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Using Life Histories to Understand Temporal Vulnerability to Climate Change in Highly Dynamic Contexts

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Abstract

Climate change research has often been critiqued for focussing on abstract impacts far into the future that are not perceived and understood in the context of daily life. This case proposes the use of life history interviewing as a methodological approach to study how people perceive and negotiate multiple risks to their lives and livelihoods (one of which may be climate variability) in highly dynamic contexts such as dryland areas. The case examines vulnerability to climate change (among other risks) at household and intra-household levels to uncover how personal attributes such as caste, age, and gender, as well as contextual factors such as reduced natural resources and socio-political trajectories shape people's daily lives, their livelihood choices, and aspirations for the future. Using research conducted in two districts in Southern India, I demonstrate how life histories can expand the existing methodological toolkit available to social scientists working on climate change vulnerability and contribute to understanding the temporality inherent in livelihood decisions, the often-intangible aspirations that motivate people's choices, and how household responses are tapestries of negotiations made within their immediate and larger environment.

Learning Outcomes

By the end of this case, students should be able to

- Appreciate the importance of temporality in livelihoods research
- Understand the background of life histories as a method
- Learn to how to choose interviewees for small sample research
- Apply life histories approaches to environmental research

Introduction: Livelihood Strategies and Temporal Vulnerability in Dryland India

Life in the rural drylands of India is a constant negotiation: eroding natural resource bases are undermining agricultural output, globalization has brought far-off market forces into the backyard, and aspirations and socio-cultural norms are fast-changing. In such a context of flux, climate variability and change have identified as threat multipliers, and are projected to make rural livelihoods riskier, exacerbating existing vulnerabilities, and driving migration to urban areas (Dasgupta et al., 2014).

People in drylands have been responding to and planning for variable conditions through centuries (Mehta, 2005). These socially differentiated risk management strategies are constantly adjusted and form a suite of ways to cope with and plan for seasonal risk and uncertainty (Devereux, Sabates-Wheeler, & Longhurst, 2013; Ellis, 1998; Francis, 2002). These responses are enabled or constrained by factors both internal to the household (e.g., whether you have agency to take decisions in the family) or external to the household (wider political changes that shape your options) (Singh, Dorward, & Osbahr, 2016).

One of the key gaps in vulnerability and climate change adaptation research has been the lack of long-term analyses to understand how and why households take certain responses to manage risk while others are unable to (Fawcett et al., 2017; Ribot, 2014; Singh, Dorward, & Osbahr, 2016). Given the importance of seasonality in rural livelihoods (Devereux, Sabates-Wheeler, & Longhurst, 2013; Murray, 2002) and the role that long-term development policy has in local adaptation processes (Ribot, 2014), understanding what motivates people's decisions and how they change over time is important to inform better policy making for climate adaptation.

Such a temporal understanding of vulnerability alludes to the entanglement of household vulnerability with multiple stresses (Downing, 2012) across spatio-temporal scales (Ribot, 2014), and embedded in "pre-existing precarity" (Ribot, 2014, p. 673). It also acknowledges that vulnerability is shaped by underlying structural conditions such as high social inequality, inadequate basic infrastructure, or perverse market regimes (Tschakert, van Oort, St. Clair, & LaMadrid, 2013). The lack of temporal enquiry is highlighted in repeated calls for tracing "chains of causality" to understand and reduce vulnerability (Ribot, 1995, p. 119).

Responding to these gaps in literature, this case draws on research in two semi-arid districts of southern India: Kolar and Kalaburgi, where I focussed on two research questions: what drives socially differentiated vulnerability and how effective is migration to urban areas in reducing this vulnerability? To answer these questions, two approaches were followed concurrently: (1) circumspensive (looking around at a point in time) through a structured household survey and (2) retrospective (mapping change over time) through historical timelines at a community scale, and in-depth life histories with migrant and non-migrant households.

In this case, I present life history interviewing as a method that (1) demonstrates the temporal nature of vulnerability and inter- and intra-generational shifts that households make when making key livelihood choices such as diversifying their agricultural activities or migrating to cities, (2) allows the researcher to understand the risks households deal with and the response pathways¹ they take, and (3) gives

voice to the “views of the vulnerable” (Tschakert, 2007) by self-disclosed motivations and aspirations in life and livelihood choices. By doing so, I propose life histories as an important method that expands the methodological toolkit available to climate change researchers studying vulnerability and adaptation.

