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***VULNERABILITY, CLIMATE CHANGE AND
AGRICULTURAL LABOR MIGRATION:
A CRITICAL NOTE FROM TURKEY***

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Resum: Si bé s'està parant una creixent atenció a la migració al debat sobre el canvi climàtic, la vulnerabilitat de les poblacions que es troben ja en moviment és majoritàriament ignorada. Aquest estudi presenta la migració de mà d'obra agrícola com un fenomen clau en l'estudi de la vulnerabilitat i l'adaptació al canvi climàtic. S'argumenta que si bé la mobilitat laboral agrícola està guiada per les vulnerabilitats estructurals i històriques, l'enfocament de l'estat cap als treballadors migrants agrícoles temporals es troba lluny de ser l'ideal. Això requereix una profunda anàlisi dels vincles existents entre la migració estacional del treball agrícola, l'adaptació al canvi climàtic, la reducció de la vulnerabilitat i les polítiques estatals. A la llum d'aquesta avaluació, el present document de treball es fixa en els vincles emergents entre aquests temes i proposa la biopolítica com un marc teòric adequat per comprendre i donar cobertura a les intervencions adaptatives de l'estat en relació als migrants agrícoles temporals. També es presenten algunes idees provinents dels resultats inicials d'un estudi de cas sobre treballadors agrícoles temporals migrants a Turquia.

Paraules clau: treballador agrícola temporal, adaptació, vulnerabilitat, biopolítica, Turquia

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***Abstract:** While there is an increasing attention of migration within the climate change debate, vulnerability of already moving populations are most often ignored. This study presents agricultural labor migration as a key phenomenon in the study of vulnerability and adaptation to climate change. It argues that while agricultural labor mobility is ridden with structural and historical vulnerabilities, the state's approach to migrant seasonal farm workers is far from being ideal. This calls for a thorough analysis of the links between seasonal farm labor migration, climate change adaptation, vulnerability reduction and state policies. In the light of this assessment, this working paper presents the emerging linkages between these topics and proposes biopolitics as a suitable theoretical framework to understand and uncover the adaptive state interventions on migrant seasonal farm workers. It also presents some thoughts departing from initial findings from a case study on migrant seasonal farm workers in Turkey.*

Key words: seasonal farm worker, adaptation, vulnerability, biopolitics, Turkey

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1-Introduction

“Man’s power over nature turns out to be power exercised by some men over other men, with nature as its instrument”

C.S. Lewis (1943)

Globalization, as we know it, is making distances shorter between markets, commodities and vendors as well as social movements, exploited groups and those who fight for social justice in their own domains. Global environmental changes on the other hand are changing the face of the world and all dependent systems at a previously unseen rate, magnitude and scale (Leichenko and O’Brien, 2008). However, as a Swahili proverb puts it clearly, when elephants fight, it is the grass that gets hurt (*“Wapiganapo tembo nyasi huumia”*). Growing connectivity of global changes underlines combined impacts of globalization and global environmental change on the least advantaged communities. In this regard, to ensure equity and justice, it is inevitable to put the least advantaged into the spotlight and address their vulnerabilities. Following this assertion, this study focuses on vulnerabilities of migrant seasonal farm workers in Turkey as the unit of analysis under the impacts of these two big on-going changes mentioned while also maintaining an eye on the role of the state in reducing their vulnerability. This study proposes that a biopolitical vision of vulnerability reduction cannot but fail to deliver the task since it conditions and locks-in communities to vulnerability.

This working paper, at the first instance, briefly reviews the vulnerability literature and links it to key research questions and proposed methodologies. Consequently, it presents agricultural labor migration as a key *problematique* under changing climatic conditions. The argument then moves towards the biopolitical approach of state policies in handling vulnerability of moving populations in labor-intensive agriculture. Here, it is argued that circulation concept within biopolitics presents us with good tools to investigate state policies on why and how they act on vulnerable populations. These theoretical sections are then complemented with brief results from a case study in

Turkey on migrant seasonal farm workers. This working paper concludes with a research agenda towards understanding the role of the state in mediating, producing and countering vulnerability within the context of agricultural labor mobility under a changing climate.

2-Vulnerability and Climate Change Adaptation: A Brief Overview

Although the use of the vulnerability concept the way that is usually understood today dates back to 1980's through works of Sen (1982) and Blaikie (1985), vulnerability as a crosscutting concept only solidified starting from early 1990s. This occurred with the convergence of critical development studies, disaster risk reduction/natural hazards tradition, political economy and political ecology literatures with an ever increasing interest in global environmental and economic challenges and their consequences. While even in 1980's dozens of authors used vulnerability and related ones such as resilience, marginality, susceptibility, adaptability, fragility and risk (Liverman, 1989 as cited in Wisner and Luce, 1993) and the term appeared in documents of the Executive Office of the President of the United States of America dealing with natural hazards as early as 1972, consensus on the definition of vulnerability still remains distant due to diversity of its uses. For example as Villagrán de León (2006) notes, definitions of vulnerability "can span from the notion of the predisposition of a system to be affected or damaged by an external event at a certain instant of time to the notion as a residue of potential damages which cannot be targeted through the implementation of typical measures [or to] conditions of incapacity to cope with disasters once they have taken place". As an agenda setting milestone, IPCC's 4th Assessment Report defines it as "the degree to which these systems are susceptible to, and unable to cope with, adverse impacts" (Parry et al., 2007). Yet these theoretical discussions and dissensus/disagreement on its components often overshadow the urgency of the policy-relevant praxis in vulnerability research.

