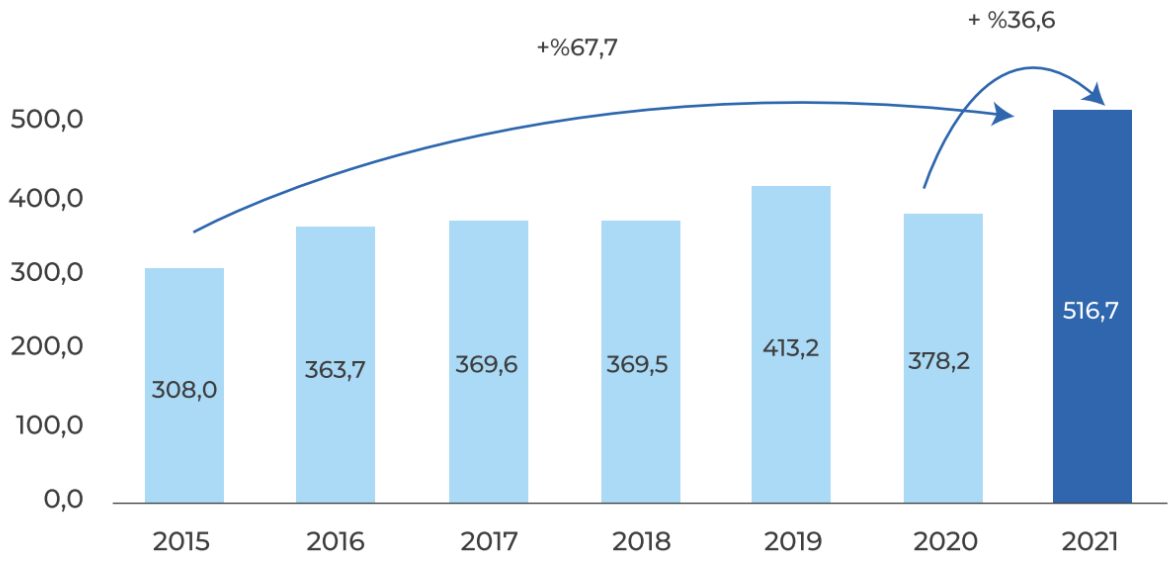


Figure 6.8. Export values in milk and dairy products trade (million USD). Source: TUIK (2022), cited in National Milk Council (Ulusal Süt Konseyi), 2022.

Taken together, these elements suggest that small-scale family farms, which still make up the majority of dairy holdings in Türkiye, create great value for the further steps in a value chain dominated by few actors. This continues even though they operate under strong price pressure and very low milk–feed ratios. They are repeatedly described in policy documents as weak, inefficient, backward or as a problem for policy performance, while the value created is largely captured and enjoyed by others. In this sense, the supposedly "inefficient" small-farm structure that policy documents want to overcome is in fact the backbone of domestic supply and of the profits enjoyed by the dairy industry and related capital. In sum, the dynamics described in this chapter show that the profits circulating in the dairy sector are generated through a model that extracts value by simultaneously exploiting animals and the small farmers, while policy frameworks consistently work to the advantage of capital.

7. DISCUSSION

This thesis examines how contemporary dairy governance in Türkiye constructs and legitimizes a trajectory of intensified and "efficient" milk production, and how this trajectory reshapes both small-scale dairy farming and dairy animals' lives and bodies. Political ecology provided the main analytical framework because it allows milk to be approached not as a neutral food product or a technical sector, but as a socio-ecological relation shaped by power, history, and contested policy visions. Bringing multispecies justice into this framework made it possible to take seriously the lives and bodies of animals as part of that relation, rather than treating them as background resources or secondary ethical concerns.

The analysis shows that dairy governance in Türkiye does not simply respond to nutritional needs or food security concerns, but actively produces a particular socio-ecological order. Human and non-human life are organized around a regime of accumulation that is framed as rational, necessary, and unavoidable. This framing depends on systematic exclusions and hierarchies of value, through which certain actors, practices, and lives are prioritized while others are marginalized or sacrificed. The harms generated by this regime are unevenly distributed, falling most heavily on small-scale farmers and on dairy animals, whose bodies, labor, and lives are rendered flexible and disposable within a productivist optimization logic.

A central empirical finding of the thesis is the persistent insistence, across policy documents and sectoral reports, that Türkiye "needs" more milk, higher yields per animal, and more efficient and entrepreneurial farmers. Population growth, rising demand, food security concerns, and global competitive dynamics are mobilized as objective constraints that are said to leave no alternative to intensification. At the same time, the same documents emphasise that Türkiye is already among the world's leading milk producers, that per capita availability and consumption are high, and that the country is more than self-sufficient in milk. This tension is not accidental. It indicates that the push for "more" is not primarily driven by scarcity, but by a deeper commitment to a political-economic model in which growth, efficiency and profitability operate as default paths, regardless of their social, ecological, and multispecies consequences.