The Life History Approach

What Are Life Histories?

The life history approach allows researchers to explore a person’s “micro-historical (individual) experiences within a macro-historical (history of the time) framework” (Hagemaster, 1992, p. 1122). Beyond the retelling of a particular incident, life histories narrate how and why a person lived the life they did and examine their motivations and behaviors as a continuum of decisions rather than discrete, completely rational choices (Atkinson, 2002). This allows the researcher to understand how decisions and aspirations at one time and place shape family trajectories, thus giving insight into pathways of responses (Singh, Dorward, & Osbahr, 2016) as well as the wider contexts they are embedded in (Locke & Lloyd-Sherlock, 2011). This enables life histories to serve as proxies to recreate contexts within which past decisions were taken and can potentially predict future decisions people may take.

Life histories have been variously defined as a theoretical and methodological research frame, a research paradigm, an interviewing style, and a pedagogical approach drawing on life experiences (Alwin, 2012; Atkinson, 2002; Locke & Lloyd-Sherlock, 2011). Most commonly, life histories are defined as “lifetime chronology of events and activities that typically combines data records on education, work life, family, residence, physical health, identities, and psychological well-being” (Elder, 2000, p. 1616 in Alwin, 2012, p. 208).

In their most expansive form, life history interviews look at “life as a whole” (Atkinson, 2002, p. 123) and not only narrate life stories but also capture memories and experiences of social change and highlight respondent perceptions in a way structured questioning omits. They also capture aspirations and regrets—both crucial ingredients when trying to understand temporality, vulnerability, and livelihood choices (Kothari & Hulme, 2004). Although case studies can also be used to provide a thick description of context, life histories improve on case studies by providing respondents the chance to reflect on their own stories and report what they feel were crucial turning points rather than just submit a chronology of life events to be examined and interpreted by researchers (Cary, 1999; Sosulski, Buchanan, & Donnell, 2010).

Life Histories as a Method to Study Temporality

In development research, life histories have been used to understand poverty dynamics (Bird & Shinyekwa, 2003; Kothari & Hulme, 2004), well-being and economic empowerment (Locke & Lloyd-Sherlock, 2011), livelihood trajectories and social differentiation (Francis, 2002), and impacts of policy on livelihoods (Chimhowu & Hulme, 2006). Within climate change research, the method has been used to follow household trajectories of resilience and vulnerability (Bagchi et al., 1998; Sallu, Twyman, & Stringer, 2010) but is not as widely used as semi-structured interviews or participatory vulnerability assessments.

In the case I describe, the dynamics of livelihood vulnerability were interrogated through timeline exercises in Focus Group Discussions (FGDs) and in-depth life histories. The life histories helped analyze “family trajectories of accumulation or impoverishment over time and of particular matrices of vulnerability” (Murray, 2002, p. 489) and thus constructed an understanding of how households follow “trajectories towards vulnerability or resilience” (Sallu et al., 2010, p. 3).

The aim was to document changes in household and individual capacities to cope with changing risks they faced (e.g., lack of social networks in the city for migrant households) as well as changing aspirations (e.g., youngsters not wanting to be associated with farming). Some connections explored through the research were as follows:

- *Personal attribute effects.* The intersection of personal attributes (gender, age, caste) with livelihood decisions (migration in particular) and risk management strategies.
- *Social effects.* How supra-household factors such as social networks, existence of community institutions, and local natural resource access shape people’s decisions. This captured what life course pioneer Elder (1998) calls “linked lives.”
- *Period effects.* How local and national schemes and policies, wider natural resource dynamics (what Elder (1998) calls “interlocking trajectories” that connect changing environments with behavioral changes), regional dynamics, or market factors affect people’s aspirations and motivations.

Thus, the life histories for this study were imagined as a method to help examine changing relations of the household with the community, of different members within the household, and the impacts of larger institutional trajectories on the household’s life and livelihoods.