Different conceptions of vulnerability are direct results of diverse research traditions that have utilized it in the past 30 years. Yet despite these different conceptualizations, vulnerability in its most basic form is either understood as a process or as an outcome. In their review of the literature, Cutter et al. (2003) classify vulnerability research as it

is seen from exposure, social condition and resilience perspectives. Eakin and Luers (2006), on the other hand, identify three research traditions that shaped vulnerability literature as risk-hazard, political economy/ecology and ecological resilience. However they further emphasize that what is common across these three broad lineages is their focus on concerns of equity and social justice. Adger (2006) observes that “antecedents of vulnerability analysis” are found in “vulnerability analysis as lack of entitlements and vulnerability analysis to natural hazards” and add pressure-and-release model (Wisner et al., 2004) as a cross-cutting approach to vulnerability between these two approaches. Examples to different approaches and their categorizations can be multiplied however, common to many of them is a general understanding that vulnerability is a function of sensitivity, exposure to risk/hazard and adaptive/coping capacity (McCarthy et al., 2001). In this regard, O’Brien *et al.* (2007) point out that although different approaches from the natural hazards, rural livelihoods and poverty literatures were introduced in climate change research, climate change community also created its own versions of vulnerability definitions.

Soares *et al.* (2012) identify three conceptual perspectives to vulnerability in climate change research as biophysical, social and integrated perspectives. While biophysical approach to vulnerability underlines the exposure of unit of analysis to a climatic hazard and its biophysical conditions. Social vulnerability, on the other hand, focuses on pre-existing conditions and is shaped by the ability of social groups to cope with and adapt to any external stress placed on their livelihoods and wellbeing (Adger and Kelly, 1999). The third approach to vulnerability as identified by Soares et al. (2012) is called integrated approaches in which both biophysical and social (as well as economic, cultural and political) processes interact in different ways (including feedbacks) to create vulnerabilities. This approach aims at bridging and bringing together the biophysical and social perspectives of vulnerability and increasingly used in coupled human-environment systems (Turner *et al.*, 2003) and human dimensions of global environmental change research. While biophysical perspective views vulnerability as an outcome (i.e. impact), social perspective views it as a process antecedent to the shock/hazard. This is also similar with Burton *et al.* (2002)’s classification of climate change adaptation into two generations with the first generation focusing on impacts and the second generation focusing on vulnerabilities. Integrated perspectives, in turn, envision both biophysical and social perspectives as components of vulnerability thus

interacting to exacerbate or mitigate each other.

McLaughlin and Dietz (2008) argue that if vulnerability is an inherently contextual phenomenon then we need to theorize the dynamics of adaptation of social units at various scales including biophysical and social aspects as both provide the context in which vulnerability exists. Various scales used in vulnerability research are thus decisive of the methodology used to measure and/or define it. These scales might start from a group of individuals with a common characteristic and reach to global level. Backing up this claim, Birkmann and Wisner (2006) argue that this variance of scale in vulnerability research also leads to use of diverse set of methods including quantitative indicators, qualitative criteria as well as broader assessment approaches including “numbers, models, proxies, narratives, maps, chronologies and profiles”. However some key questions can help us to identify what tools to use to approach in defining and assessing the vulnerability of a population. According to Birkmann and Wisner (2006) these key questions are as follows:

- a. Who and what is vulnerable?
- b. Vulnerable to what?
- c. Who wants to know and why?
- d. What circumstances and context shape the daily life of the affected?