Adopting a political ecology approach is particularly useful here because it draws attention to how such "needs" are produced, rather than taken for granted. When read together with the long-term history of agrarian restructuring traced in this thesis, contemporary dairy governance emerges as the

outcome of sustained political-economic interventions. Structural adjustment reforms, market liberalization, privatizations, breeding policies, EU harmonization processes, and the growing consolidation and power of processors and retailers have collectively reshaped dairying toward larger-scale, input-intensive, and commercially integrated forms of production. The current governance regime is therefore not a natural evolution of the sector, but a historically constructed configuration of power that privileges certain actors, production forms, and values over others.

This insight aligns with critical agrarian and political ecology scholarship that treats concepts such as efficiency, growth, and competitiveness as political constructions rather than neutral descriptors. In the dairy sector in Türkiye, efficiency is primarily defined through a narrow set of indicators: litres of milk per animal, cost per unit of output, compliance with industrial standards, and integration into formal value chains. Once these indicators are treated as self-evident measures of success, other dimensions are systematically marginalized. These include the erosion of small-scale livelihoods, increasing dependence on inputs and commercial relations, the loss of native breeds and pasture-based systems, and the transformation of human–animal relations into narrowly instrumental ones.

What this thesis adds to that literature is a sustained effort to keep animals analytically inside the picture. In much agrarian political economy and political ecology work, animals remain implicit—present as “livestock”, “inputs”, or “natural resources”, but rarely analyzed as living beings whose bodies and lives are directly reorganized by governance regimes. By contrast, this thesis shows that dairy intensification in Türkiye operates through concrete interventions into animal bodies: reproductive control, hormonal synchronization, genetic selection, artificial insemination, digital monitoring, and profitability thresholds that determine life and death. Animals are therefore not merely affected by intensification; they constitute one of its primary sites of operation.

This is where multispecies justice becomes analytically necessary. The concept is useful not because it offers an abstract moral appeal, but because it helps to name a specific form of injustice that conventional human-centred frameworks struggle to capture. Multispecies injustice in the dairy sector in Türkiye emerges from a governance regime that systematically normalizes harm to animals as a legitimate development strategy, while simultaneously obscuring that harm through technical language and productivity metrics. Animals are rendered modifiable, replaceable, and discardable as long as this serves the goals of efficiency, growth, and competitiveness.

At the same time, the thesis does not treat animals' suffering in isolation from human livelihoods. One of its central contributions is to show how animal exploitation and the exploitation of small-scale farmers are structurally intertwined. These processes are not symmetrical, and they should not be reduced into a single story of shared victimhood. Small farmers retain power over animals and benefit from their exploitation. Yet, both farmers and animals are governed through the same productivist logic, and both are rendered disposable when they fail to meet its performance criteria.

On the farmer side, this logic manifests through persistent pressure to scale up, specialize, adopt modern technologies, and integrate into formal markets. Although the majority of dairy farms in Türkiye remain small family farms, policy discourse consistently frames them as inefficient, fragmented, and unprofessional. Access to key support instruments is often conditional on meeting scale, breed, and integration requirements. Under these conditions, intensification is not simply a voluntary choice but a condition for remaining economically viable and institutionally legible.

On the animal side, the same regime defines value almost exclusively through productivity. Cows are valuable as long as they produce profitable amounts of milk; bulls are valued primarily as sources of "superior" genetic material; calves are valued insofar as they can be turned into future sources of dairy or meat. Once animals no longer meet profitability criteria, they are removed and slaughtered. Disposability is thus built into the system not only for farmers but also for animals. This is not an unintended side effect, but a structural feature of a governance model oriented toward capital accumulation through cheapened and devalued lives and production.

Multispecies justice helps conceptualize this shared but unequal exposure to harm by understanding justice as extending beyond humans to a plurality of species and beings. It makes visible how a single policy trajectory produces layered injustices across species, while simultaneously preventing these harms from being recognized as injustices at all. Without a multispecies lens, animal suffering risks being treated as an individual or ethical concern, detached from questions of rural precarity, market power, and agrarian restructuring through policies. Without political ecology, multispecies harm risks being moralized or individualized, cut off from the political–economic forces that produce it. Bringing these perspectives together allows this thesis to analyse dairy intensification as a multispecies political project structured through governance and power.