Research Design

This case is part of a larger interdisciplinary study on barriers and enablers to effective, sustainable, and widespread adaptation in semi-arid regions in Africa and India (<http://www.assar.uct.ac.za>). The data collection involved a series of scoping visits to choose research sites and develop village profiles, gender-differentiated FGDs in each village using participatory tools, and a structured household survey. However, in this case, I will focus on how we interviewed 13 families to capture *life history narratives* around why people make the decisions they do to deal with risks and meet their aspirations.

Using multiple methods not only helped triangulate findings but also collect different types of information (the quantitative survey captured the “what,” while the qualitative data through FDGs and life histories uncovered the “why” behind the patterns we were seeing). The life histories were supplemented by participatory historical timelines (conducted during village-level FGDs) to reconstruct multiple changes, understand livelihood dynamics, and provide context for the life histories.

Approach Used for Data Collection

For capturing life histories, we followed Bagchi et al.’s (1998, p. 458) work on “livelihood trajectories” in Nepal and Bihar, India that considers livelihoods analysis “starts from daily lives and experiences” but moves on “to explore not only ‘how people make history’ but also the constraints that limit their functioning and capabilities.” For each life history to be complete, we interviewed the household head and his or her spouse. Wherever possible, we spoke to an old parent or adult son/daughter. Talking to all adult members within a household to conduct family life histories allowed us insights into “livelihoods and well-being (that) are increasingly conceptualized as partly the outcome of negotiations and bargaining between individuals with unequal power within households” (Bagchi et al., 1998, p. 457).

Interviews were open-ended and focussed on changes in peoples’ lives and livelihoods over the past 30 years (chosen because climatic changes are multi-decadal in nature and 1972 marked a significant drought within collective memory). Atkinson (2002, p. 129) notes that while life history interviews “can be *approached* scientifically, it is at best *carried out* as an art”. We kept this directive in mind while interviewing and used a free-flowing conversational style (see Locke & Lloyd-Sherlock, 2011) to touch upon our list of questions. If the conversation moved in a different direction, we did not push the respondent to adhere to any pre-determined order of questions and gently steered the conversation toward our questions after the diversion was complete.

We conducted each life history through a pair of researchers and if required, an additional translator. One person in the team asked the questions, and the other took manual and electronic recordings. The interviewees were asked to narrate key events in their life starting from when they were born, their education, and when they started earning with a focus on what they identified as significant turning points. Wherever a significant decision was made, we probed with questions of who made the decision and why, to understand the factors enabling and driving life choices. For migrant households, respondents were also asked to mark significant life events before and after migrating. Wherever climatic factors were mentioned, we probed further but took care not to ask leading questions and force fit climatic stressors as shaping household decisions (following Thomas, Twyman, Osbahr, & Hewitson, 2007’s approach). In doing so, the interviewing process challenged the common researcher–respondent hierarchy and made sure that what respondents identified as important to their life choices was discussed, rather than being restricted by pre-defined categories typical of structured survey-based questionnaires.

In addition to the life story narration, three exercises were introduced in the interview: completing a daily routine which went over what the person did during the day; completing an annual calendar which was similar to a seasonal calendar; and a relative well-being exercise in which we asked household members to rank their wellbeing relative to (1) their parents, (2) their own selves 10 years ago, and (3) their community.² The annual calendar and daily routine charts were made by male and female members and helped understand daily and seasonal workloads and lean periods across genders. The relative well-being exercise was to gain insights into the respondent’s perceptions of how they had done in life and whether their decisions (to move to the city, or diversify their crops) were a trajectory toward a positive direction or not. The well-being exercise often allowed us to ask “why questions” such as reasons for why they placed themselves lower relative to their parents, and provided insights into what families valued and thought essential to their wellbeing (Box 1).