As Tschakert (2007) discuss one-size-fits-all approaches targeting at outcome-level vulnerability often downplay vulnerable populations, if only they are not being counterproductive. Hence, if our unit of analysis is a social group rather than a geographical setting (where in case of political ecology approach to vulnerability, this is mostly a marginalized social group) then the focus is supposed to be on the social aspects of vulnerability. Following Wisner *et al.* (2004)’s definition, vulnerability is defined as “characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard” within the scope of this research. This vision suggests vulnerability as a concept that applies only to people but not to physical infrastructure (which may be susceptible or unsafe), economies (which may be fragile) or regions of the earth (which may be hazard-prone). Hence gender, age, health status, disability, ethnicity or race or nationality, case or religion, migration and socio-economic status are at the focus of

attention in determining vulnerability. Then, in answering questions (a) and (d) by Birkmann and Wisner (2006) above, these characteristics are of decisive value. It is important to frame the vulnerability and make it explicit in the research as our framings of the problem reflect our political/social/cultural preferences towards the solution we anticipate for a given problem. As O'Brien *et al.* (2007) suggest “[f]ramings influence the questions that are asked and structure the kind of knowledge that is produced. They determine what is included on the agenda and what is silenced. Framings emerge from discourses that are embedded in institutions, actors and academic disciplines.” (pg. 76) Yet “[m]ost studies do not explicitly refer to a discourse or framing; instead, this must be interpreted through the language, methods and questions that appear in texts and debates.” (ibid.: 78)

These vulnerability framings might at times undervalue the communities at the focus of attention. According to some authors in the natural hazards literature, vulnerability is associated with the Western colonial discourse, which denigrates large portions of the world as dangerous and large groups of people as incapable victims although it “appears to construct a less culturally specific geography of disaster based on the relative entitlement and empowerment of people exposed to hazard” (Bankoff, 2001). According to this vision, although vulnerability “has proven useful as a means of assessing disasters within their socio-economic, political and environmental context that was previously lacking” and “despite the undoubted conceptual and methodological advances it represents on previous thinking, its utility and practical application is still hampered by a one-dimensional construction of process that transform a hazard into a disaster” (ibid).

Vulnerability literature is filled with diverse methodological approaches. Social vulnerability approach, which view vulnerability as contextual, on the other hand, most often use case study research including methods as diverse as household surveys to participant observation. Methodological diversity in this strand of research can be found in works of Cutter *et al.* (2003) who utilize a composite index using 42 variables, O'Brien *et al.* (2004) who demonstrated double exposed spatial patterns of vulnerability using geographic information systems and Roncoli (2006) who presents a good case for ethnographic and participatory methods in social vulnerability domain. According to Eakin and Luers (2005), a combination of qualitative and quantitative methods is

especially preferred in political ecology/political economy approaches to vulnerability. These authors argue that use of mixed methods in this vein allow “to explain the complexity of social and institutional drivers of vulnerability and to determine which combinations of attributes best characterize the vulnerability of specific populations in particular places.” (pg. 374) Such an approach is particularly useful when we deal with marginal rural populations, which is the main unit of this study.

3-Agricultural Labor Migration In A Changing Climate

McMichael et al. (2003) argue that addressing sustainability is more than an academic exercise. It entails issues of social justice as human experiential outcomes such as autonomy, opportunity, security and health. In the light of this assessment, this study focuses on vulnerabilities of seasonal farm workers and the state’s attempts to reduce these vulnerabilities. First, it is necessary to explain what is meant by seasonal agricultural work followed by its socio-ecological aspects and ramifications. Ben Rogaly (2009) observes that agency of unorganized temporary migrant workers have relatively been neglected in labor geography. He argues that

“...workers’ spatial mobility is complex and may involve short as well as longer term migrations, and secondly that this can have significance both materially and in relation to the subjective experience of employment. The spatial embeddedness of temporary migrant workers’ everyday lives can be a resource for shaping landscapes (and ordinary histories of) capitalism, even though any changes may be short-lived and take place at the micro-scale” (Rogaly, 2009: 1975)

Hobson (2000), furthermore, observes that temporary migrant workers are mostly “agency poor” despite stating that they have their own daily practices to ensure incremental changes in work places, food provision, accommodation or transportation (Rogaly, 2009). As Rogaly (2009) elaborates, organization of capitalist agricultural production is spatially and temporally varied including the degree to which agricultural practice is labor-intensive and whether and to what extent waged workers are employed. Being key actors of this production, seasonal workers move continually across space while also literally producing the space in which they inhabit, make a living and dwell (ibid.).

Work of Rogaly *et al.* (2001) argue that life-world of migrants working temporally in agriculture are characterized by distinctive spatio-temporalities. These spatio-temporalities are also results of negotiated power relations and their reflections in micro-spaces of work on how food, shelter, decent working and income standards and social integration into these spaces are shaped. Rogaly's (2009) conclusion suggests that there is a need for more emphasis on how temporal intersects and combines with the spatial "(i) to produce particular subject positions and (ii) to enable or constrain workers who are traveling away from their hometowns to make a living and whose struggles have not yet received the attention it deserves". While telling the story of California landscape making in early 20th century, Don Mitchell (1996) talks about the strategies of migrant workers as being "forced to look after themselves, rather than to the state or private philanthropy, to develop effective means for coping with (and perhaps transforming) the structures of their oppression." This oppression need not necessarily be social but may also turn out to be linked with ecological changes as threats on the livelihoods.