Importantly, the governance regime analyzed in this thesis is not internally coherent. The policy architecture contains visible tensions and contradictions. Upper-level planning documents recognize dependence on imported feed and breeding animals, express concern over biodiversity loss and the

erosion of native breeds, and acknowledge climate vulnerability. Concepts such as resilience, circular agriculture, animal welfare, and One Health appear increasingly in official language. Yet, when these concerns are translated into concrete targets and indicators, they are subordinated to familiar metrics: higher production volumes, higher yields, larger herds, and deeper market integration. Animal welfare is reframed primarily as a matter of economic loss prevention; native breeds are revalued mainly as genetic reserves for sustaining productivity. These contradictions matter because they reveal the limits of the dominant policy narrative. They show that the current trajectory of intensification is not as inevitable or stable as it is presented to be. From a political ecology perspective, such cracks are analytically important because they indicate where hegemonic discourses are weakest and where alternative framings can be articulated.

From a multispecies justice perspective, one of the most consequential effects of the current framing is the construction of a false trade-off between animals' lives and farmers' livelihoods. Improving animal welfare appears to threaten economic viability, while supporting small-scale farming appears to require continued intensification and exploitation of animals. The analysis developed in this thesis suggests that this antagonism is not natural. It is produced by a governance model that defines success almost exclusively through growth, yield, and competitiveness, rather than through liveability, care, or ecological limits.

This thesis does not propose a fully articulated alternative dairy system. Its empirical scope is limited, relying primarily on policy documents, sectoral reports, statistical series, and a limited set of field encounters, while leaving the systematic analysis of rich interview material for future research. Its contribution lies elsewhere. By bringing political ecology and multispecies justice together, it clarifies how contemporary dairy governance in Türkiye produces a specific configuration of multispecies injustice, and how this configuration is historically constructed, politically maintained, and discursively normalized.

The broader implication is that debates on just and sustainable food systems cannot afford to treat animals as secondary or external to questions of agrarian justice. Nor can they address animal suffering without engaging the political-economic structures that shape farmers' lives and choices. This thesis shows that dairy intensification in Türkiye is not merely a technical pathway to food security, but a multispecies project that redistributes value upward while redistributing vulnerability across species. Making this configuration visible is a necessary step toward questioning its inevitability and toward imagining food systems that are more just—not only for humans, but across species.

8. CONCLUSION

This thesis examined how dairy farming and milk production in Türkiye has been restructured through a dominant policy and governance framework that prioritizes growth, efficiency, and competitiveness. Starting from the premise that milk is not a neutral commodity, but its production is embedded in socio-ecological and political-economic relations, the study asked how contemporary dairy governance in Türkiye constructs the "need" for intensified production, which tools it mobilizes to pursue this trajectory, and what this transformation means for small-scale farmers and dairy animals.

To address these questions, the thesis combined political ecology with a multispecies justice perspective and worked primarily with policy documents, statistical data, and field material from a sectoral event and institutional encounters, alongside a critical review of the literature on agrarian change and dairy transformations in Türkiye. This approach made it possible to analyse dairy intensification not as a technical or inevitable process, but as a historically produced and politically maintained project, embedded in longer trajectories of agrarian restructuring in Türkiye.

The analysis showed that contemporary dairy governance in Türkiye is organized around two interconnected discursive claims. The first is that milk production must continue to expand and that animals must be made more productive and efficient, mainly through breed transformation and reproductive and herd-management technologies. The second is that farmers must also become more efficient: larger-scale, more specialized, more formalized, and more deeply integrated into value chains. Together, these claims define what counts as viable farming and legitimate production, while marginalising small-scale, low-input, and alternative forms of dairy production.

A key finding of the thesis is the tension between the persistent insistence on the need for "more" milk and the simultaneous presentation of Türkiye as already self-sufficient and among the world's leading milk producers. Rather than pointing to actual scarcity, this tension suggests that intensification is driven by a broader political-economic commitment to growth and efficiency as default policy goals. Read in historical perspective, the current governance regime emerges not as a natural evolution of the sector, but as the outcome of decades of policy interventions, market-making efforts, and institutional pressures that have favored capital-intensive and commercially integrated production.

One of the main contributions of the thesis is to keep animals analytically visible within this process. Dairy intensification in Türkiye operates through direct interventions into animal bodies and lives, including reproductive control, genetic selection, monitoring technologies, and strict productivity thresholds that structure life and death. At the same time, small-scale farmers are governed through similar performance criteria and face growing pressure to adapt or exit. While these experiences are not equivalent, they are structurally connected through the same productivist logic. A multispecies justice lens helped to analyse this shared but unequal exposure to harm without erasing the differences between human and non-human positions.

The thesis does not offer a comprehensive alternative model for milk production, nor does it claim to capture the full diversity of practices and experiences in the sector. In addition to the material analyzed here, the research also involved a more extensive and locally grounded set of in-depth interviews conducted in the İzmir region. Engaging with this material in the depth it deserves would have required a different scope and analytical focus, and was therefore left for future work. These limits also point to clear directions for further research.

Much of the existing work on dairy farming in Türkiye continues to be shaped by a technical and productivist approach, largely emerging from veterinary, agricultural engineering, and animal science contexts, that treats intensification as a self-evident and necessary path. There is a strong need for more critical social science research that approaches milk production as a political and social process, and that questions the assumptions that are today widely accepted and adopted.