Box 1. Key topics covered during the life history interviews

- Early years and family life

- Key livelihood decisions (e.g., decision to migrate or branch out into a non-agricultural livelihood)
- Key investments made (e.g., decision to educate a child up to college)
- Decision-making within the household and relative agency of male and female members
- Experiences of these decisions (impacts on lives, regrets if any)
- Relative well-being within the immediate community (horizontal), between their own household now and earlier (temporal), and between themselves and parents' generation (inter-generational)
- Future aspirations (especially for their children)

Choosing Interviewees: Reflections on Sampling

Life histories face the criticism other qualitative research methods do: those of being anecdotal, too few to generalize from, and running the risk of highlighting outliers or conclusions not reflecting the norm (Atkinson, 2002; Cary, 1999; Goodson & Choi, 2008; Hagemaster, 1992). I argue that in contexts where the research questions are complex (e.g., what are the drivers of adaptation decision-making), the actors or “respondents” are embedded in complex socio-ecological systems (characterized by multiple scales, feedback loops, and multiple and often-conflicting agendas), and temporality is of critical importance (e.g., the role of the postcolonial political economy of agriculture in shaping adaptation options for Indian farmers), structured surveys administered to a large set of people do not sufficiently uncover causal factors, their interactions, or their outcomes over time. Here, life histories can help by allowing deep inquiries into the differential ways people respond to everyday and extreme risk and their reasons for doing so.

In this study, households for life histories were chosen purposively to capture the breadth of strategies, socio-economic conditions, and migration patterns we had observed in the field during scoping visits and FGDs (see Singh, Basu, & Srinivas, 2016). This purposive sampling acknowledged that life histories do not aim at statistical representativeness but are used to gain insights into “processes of livelihood change, particularly relationships between people” (Bagchi et al., 1998, p. 466).

The number of households to be interviewed was kept open and once the team felt all response “types” were captured, that is, data saturation was reached, we stopped. Household selection was guided by categories along three axes (Table 1). Although many categories along these axes overlapped, care was taken to cover each category through life histories in one or several households. The categorization of households as falling within one or more of these boxes was done through an iterative process of research team discussions and emerging findings from the interviews.

Table 1. Axes used for choosing life history households.

Response pathways	Social differentiation	Migration type
No response	Gender of household head (Male/female)	Permanent migrant
Coping negatively	Economic status of household (rich/poor)	Daily commuting
Coping positively	Religion (Hindu, Muslim)	Seasonal migrant
Maladapting (potentially locking the household into unsustainable practices)	Caste (upper caste, scheduled caste, tribal households)	Conditional migrant
Adapting		

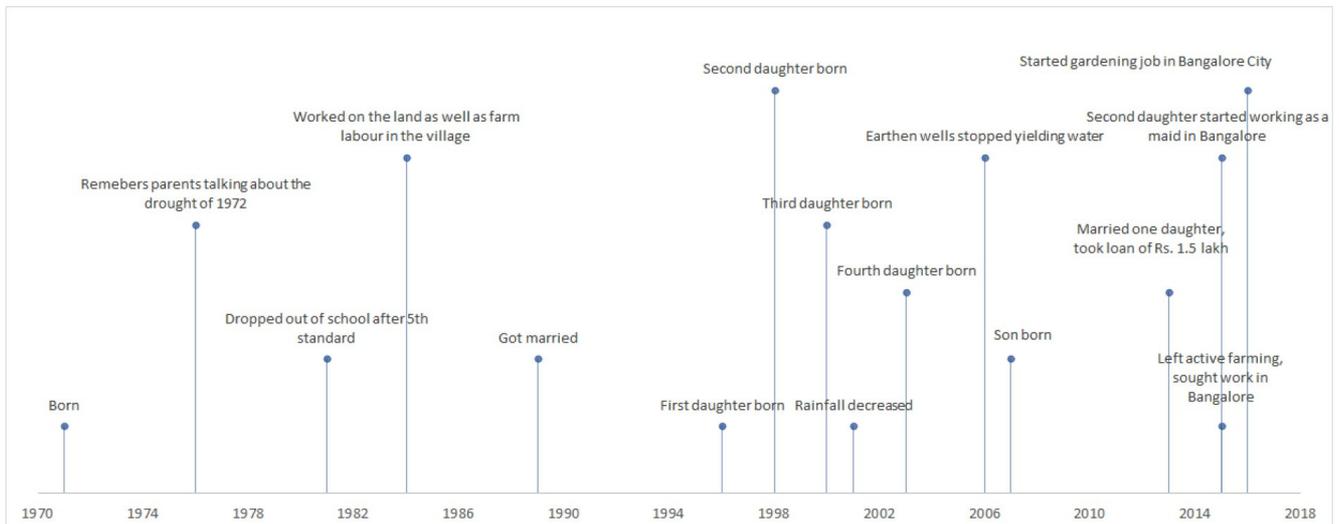
Analyzing Life Histories

Discussing the use of life histories in development research, Locke and Lloyd-Sherlock (2011) identify several ways in which life history narratives can be analyzed. Although sociological approaches model life course narratives to emphasize tipping points or transitions (Elder, 1998), feminist studies have used an intersectionality lens to demonstrate that changes across a life course are not constructed as a one-time event but are kept active by performing them (Rao, 2014).