As key figures of labor-intensive agriculture, seasonal farm workers are often locked in a vicious circle of indifference, exploitation and peasantry. They are the people most dependent on natural resources (i.e. agricultural production and its components in this particular case) for the safety and welfare of their livelihoods, who are often considered the most sensitive to environmental change. Rogaly and Coppard (2003) argue that the "variations of climate between years, unexpected shocks [climate change] and more predictable life-cycle [socio-economical changes] changes make for fluctuations in the supply of labor power and effective demand for it over time". On this note, Bardhan (1999) adds that their cultures of work are at least partly shaped by agro-ecology of a place. Hence seasonal farm workers are among the most sensitive social groups on which, impacts of global and national agricultural policies clearly fall. In this light of observation, it can be argued that understanding the dynamics of seasonal agricultural work and dynamic responses to double exposure to neoliberal globalization and global environmental change calls for a *people-centered* perspective¹.

¹ A *people-centered perspective* focuses on enabling individuals and communities to respond to change, whether by reducing vulnerability or by challenging the drivers of environmental change (O'Brien, 2006)

The burgeoning literature on migration and climate change has not sufficiently engaged with issues related to seasonal farm workers (i.e. mobile and seasonal forms of agricultural wage labor) (for two exceptions, see Vásquez-León, 2009 and McLeman and Hunter, 2010). Migrant seasonal farm workers, a structurally marginalized social group, are arguably among the most vulnerable groups to socio-ecological changes. Since variation of climatic conditions across years, unexpected weather shocks and more predictable life-cycle changes cause fluctuations in the supply of and effective demand for agricultural labor over time (Rogaly and Coppard, 2003), livelihoods of these groups are directly (manifested mostly as income loss and public health concerns) and indirectly (manifested as future uncertainties in available work) affected by these changes. Thus it goes without saying that the living and working conditions of migrant farm workers are underlined, at its least partly if not mostly, by the changes in the agro-ecologies of their migration destinations.

A recent report of International Labor Organisation (ILO) on migrant farm labor states that they often "remain invisible in terms of the goals, policies, programs and activities to eliminate poverty [...] in promoting sustainable agriculture and rural development, world food security and sustainable development" (Hurst *et al.*, 2007: 89). This is a norm rather than an exception in almost all parts of the world (*ibid.*). For instance, recent studies on agricultural wage labor in the U.S. conclude that migratory and seasonal farm workers comprise a transient and invisible population as underinsured or uninsured workers in a vocation surrounded by occupational hazards, providing essential services to agricultural industry (Burke *et al.*, 2012). Climate change adaptation policy is no exception.

We can argue that vulnerability to change in environmental conditions or price fluctuations in global markets might be embedded and accepted without being challenged in our constructions of what vulnerability is, who is vulnerable and why. A marginalized vulnerable group might embrace its condition as a given and take it as its fate. On the contrary, there might be material or discursive responses to the state of vulnerability in everyday struggles of common people. Thus, this brings in a need to thoroughly investigate who has the power to define vulnerability as a condition. The way vulnerability discourse is shaped will eventually effect actions to reduce the

vulnerability. In this line of thinking, unraveling the underlying discourses of vulnerabilities arising around a particular social group (seasonal farm workers) in settings where they dwell and work, will lead to enhancement of knowledge on the root causes of vulnerability towards aforementioned global changes. However, this also brings about a discussion how adaptation and vulnerability reduction is handled by the state. This, I argue, often takes the form of biopolitics.

4-Biopolitics and adaptation: A research agenda

Development and spread of techniques for the disciplining of the body and the optimization of its capacities, as explained by Foucault, caused emergence of “population” as an object of knowledge and control which in turn made the “life” itself subject to monitoring, governing and administering (Ferguson, 1994). Building on Foucault’s work, Reid (2008) argues that ‘[t]echniques of discipline assure modern regimes the peace of the civil societies they govern while biopolitical techniques provide them with new-found powers to wage war inter-socially’. Thus according to this vision the distinguishing line of pre-modern forms of power from that of the modern ones is their focus on “making” lives instead of “taking lives”. This is what Foucauldian “normalization of the society” is all about: i) keeping individuals under surveillance, training them and in case of insubordination punishing them, ii) making populations live by insuring them from threats and iii) taking control of lives by managing and regulating populations (Coleman and Grove, 2009). Through these interventions, state’s authority over populations is concretized as individuals are saved from themselves and their surrounding. This approach conceptualizes biopolitics as a new means of controlling populations from within the society by *making lives* rather than just *letting live*.

Foucault (2000) asserts that since “population is nothing more than what the state takes care of for its own sake, of course, the state is entitled to slaughter it, if necessary. So the reverse of biopolitics is thanatopolitics”. So when state policies are concerned with life (*bios*) and death (*thanatos*) of populations, their health, their behaviour, their reproduction and their labor (among other things), the state enters the field of biopolitics. Dalby (2011), on the other hand, suggests that biopolitics of Anthropocene enters the stage when we ask *what different kinds of life are formed by which type of policies* in a future that is shaped by environmental and economic changes. This is

mainly because such policy options are decisive in what kind of biosphere will exist not only for future generations of humanity but also for those who are dependent on agro-ecologies (in its broadest meaning) for their well-being.