Building on such a critical foundation, future studies would benefit from closer, in-depth field-based research and multispecies ethnography. Closer engagement with farmers, animals, and sectoral sites can generate rich empirical material that remains largely invisible in policy texts and technical reports. In the context of Türkiye, research that treats animals as subjects within social-scientific analysis is still limited, although there are a few important examples (Zeybek, 2020; Burgan Kıyak, 2023; Köksal Özyaşar & Nacar, 2024). Expanding this line of work would significantly deepen debates on agrarian change and food systems.

There is also a clear need for more detailed research on milk processors, retailers, and other corporate actors that increasingly shape the dairy sector. Both the historical analysis in this thesis and the wider literature suggest that economic and political power is becoming increasingly concentrated at these levels. Research focusing on these actors could examine how they capture value and secure profits, and how their power is consolidated through contracts, pricing strategies, control over market

access, as well as their relations with government actors and influence over regulatory and policy processes. Such work would also help clarify how corporate interests shape production models on farms, influence breeding and feeding choices, and lock both farmers and animals into particular forms of production that primarily serve industrial and retail priorities.

Finally, future research could explore more carefully the potential points of convergence between struggles around farmers' livelihoods and struggles around animal liberation. Rather than reproducing fixed oppositions between humans and animals, a political ecology perspective enriched by a multispecies lens allows for a broader analysis of how shared structures of power generate harm across species while benefiting a limited set of actors. Research in this direction could help clarify where solidarities are possible, where tensions remain, and how different struggles around food, agriculture, and capitalism might be better understood together.

Overall, this thesis shows that dairy intensification in Türkiye cannot be understood as a purely technical response to production needs or sectoral efficiency concerns. It is better approached as a historically constructed and politically organized process that reshapes agrarian relations, animal lives, and the conditions under which milk is produced. By bringing political ecology and multispecies justice together, the thesis highlights how rural livelihoods, animal exploitation, and political-economic power are deeply intertwined and therefore need to be analyzed within the same analytical frame. Taking these entanglements seriously is essential for developing more critical, grounded, and transformative approaches to food systems research.

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APPENDIX A: ORIGINAL TURKISH QUOTATIONS

1. “Damızlık süt sığırı ithal edilmesi; 1987 yılında ülke sığırcılığını geliştirmek, mevcut sığır popülasyonundaki yüksek verimli kültür ırklarının oranını arttırmak, birim hayvan başına et ve süt verimini yükseltmek, girdi, üretim ve pazarlama maliyetlerini düşürmek suretiyle karlılığı arttırmak ve süt sığırcılığı işletmelerinin devamını sağlamak amacıyla damızlık süt sığırı ithalatına başlanmıştır” (TAGEM, n.d., p. 75).
2. “Suni tohumlama desteği; Yerli sığır ırklarının melezlemeyle yüksek verimli ırklara dönüştürülmesinde suni tohumlama büyük önem taşımaktadır” (TAGEM, n.d., p. 75).
3. “2024 yılını sektörümüz açısından genel bir değerlendirdiğimizde en çok konuşulan konuların et ve süt sektörü olduğunu hepimiz biliyoruz. Ülkemizin nüfus büyüklüğü, kentleşme oranı, turist ağırlamadaki rekorlar üzerine rekorlar kırması elbette gıda sektörümüzün de büyümesini teşvik ediyor[…] Gelecek dönemde bu sektörün çok daha büyümesi gerektiğini, bunun sadece bir dilek ve temenni değil, bir zorunluluk olduğunu buradan belirtmem gerekecek[…] Son 22 yılda süt ve et sektörü konusunda nasıl bir destek sağlandı ki bu güçlü altyapı oluştu? Hayvancılık politikalarının desteklemeler, kırsal kalkınma hibeleri, arge faaliyetleri ve regülasyonlar olmak üzere 4lü saç ayağının üzerine oturduğunu söylemem gerekir[…] Bugün itibarıyla gelinen sonucu söylemek istiyorum: 3158 litre olan hayvan başına verimi hedefimiz 5 yıl içerisinde 3 katına çıkarmak[…] Hayvanların verimliliğinin artırılmasının yanısıra, gıda alanında da yeni çalışmalara imza atıyoruz[…] Birkaç rakam verelim: şu anda biz hem büyükbaş hem de küçükbaş hayvan varlığında Avrupa’da birinci sıradayız. Süt üretiminde Avrupa’da 2. sıradayız, dünyada da 8. sıradayız. Önümüzdeki dönemde mutlaka ama mutlaka basamakları yukarı doğru çıkaracak, verimli ve kaliteli üretimi artırma konusunda ciddi mesai harcamaya devam edeceğiz[…] Bu aşamda, güncel, bugünün şartlarını yeterli görmek bizi büyük bir yanılgıya götürür. Dolayısıyla, sadece dünyadaki konjonktürü yakalamaktan bahsetmiyorum, onların da önüne geçecek bir zihinsel devrimi oluşturmaya çalışıyoruz[…] Sütü süt ırkından, eti et ırkından oluşturmamızın zamanı geldi. Çünkü kaynaklar kıt ve bunu rantabl kullanma zorunluluğumuz var[…] Üretimin sürdürülebilirliği ve sektörün fiyat istikrarı için sözleşmeli üretimin ne kadar önemli olduğunu ve üretim planlamasının ayrılmaz bir parçası olduğunu belirtmek istiyorum[…] Özellikle verimlilik kriterlerini sağlayan bütün işletmelerimizin, bütün üreticilerimizin bu desteklerden yoğun bir şekilde faydalanacağını söylemek istiyorum[…] Hep birlikte bu ülkenin ihtiyacı olan, ister bitkisel üretim olsun, ister hayvansal üretim olsun, bunu karşılayabilecek potansiyele sahip bir ülkeyiz biz. Sadece üretim bakışımızı artık verimlilik ve kalite kriterlerine yönlendirmek zorundayız. Bugün 40 kilo 50 kilo ortalama süt üreten bir ülke ile yarışacaksanız bunu 20 kilogram üretim ile yapamazsınız. Maliyetiniz fazla, her şeyden