In this study, data were synthesized through iterative methods of inductive reasoning and interpretation to examine connections and interactions between life events and larger socio-political, ecological, and economic dynamics (buttressed by secondary information in

district gazetteers and timelines from the FGDs). This process of interpretation helped build a holistic story of response pathways people took, as embedded in their personal and local contexts. Practically, the data were transcribed and translated from Kannada to English and analyzed using NVivo, a qualitative data analysis software. The life stories were also graphically represented through timelines or lifelines in MS Excel (see Figure 1 for an example).

Figure 1. Graphical depiction of key events discussed during a life history.



Source: Author (Life History K3, undertaken over three interviews in 2016).

Reflections on Using Life Histories for Climate Change Research

Planned Versus Actual Interviews

Despite planning, training, and equipping oneself with knowledge about potential pitfalls, the interviewing process was a constant negotiation with what I thought would be “an ideal life history” versus the reality of field conditions and constraints.

The first significant deviation from the plan was difficulties in interviewing all adults/earning members in the households. For example, in one life history, a respondent with whom I had built a relationship over the course of several months, refused to let me interview his underage daughter who was working as a domestic worker:

Really unfortunate that Ranjan (name changed) has again made an excuse about the interview with his daughter. I don't think she is ill as he is saying but that he doesn't want me to talk to her. Maybe he is scared her employer will fire her, or that I will write about it somewhere. Best to let it go. (Field Diary, January 11, 2016)

Given his fears that the questioning could disrupt his daughter's employment situation, I decided not to pursue interviewing her. Although having the daughter's voice was important to the household's story, I respected the concerns of the father and preferred to maintain cordial relations with him at the “cost” of a complete life history as I had hoped to collect.

The second challenge faced during interviewing was talking to women separately. As common in patriarchal societies, men often mediated interactions with “outsiders” and I often had to conduct a conversation with a female member with her husband sitting in the next room.

It is really frustrating to not be able to talk to Gayathri (name changed) properly. Her husband was sitting in the adjacent room the entire time; his presence felt by regular coughs, as if to warn her that he was hearing every word. She on her part, was not as feisty and outspoken as when I'd spoken to her last year in a group of ladies. Will need to follow up this interview with a phone call perhaps. (Field Diary, June 14, 2016)

In addition to issues of access and mediation described above, interviewing women in Muslim households was difficult and often not possible. In such cases, absence was counted as valid a finding as presence and the field notes reflected this.

A third challenge was that narratives were often selective, with biases toward recent or more impactful events. This was particularly crucial because one of the objectives of this research was to understand whether climatic factors are a significant driver of livelihood

decisions and often perceptions of climatic variability (e.g., change in rainfall amount) contrasted with secondary data (observed rainfall readings). Such contrast in perceived versus actual reality was noted during analysis but care was taken to look at livelihood decisions in the context of these perceived risks.

Lessons Learned

Overall, using life histories was useful in capturing a nuanced understanding of people’s livelihood decisions and strengthening our hypothesis that climatic factors are one of the many risks people in rural drylands negotiate. Using specific events (significant droughts, important government policies, key life events like births or marriages), the highly personal stories were signposted by broader events.

They also enabled interviewees to recollect the past that they perceived as important to their story, thus challenging the norm of traditional interviewing which may retain researcher-respondent hierarchies. The relationships built during the interviewing process also allowed for insights into people’s aspirations of the future: this was especially important because climate change research is inherently forward looking—whether it is simulating future climate, or building a case for behavioral change in the present and future.

However, the approach is not without its challenges. In [Table 2](#), I discuss how some of the challenges were planned for and minimized.