Reid (2010) in his discussion on “biopoliticization of humanitarianism” argue that the “maladapted populations is said to threaten not only themselves but the biopolitical foundations of global governance since their suffering produces economic dislocation as well as potentially political violence”. Therefore, biopolitical state interventions must create adaptable individuals who neither threaten the existing economic nor the political order. This is especially so in responses to global environmental changes which are speculated to create massive displacement and social unrest.

Such an observation on maladapted populations also allows shaping the lives of populations who are invisible before the eyes of the state and general public and paves the path for “rendering the ungovernable governable through practices of adaptation” (Dalby, 2011). It is widely argued that development, when understood as a modernization project, offers few solutions either for adaptation or sustainability (Brown, 2011). Therefore once adaptation is perceived as a developmental project, adaptive responses fail to address the root causes of vulnerability. These roots lie in Wisner *et al.*'s (2004) formulation of exposure to risk which “differs according to [vulnerable people's social] class (which affects their income, how they live and where), whether they are male or female, what their ethnicity is, what age group they belong to, whether they are disabled or not, their immigration status, and so forth”. Thus I argue that any state intervention aiming at successfully adapting the vulnerable to anticipated changes should focus on these aspects of exposure to risk. However more often than not, state interventions fall short of this by using adaptation policy as a tool to stabilize and control populations whose disturbance due to environmental and economical changes might challenge the status quo of the state.

Use of biopolitics as a concept in climate change literature is relatively new. For example, Adelman (2009) argues that climate change provides an opportunity for states to demonstrate their capacity to make live yet only through subordinating their sovereign prerogatives. By using biopolitics lens, Adelman talks of climate change and global economic recession as twin crises and add that both these crises and independent

responses to them are likely to exacerbate rather than reduce impoverishment. Literature on biopolitical analysis of climate change policies extends from climate change and securitization of Mexico-U.S. cross border migration (Mukhopadhyay, 2009) to critical analysis of insurance sector as an “expert-based risk management technique used to silence local people and their immediate demands” (Grove, 2010).

Yet there is a lack of studies simultaneously focusing on seasonal farm labor migration, environmental change and state interventions from a biopolitical lens. Foucault’s (2007) definition as biopolitics making lives through “allowing circulations to take place, of controlling them, shifting the good and the bad, ensuring that things are always in movement” provides a good entry point for studying biopolitics of moving populations. Such a conceptualization of *making lives* sounds meaningful when we consider the circular movement of seasonal migrant populations, whose lives are made adaptable and governable through solid continuity of their movement. As James Scott (1998) argue, surveillance and control of moving populations are often difficult to handle therefore the state often aims at increasing the legibility of those populations by simplifying their everyday struggles and challenges. This is very much the case when the state acts to adapt seasonal farm workers to environmental and socio-economic changes.

I argue that migrant seasonal farm workers constitute a perfect example for the study of biopolitics of state politics over moving populations who are under multiple impacts of global environmental changes and neoliberal globalization. Although several studies cover various aspects of the complex interactions between migration and environmental change (Black *et al.*, 2011; Geddes *et al.*, 2012), only very few of these have focused on the temporal/seasonal migration of agricultural workers (see Perloff *et al.*, 1998). Hence, the majority of research on seasonal workers remained within a rather bounded set of disciplines, most frequently found in research lines such as rural sociology, public health, occupational health and safety and agricultural economics. Despite the evidence provided by some recent studies (Ellis, 2003; Rogaly and Rafique, 2003; Vásquez-León, 2009) which successfully link environmental change and labor dynamics of seasonal workers, there is still a considerable lacuna in the political ecology literature on the vulnerabilities of this key group with a focus on climate change adaptation governance by the states.

It can be suggested that both representation and voice of seasonal workers are obscured in so far as adaptation policies are framed as biopolitics. Studies in this respect contribute to the growing attention given to circulation of power in critical population geography. Studies on biopolitics of adaptation policy, one of which directs its attention on how populations (including migrant groups) are constituted as part of the flows of power and how they are regulated within the society (Bailey, 2013), are promising in this regard. Consequently a biopolitical research agenda on adaptation governance needs to tackle issues such as (a) how populations are rendered governable through acts of adaptation; (b) how biopolitical means of control is imposed on populations in the name of adaptation; (c) what is the fate of maladapted populations and (d) what role does spatial and temporal scales play in identifying different implementations of biopolitics on vulnerable populations (ie. Migrant farm workers, in this particular case). While it should be acknowledged that migrant farm workers do not constitute a homogenous group free of gender, power and internal authority challenges among themselves; roots of their structural vulnerability vis-à-vis other rural groups lies in ethnic and spatial segregation, forced migration and landlessness. Hence it is possible to see a failure of the promise of adaptation for some segments of this group more than others. Accordingly the actual picture is of course much more complex than the snapshot presented here. However, in this working paper, I bound my analysis with the vulnerability of this social group as a whole to changing climatic patterns and the role of the state in reducing it.