önce. Dolayısıyla bu potansiyele sahip olduğumuzun farkındayız, hep beraber bu farkındalığı üretime dönüştürmek durumundayız. Ne olacak? Hem kendi ihtiyacımızı karşılayacağız hem de etrafımızdaki ülkelere de ihracat imkanı kapıları sonuna kadar önümüze açılmış olacak[…] Ürünlerimizin ihraç edilmesi ile ilgili ülkeler nezdindeki çalışmalarımızın çok yoğun şekilde devam ettiğini söylemek istiyorum. Aslında ifade etmek istediğim şu: Artık dünya çapındaki rekabete hepimizin alışması, kendisini hazır etmesi gerekir[…] Daha fazla çalışmamız gerekiyor ve odaklanmamız gerekiyor. Bir kez daha söylemek istiyorum: odak noktamız verimlilik ve kalitedir[…] Bu ülkenin üreticisi kendisinden veriyor, hayatını buna adıyor. Bu eleştirilmesi gereken değil, takdir edilmesi gereken, minnet duyulması gereken bir husustur" (Speech by the Minister of Agriculture and Forestry, İbrahim Yumaklı, Bursa, 2024).

4. "Üreticilerin halinden hiç konuşulmayacak mı? Biz üreticiler, çiftlikler yaşamalı. Başkanımız 90 litre süt veren ineklerden bahsediyor, bakanımız başka bir ülkede yaşıyor gibi konuşuyor, biz yaşayamıyoruz" (field notes, Bursa, 2024).

5. "Büyük işletmeler genelde Holstein ırkı süt sığırları besliyorlar, süt verimi yüksek olduğu için. Bu çiftlik üretimleri daha profesyonel yapılıyor. Genelde 22-23 litrenin altına düşen inekler kesime sevk ediliyor, damızlıktan çıkartılıyor. Holstein için bahsediyorum, diğer ırklar bunu sağlamaz. İşletmenin politikasına göre değişir. Ama genelde 23-24 litrenin altına düştüğü anda inekler kesime gider, artık onu rantıbıl bulmazlar, keserler. Profesyonel işletmede sınırdan yarım litre aşağıya düştüğün anda mezbahaya gidersin, hiç yolu yoktur, direkt mezbahaya kesime gidersin. Alttan gelen düvelerle veya dışarıdan satın aldıkları diğer damızlıklarla devam ederler, sürüyü de bu şekilde gençleştirirler. Sistem genel anlamda böyle işliyor[…] Büyük işletme deyince 100 ve üstü sağmal inekten bahsediyoruz. 100 sağmal ineği varsa işletmede 200-250 hayvan vardır zaten işte düvesi, danası, buzağısı. Bunlar genelde pek buzağıyı tutmazlar, birkaç günde satarlar. Buzağıya süt de içirmezler, süt tozu içirirler, süt daha kıymetli olduğu için. Tam profesyonel işletmelerde içmezler. Küçük işletmelerde içebilirler. Ama genelde profesyonel işletmecilikte buzağıya süt içirilmez. Kolostrum hariç tabi, o zaten ağız sütü dediğimiz ilk sütü içirirler. O zaten satılmaz çünkü. O da sağılıp satılamadığı için. Satılabiliyor olsa onu da içirmezler. Kolostrumdan sonra hemen buzağıyı zaten hem ayırırlar hem sütten keserler, biberonla, süt tozuyla beslerler. Erkekleri hemen satarlar, dişileri de damızlık için ayırırlar. Alttan da sürüyü gençleştirmek için kendi buzağılarını kullanırlar genelde. Sürü yönetimi ile çalışıyor bunlar" (field notes, İstanbul, 2025).