5-Methodological Approach

Vulnerability assessments that take a *people-centered perspective* in identifying what aspects of climate are relevant, what are the characteristics of exposure and sensitivity, and document the capacities to respond are central features of contemporary human dimensions of climate change research (Ford *et al.*, 2010). Such research often follows case study and analogue methodologies (*ibid*). My research on the interaction between vulnerability, agricultural labor migration and state response to adaptive challenges benefits from a single explorative case-study approach (Yin, 2003). In undertaking this case study, I spent 3 months in the field between February-May 2011, 2 of which has been in Karataş province of Adana (the biggest urban center in Çukurova region) which is one of the epicenters of labor-intensive agriculture (particularly early grown

vegetables, fruits and cotton) in Mediterranean coast of Turkey and the last month was spent in Ankara for interviewing public officials in state institutions. My respondents included migrant seasonal workers, farm labour intermediaries, landowners, public authorities and academicians. All respondents were recruited with snowballing technique in order to ensure loose connections between respondents who represent different parts of the same picture. On top of 20 semi-structured interviews with key stakeholders, 2 focus group meetings were also held with local officials and landowners in Karataş. While it was not possible to have seasonal workers' presence in these focus groups due to uneven power relations between them and landowners, in most cases interviews with seasonal workers in their encampments turned out to be group interviews.

Two main bodies of policies and their implementation in the field have also been guiding this research with respect to their influence on the agricultural sector. The first one is a recent strategy document titled "Turkey's National Climate Change Adaptation Strategy and Action Plan", which lists agricultural workers among the most vulnerable populations (MOEU, 2011: 104). The second policy text, utilized within the scope of this research, is the National Strategy and Action Plan for Improving Work and Social Lives of Seasonal Migratory Workers (METIP) coordinated by Ministry of Labor and Social Security (MLSS, 2010). Both of these policies are selected for their direct linkages with vulnerability reduction priorities of the Turkish government in the agricultural sector as well as the emphasis on improving the living and working conditions of migrant farm workers whose livelihoods are under increasing stress from every-growing unpredictability of climatic patterns and competition in international markets. These policies, at their core aiming to increase adaptive capacity of agricultural sector and reduce vulnerability of migrant farm workers, helped to shape the discussions with the respondents.

6- Biopolitics of Adaptation Governance and Migrant Seasonal Farm Labor in Turkey

Seasonal farm labor migration refers to migration of communities from 11 cities predominantly located in southeast Turkey to 48 cities across the country with deficiency in agricultural labor supply (Development Workshop, 2012). While no

official statistics exist on the number of migrant farm workers, government sources put the total figure at 300.000 (FES, 2012). Çınar and Lordoğlu (2011) identify two periods of boom in agricultural labor supply to the relatively more developed labor markets in Turkey's more affluent northern, southern and western provinces mainly from the southeast and eastern Turkey. First of these periods is dissolution of rural regions through extensive mechanization, cease of sharecropping and changes in land ownership in the post-WWII period, which also marked the transition to multi-party parliamentary regime in Turkey. The second period has started in late 1980's, which is marked by the forced migration due to violent ethnic conflict between Kurdish insurgents and Turkish army. With the rise of violent conflict between separatist PKK (Kurdistan Workers' Party) and Turkish army in the Eastern and Southeastern Turkey, it is estimated that between 953.680-1.201.200 people in the region were forced to migrate with more than 75% being from rural regions, which led to an even more steep increase in the number of dispossessed workers (Hacettepe University, 2006).

Turkey's push to join IMF and OECD as founding members in the aftermath of WWII led to a rampant change in national agricultural policies pursued after 1950's. Çukurova, *the Low Plain*, undoubtedly reflects the role given to Turkey in the global economy of post-World War II (Ünsal, 2004). Tören (2007), in his analysis of the U.S. Marshall Plan, concludes that accumulation in Turkey in post-WWII period changed its form from trade capital to productive capital thus giving the country an agricultural role in the new world system. Initially aiming at investing the relatively well-off U.S. capital to foreign countries in the name of development aid to avoid problems of over-accumulation, a significant amount of modern agricultural tools (ie. agricultural vehicles, irrigation systems, artificial fertilizers etc.) were introduced by this plan. This foreign aid was specifically focused on a number of productive agricultural basins with Çukurova, the fertile region lying between Seyhan and Ceyhan rivers, being arguably the most important in-migration destination for seasonal farm workers (see **Map 1.**).