6. "Ülkemiz sığırcılık verimlerinin AB ülkelerindeki seviyelere çıkarılması, sığırlarda gerekli genetik ilerlemenin sağlanabilmesi için damızlık sığıra duyulan ihtiyaç her geçen gün hızla artmaktadır" (TİGEM, n.d., p. 21).

7. "Boğa yok zaten, suni tohumlama var. Tabi tohumlama, canlı boğa hiç kullanılmaz. Suni tohumlama ile yaparlar. Östrojen tedavisi ile, takviyesi ile ineklerin aynı anda üst üste kızgınlığa

gelmesi sağlanır. Adam her gün tohumlama yapmaz. Östrojen ilaçları kullanır. Onları kullandıktan 10 gün sonra hayvanlar boğaya gelirler. Hepsine aynı anda enjekte edilir. Sürü yönetiminde bu da vardır. Aynı anda kızgınlığa gelirler, aynı anda tohumlanırlar, dolayısıyla aynı anda doğum yaparlar, aynı süreçte. Bu işletme için takip açısından büyük kolaylık. Erkek kullanılmaz, boğa hiç olmaz bu işletmelerde[…] 2000'den sonra süt hayvancılığı değişti, hem süt işleme de değişti. Bu kadar hazır yoğurt, hazır süt yoktu. 2-3 marka olurdu. Toplayan da yoktu, üreten de yoktu o zamanlar. Hayvan ırklarımız daha yerliydi, popülasyonumuz yerli ırklardan oluştuğu için birim süt verimi azdı. Eskiden 30 yıl önce biz başka bir ilde sahada çalışırken hayvan varlığının %90'ına yakını yerel ve kırma, melez hayvanlardan oluşuyordu. En az yarısı yerli, %40ı kırma belki %10 saf veya safa yakın hayvan vardı. Şimdi o oranlar tersine evrildi. Şu anda yerli ırk bulamazsınız. Kırma vardır da tamamen yerli bulamazsınız. Kara sığırı, Doğu Anadolu Kırmızısını, Güneydoğu Anadolu Kırmızısını ve boz ırkı, bizim yerli ırklarımızı artık sahada bulamazsınız. Artık yok. Bazen araştırmalar için enstitüler arıyorlar, bulamıyorlar safını. Hep kırmalar var, kırılmış hep hayvanlar, safı kalmamış. Yerli bir sürü ırkımızı da öyle kaybettik. Güneydoğu Anadolu Kırmızısı yok artık, GAK yok artık, kayboldu. Güney Sarısı yok, Doğu Anadolu Kırmızısı çok az, yerli kara ve boz ırk hemen hiç yok, Zavot da yok[…] Ben sahada suni tohumlamada çalışıyorken genelde yerel ırklar vardı. Hatta bazen öyle yerel ırklar vardı ki. Mesela Montofon, Simental gibi büyük kafalı ırklar vardır, kafaları büyük doğar bunların buzağıları, Simental'in özellikle. Kalça kemiği dar hayvana yapılmaz o mesela, çünkü doğuramaz, çıkmaz oradan. Ama adam da onu ister, güzel buzağı diye, Simental yap diye tutturur. Ama sen ineğe bakarsın inek küçüktür, cidarı dar, olmaz deyip yapmazsın. Ona Jersey gibi daha küçük ırkları yapardık ya da hiç yapmazdık. Kaşeklik hayvan gelir, zayıflıktan ölüyordur, kendine bakamıyordur hayvan, ona tohumlama yapılmaz. Hayvanlar hep yerliydi, en iyi ihtimalle kırma hayvanlardı. Safkan hayvanlar yoktu köylerde o zamanlar. Genel Anadolu için bahsediyorum" (field notes, İstanbul, 2025).

8. "Türkiye'de aile işletmesi dediğimiz 20 başa kadar olan işletmelerin toplamda oranı %82. Süt oranına gelince %30'u bulmuyor. Bizim büyük işletmelerimizde esas süt kaliteli" (field notes, Bursa, 2024).

9. "Hayvancılıkta kırılma noktası, dönüşüm yılı olarak özellikle 2010'dan sonra, hatta 2009 da diyebiliriz. 2009'daki Tarım Bakanlığı'nın yapmış olduğu bazı desteklerin, teşviklerin şekli değiştikten sonra orta ve büyük ölçekli işletmelerin sayısı artmaya başladı. 1970-80 arası da bize kültür ırkının ithal olarak girdiği dönem" (field notes, İstanbul, 2025).