Map 1. Map of Çukurova region covering Adana and Mersin provinces (Source: http://www.animaweb.org/uploads/bases/document/CukurovaDevAgency_2011_EN_6.pdf)

Gümüş (2006) argues that the rise of Çukurova as a migrant farm labor-receiving destination in this period also has environmental causes. Decrease in goat husbandry in highlands, stronger protection of forest areas, privatization of pastures and increase in rural population in this period once mixed with the intensification of agriculture (cotton above all), increase in agricultural yields and high demand for cheap labor has led the dispossessed of the country to flow towards here to make a living. Today we can also include environmentally induced migration due to dam constructions within the ambitious Southeastern Anatolia Project (*Güneydoğu Anadolu Projesi* in Turkish) involving construction of 22 large dams, 19 hydropower plants and large-scale irrigation infrastructure for 1.7 million hectares on-going since late 1970's to this list.

Furthermore this flow of migrant labor, emerging from the impoverished peripheries of the country, southeast Anatolia towards the center shows the duality of center-periphery relations (Gümüş, 2006). It should be considered that this flow from periphery to center is also driven by the developmentalist moves in the periphery. Kadirbeyoğlu (2010)

provides an example of drought-driven proletarianization of the sharecroppers and small producers from Suruç district of southeastern province of Şanlıurfa. Suruç is one of the districts, which sends a significant amount of seasonal agricultural workers to Çukurova. Despite the lack of official statistics on seasonal labor migration, during my interviews in February 2011 interviewees have mentioned that out of a population of 102.000 in Suruç, a barely 30.000 is left in town after March-April period until October. This is the time when seasonal agricultural workers leave for looking for their year-round income in Çukurova.

Based on two factors, Gümüş (2006) estimates that annual migrant labor in Çukurova is around 100.000 people. These factors are (i) labor demand for each crop per decare and (ii) ratio of domestic to migrant labor. This brings into the light that change in crop pattern in Çukurova due to either environmental change or market-driven reasons (i.e. mechanization) might have significant impacts for employment of seasonal workers. During my interviews in February 2011, I have come across with the impact of agro-ecological change quite often as a migration-determinant. A male interviewee from Şanlıurfa (aged 28), who has been working as a migrant worker for 15 years with 9 consequent years in Çukurova, suggested that their migration routes have been changing continuously due to low rates of return in cotton due to shift in seasonal rains topped with declining role of Turkey in global cotton markets. Çalışkan (2007: 120) in his ethnographical analysis of the cotton markets in Turkey, also notes that:

“Rain decreases the quality of cotton fibers, making them wet and dirty and creating rain spots on the lint. Furthermore, it would be more costly to pick the cotton, because, on the one hand, wet soil decreases the speed of the workers and, on the other hand, rainwater increases the weight of cotton, thus increasing the cost of the workers’ daily wages. The daily wage that farmers pay to workers is a function of the weight of the cotton that the workers pick.”

This not only causes hardships for the workers but also challenge their year round income gathering activity. Inhabiting tent encampments often located by the plots in which they work, migrant seasonal workers are the ones that are directly exposed to the climate-related disasters such as flood and drought. Climate variability is one of the main contributors of losses in agriculture with increasing frequency of extreme weather events. Especially considering that annual maximum temperature series in Turkey reveal a rising trend for Mediterranean, Southeastern and Eastern regions of Turkey, among the most popular migrant labor destinations (Demir *et al.*, 2008).

Working without any social security or formal contract, migrant farm workers fill in the jobs that are seen inferior by the vast majority. Thus their structural vulnerability to environmental shocks and stresses are higher not only because of the nature of agricultural work but also due to lack of formal social security coverage (ie. labor union, legislation). Law no. 2925² of Turkish legal code establishes that seasonal agricultural workers shall join the social security system only by paying their own premiums. Yet my own field findings indicate that as of early 2011, daily wages stood at 27 TRY, 2 TRY of which is directly passed to the labor intermediary. This corresponds to a 10€/day wage in return of 9-10 hours of labor. Considering the fact that average working period for these workers is between 60-90 man-days a year (given the labor supply available and agricultural calendar), it seems impossible that these workers can both save enough for subsistence and pay their premiums. Thus absence of such social safety net as well as inexistent occupational health measures manifest itself as high levels of vector-based diseases and poisoning from agricultural inputs among the workers.

A public health survey realized in Çukurova in 2002 found out that 342 (24,4%) out of 1399 migrant seasonal workers who have been to the village clinic, suffered from respiratory diseases during March-October (Sütoluk *et al.*, 2004). The peak of medical cases occurred in the hottest month of the season, August with 34.7% of the cases. This forementioned public health study concludes that most of the health problems seen in seasonal workers are related with environmental conditions, lack of clean potable water due to scarcity and contamination, malnutrition and increase in vectors. In contrast with the national water use average of 111L/day per capita, migrant seasonal farm workers are estimated to consume 20L/day of water per capita. Some workers have stated to me that in cases when they do not have access to potable water, they consume water from the irrigation ditches. Moreover Sütoluk *et al.* (2006) observe lower levels of cholinesterase enzyme leading to severe health problems in seasonal workers due to continuous inhalation of organo-phosphorus pesticides. Higher rates of climate related diseases can be expected among seasonal workers as their access to clean water will be limited under decreased water availability with increased demand projected for the

² Law no. 2825: Law on Social Security of Agricultural Workers (dated 17/10/1983)

region unless necessary social policy measures are taken (see also Hansen and Donohoe, 2003). Studies of changing conditions in this regard will enhance our knowledge of structural defaults of agricultural labor system in reducing vulnerability of marginalized migrant farm workers.

My initial findings indicates that instead of dealing with the root causes of vulnerability (which are lying in structural inequality, ethnic and spatial segregation, lack of labor organization amongst others) adaptive state intervention in Turkey comprises a biopolitical response in two distinctive ways: first, by attempting to create ‘adaptable human subjects’ who will individually assume the responsibility to deal with risks related to possible future economic and climatic changes; and second, by attempting to create controlled circulation of seasonal workers governed through securitizing their presence with technologies of control of their movement. As such, the Turkish state opts for ‘hard’ adaptation interventions that facilitate agricultural intensification to maintain agricultural productivity in the face of changing climatic conditions and ‘soft’ adaptive measures that contribute to individualized risk management of the human condition (as manifested by promotion of labor circulation) by seasonal farm workers.

Circulation appears as a key notion in biopolitics of vulnerability reduction in so far as adaption is concerned. Foucault (2007) suggests that biopolitics is a matter of “organizing circulation, eliminating its dangerous elements, making a division between good and bad circulation, and maximizing the good circulation by diminishing the bad”. Certain spaces of work and spaces of living have roles in ensuring this circulation. For instance, state-controlled worker encampments are clear examples of *non-places* (Auge, 1995), in particular as transit sites of good circulation. These *non-places*, which Auge defines as not being only comprised of accelerated means of transport but also installations and spaces needed for the accelerated mobility of populations are spaces formed in relation to certain ends. These are the spaces designated with a purpose to maintain good circulation of labor without creating the possibility of a long-term settlement, yet still providing prospects for a temporary - albeit controlled - return in the future. Under terms of ‘good circulation’, seasonal farm workers need to leave as soon as their work finishes for other agricultural fields to continue their migration and contribute to the production of surplus value without causing ‘trouble’ to the local establishment. Adaptation to worsening condition in this instance takes the form of

maintaining circulation of farm workers as smooth as possible.

In his analysis of the notion of resilience from a biopolitical perspective, Julian Reid (2012) suggests that the “exposure to threats is a constitutive process in the development of living systems, and thus the problem for them is never simply how to secure themselves but how to adapt to them”. In a similar way, this working paper argues that adaptation to climatic contingencies provide an ideal entry point for biopolitical control of vulnerable populations by the state. Through such interventions, insertion of bodies into the agricultural economy of the Çukurova region is secured. Adaptation, in such a case, is understood as making up for the potential losses under increasingly deteriorating conditions. By providing reactive responses to changing environmental conditions, the state’s adaptive interventions ensures that ‘right things’ are always in movement, migrant seasonal farm workers in this particular case.

7-Conclusion

This working paper presented vulnerability as a cross-cutting concept that has risen to significance particularly as the knowledge base on climate change develops and climate change adaptation climbs high in national policy agendas. It suggests that despite an increasing attention on migration-climate change adaptation relations, there exists few studies considering the historically and structurally marginalized seasonal farm workers who migrate temporally every year to make a living out of labor-intensive agriculture.

There exists many opportunities for a thorough analysis of biopolitical state interventions on already marginalized, vulnerable populations and how state policies renders them governable through ensuring their “good circulation”. Climate change adaptation – migration nexus, therefore, should remain as a research topic for concerned researchers with an attention on the role of the state in mediating, producing and countering vulnerability. This will not only allow production of knowledge on adaptive/maladaptive state policies/practices but will also provide useful information to vulnerable migrant populations for political purposes.

A study of migrant seasonal farm workers, as a key example of such an exercise, needs to consider not only existing vulnerabilities but also the interventions of the state (and

other institutional actors such as employers' organisations, environmental associations and trade unions) on their livelihoods and the discourses on vulnerability reduction. This would not only contribute at empowering the communities but also might reveal (or not) the biopolitical practices undertaken by governments and other relevant organisations in the name of adapting the status quo and therefore preferring technical adjustment over social transformation in their approach to climate change adaptation. In this sense, an emergent and large country like Turkey presents a very interesting yet challenging case-study.

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