10. "Türkiye'de tarımda genelde işletmeler küçük ölçekli, tarımsal alanlar da öyle bizde, küçük, parçalı. Öyle de olmalı aslında da, işte kapitalizme yenik düşüyor bu işletmeler, yoksa öyle olmalı. 3-5 kişinin elinde toplanmamalı bence. Öyle de devam etmeli ama, onu da bir şekilde sübvanse etmek lazım" (field notes, İstanbul, 2025).

11. “Son yıllarda da sağlanan devlet desteklerinin artması sonucu büyük kapasiteli modern sığırcılık işletmelerinin sayısı hızla artmıştır” (TİGEM, n.d., p. 9).

12. “2-3-5 tane hayvana derme çatma ahırlarda bakıyorlar. Bunu satarak ekonomik gelir elde etmeye çalışıyor. Sıkıntı orada başlıyor. O kişiler başka şey yapamıyor. Anadolu’dan göçmüş gelmiş, teyzem ömrü boyunca hayvan bakmış, hayvandan kopamıyor. Hayvanını severken “Nazlı, nazlı” diye seviyor hala. Biz buna küçük işletme diyoruz ama bakım tarzı hala bu. Derme çatma bir ahır oluyor, içeride 2-3 inek, yanında buzağısı. Bunlar İstanbul şartlarına uygun değil. Sıkıntı orada başlıyor. Sonuçta üretilen bir ürün var 3 hayvan olsa günde 60 litre alsa ne yapacak o sütü? Bir şekilde döngüye sokması lazım. O döngüye sokma esnasında, bizim kriterlerimiz belli olduğu için, o kriterlere ayak uyduramadıkları için, sokak kenarlarında, yol kenarlarında, eşe dosta akrabaya o sütü satıp ayakta durmaya çalışıyorlar” (field notes, İstanbul, 2025).

13. “Büyük üreticiler, mesela Danone, Sek Süt, bunlar anlaşma yaptıkları büyük üretim çiftliklerinden gidip sütü kendileri alır. Bunlar toplama merkezine girmez. Anlaşma yapar üretici ile. Büyük işletmelerde tedarik zinciri bu şekilde olmuyor, toplama merkezinden olmuyor. Adamın zaten 1000 sağmalı var; 20 ton, 30 ton, 40 ton süt yapıyor. O zaten büyük bir firma ile anlaşmıştır. Onlar gider sütünü alır, işleme tesisine getirir, işlemeye başlar. İşin büyük tarafı bu şekilde çalışıyor, öyle çalışmak zorunda. Sek gibi firmaların üretim kapasiteleri çok yüksek. Bu firmalar da toplama merkezlerinden süt alıyordur ama aldığı sütün %10’u veya 20’sidir bence. Ağırlıklı olan kısmını süt hayvancılığı yapan büyük bir işletme ile sözleşme imzalamıştır, imzalamak zorunda yani. Bunun yapılmasının ekonomik tarafı var” (field notes, İstanbul, 2025).

14. “Küçük aile işletmeleri bu yüzden ya kapanıyor ya da daha da küçülüyor, sadece ev ihtiyacını karşılayacak kadar inek bakıyor, çünkü yem maliyeti süt giderini karşılamıyor artık. Geriye kalıyor sütçü büyük işletmeler. Bunlar da sütlerini büyük firmalara satıyorlar. Bunlar bir miktar daha büyük kalemde süt sattıkları için yağ oranına göre değişmekle beraber daha yüksek bir fiyattan satıyor vatandaştan, mesela vatandaş 10 liraysa onlar 12 liradan satıyorlar öyle söyleyeyim” (field notes, İstanbul, 2025).

15. “Şu an sütün satış fiyatı ortalama bugün toptanda 12-17 lira arası, çiftliklerde. Bu fiyat hayvanın cinsine ve nakliye masrafına göre belirlenir. Bizim ülkemizde bir hayvan ortalama 20-30 litre süt verdiği için, bu şekilde toptancıya verdikleri zaman yem masrafını karşılamıyor. O yüzden şu an vatandaşlar sütü paketleyerek 5 litrelik bidonlarda kaçak olarak satıyor. Başka türlü olmuyor çünkü. 12 liradan verdiği zaman, 20 litre süt elde etsen 240 lira para yapar. Bugün bir hayvanın ortalama günlük yemesi zaten 250 lirayı geçiyor” (field notes, İstanbul, 2025).

16. “Süt üreticisinin bağlı olduğu bir yer vardır, farklı firmalara satmaz. Firmalar şöyle kendilerine bağlıyor: yemi de o firmadan almak zorundasınız. Her süt fabrikasının yem markası var, sütü verdiğiniz yerden yem alıyorsunuz. Şu an zaten kısır döngü o, adam hiç para bile göremiyor. Süt

parası direkt yem parasına kesiliyor. Hayvan beslenmesi için yem lazım. Süt fabrikalarının %90'ının anlaşması şöyle, ben senden sütünü alırım ama yemi de sen benden alacaksın diyorlar. Kendini bir nevi ham madde sağlayıcısı yapıyor, kendine bağlıyor. Süt parası yem parasına gidiyor, köylü aslında hiç para görmüyor. Öyle bir kısır döngü içinde. Sadece büyük çitlikler kendi yemini ürettiği için onlar bazen almıyor. Bu çarkın dışına çıkabilen çok az işletme, yetiştirici var. 5-6 tane hayvanı var zaten adamın, 5-6 hayvanı olan insan zaten fakir insan, zaten yem işleyecek arazisi de yok. O sütü satamazsa süt elde kaldı mı ertesi gün bozuluyor, mecbur birisine verecek. Bütün firmalar da sistemi bunun üzerine kurduğu için, A firmasına satmazsa B firmasına satıp onun yemini alacak. Süt sıkıntılı. Her köyde kapasiteli soğutma tankı olmadığı için, mecbur hemen sütü satmak zorunda vatandaş, o da süt fabrikalarına muhtaç oluyor. Anında satmak zorunda" (field notes, İstanbul, 2025).

17. "Özellikle küçük ölçekli işletmelerde ciddi bir mesleki bilgi eksikliği olduğu gibi çağımıza uygun üretim teknolojileri de kullanılmamaktadır[…] Üreticiler kaba yem yapımı, depolanması ve hayvanlara yedirilmesi konusunda yeterli bilgiye sahip değildir. Bu nedenden dolayı özellikle otların biçilmesi ve depolanması esnasında yapılan yanlışlardan dolayı çok ciddi kayıplar şekillenmektedir. Özellikle silaj yapımı ve saklanması konusunda çok ciddi bilgi eksikler mevcuttur. Süt veya besi sığırı yetiştiricilerinin büyük çoğunluğu hayvanların bakım ve beslenmesini bilmemektedir" (TAGEM, n.d., p. 63).

18. "Geleneksel yöntemlerle yapılan hayvancılık verim kaybına neden olmaktadır. Hayvancılık işletmelerine daha bilinçli üretim için eğitim verilmelidir. Bir faaliyet kolunun sektör olarak değerlendirilebilmesi için öncelikle bir girişimci bulunması şarttır. Girişimci bu faaliyet koluna kâr elde etme amacıyla girmeli ve amacı piyasa mal ve hizmet üretmek olmalıdır" (TAGEM, n.d., p. 68).

19. "Üretimin ekonomik olarak düzgün yapılabilmesi için bizdeki envanterde yeterli sayıya ulaşması gerekir. Bunu 3-5 hayvanla yapamazsınız. Bunu yapabilmek için en az 50 hayvana ihtiyaç var. Bir işletmenin ayakta durabilmesi için hayvan sayısı ve ürettiği süt miktarı çok önemli. Bu bölgedeki hayvancılık Anadolu'daki hayvancılık gibi. Burada bir alışkanlık var ve bu kültür kesinlikle terk edilemiyor. Bunlar bizim toplumun sosyolojik yapısından kaynaklı sorunlar. Bakanlığımız bunlara çözüm bulmaya çalışıyor ama maalesef çözemiyor. Çünkü vatandaş bundan vazgeçmek istemiyor" (field notes, İstanbul, 2025).

20. "Köyde Ayşe Teyzem hayvanın ırkına, cinsine, verimine bakmaz. Eli yüzü düzgün olsun, uysal olsun ister. Uysal olsun, seveyim, sağarken tepmesin ister. İki litre az versin ama sevince okşayınca, "gel kızım" dediğinde bahçeden koşturup gelsin ister. Onunla duygusal bağlar kurulur. Aile içinde tüketildiği için üçüne beşine bakılmaz. O hayvan iyice hastalanmadan, iyice yaşlanmadan da elden çıkarılmaz, evin bireyi gibidir" (field notes, İstanbul, 2025).

21. "Türkiye'de yaklaşık 1.1 milyon süt sığırı işletmesi var olup bu işletmelerin %67,42'si 10 başın altında hayvana sahiptir. Bu durum devletin uygulayacağı her türlü politikanın performansını

olumsuz etkilemektedir. Süt sığırı çiftliklerinin süt üretimi parçalı bir yapı arz etmektedir. Bu parçalığın nedeni geçimlik tarımın yaygınlığı ve karma üretim yapılarıdır. 10'dan az süt ineğine sahip çiftlikler ancak bitkisel üretim ve diğer çiftlik faaliyetleri ile geçimlerini sürdürebilmektedir. Bu çiftliklerin ölçeği yasanın zorunlu kıldığı standartları karşılamak ve pazara ürün vermek için yeterli büyüklükte değildir" (TAGEM, n.d., p. 29).