Table 2. Challenges in using life history approaches (adapted from Cary, 1999; Hagemaster, 1992; Locke & Lloyd-Sherlock, 2011) and how they were addressed

Difficulties of LH approach	Ways to address
Issues of representativeness and critique of being anecdotal, highly contextualized, and thus less easy to generalize	Choice of households was guided by earlier fieldwork in the research sites. The sampling aimed to capture the range of household types and response pathways observed.
Issues of recall, often memories are signposted by personally relevant impacts and mediated by current circumstances	Data triangulation through other methods such as policy review, FGDs, and household survey. Recalled/perceived events were given prominence because they play a vital role in livelihood decisions and risk management choices.
Time consuming	Although there are no shortcuts to building rapport with potential respondents, we found good practices in ethnographic research (hanging out, participant observation, observed participation) helped build a relationship that facilitated the life history interviewing process.
Data quality is subject to interviewer’s skills	Conducted mock interviews within the research team beforehand. In the actual interviews, a senior researcher well-versed in ethnographic methods was present to guide the conversation.
Social settings can impact narrative	Care was taken to conduct the interviews in a location chosen by the interviewee. This was especially crucial with women respondents. If there was slight discomfort perceived, the venue (and if necessary, time) were changed.
Impacts on interviewers/interviewees given the nature of research	Personal narratives can often be difficult on the interviewers as well as interviewees. For the researchers, regular discussions within the research team allowed reflections on the emerging findings and helped retain some distance from the subject at hand. Often narratives of distress related to drought and migration emerged, and the team processed these through internal team meetings and relating them back to the research questions. For the interviewees, care was taken to conduct the conversations carefully and sensitively.

Data aggregation and comparison is difficult	We chose not to compare but demonstrate the breadth of responses households use.
Ethical dilemmas around what to include, ways of representation, confidential data	Data were anonymized during transcription to avoid identification of interviewees. To represent the livelihood narratives in a sensitive and clear manner, a core team of three researchers discussed the key findings in an iterative process of data coding and writing up. These discussions included making choices about what to include and exclude.

Conclusion

From experiences of researching adaptation choices, livelihood decisions, and migrant life stories in semi-arid rural India, I found that the life histories enabled a nuanced inquiry into how personal and family aspirations and asset constraints interact with social norms, agency, and larger-scale institutional and economic changes to shape livelihood choices. I find that life histories are a robust method to develop contextual, detailed understandings of how people perceive, respond to, and live with climatic and non-climatic risks. It also allows the researcher, equipped with the vision of hindsight, to identify transitions and trigger points along a family or person’s life, thus potentially identifying entry points to behavioral change. In adaptation research, such insights into decision-making are critical because behavioral change toward more sustainable, climate-sensitive actions is a slow, often intangible process.

Recent scholarship drawing on political ecology, feminist studies, and intersectionality research describes adaptation as a social process, arguing that adaptation is more than a single intervention to deal with climate change impacts and adaptive capacities are shaped by systems, structures, and processes of power, gender, and political interests (Eriksen et al., 2015; Taylor, 2013; Tschakert et al., 2013). The life history approach, as presented in this case, provides the researcher with a method to broaden the ways in which we examine and “assess” vulnerability and adaptation choices.

Although a robust approach in itself, life histories can also be used in tandem with other methods, to

1. Supplement a larger quantitative survey and delve into interesting stories (to understand both the norm and outliers),
2. Identify drivers and trigger points that either make people follow cycles of entrenched poverty and vulnerability or enable them to invest in adaptive strategies,
3. Undertake temporally sensitive analysis that also links to broader scales (through community-level FGDs or governance regimes through desk-based policy analysis).

Being “inherently interdisciplinary” (Atkinson, 2002, p. 128), life histories lend themselves well to climate change research which is, at its heart, an inter- and transdisciplinary endeavor to understand how social and ecological systems interact and shape one another. One of the key strengths of the life histories was that it allowed me to build empirical evidence to demonstrate that opinions, aspirations and thus, decisions change over time. This has immense policy relevance, especially in climate change research, where indicator-based vulnerability assessments tend to project static notions of livelihoods that mask how households take highly contested, contextually embedded pathways to manage risk.

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Notes

- 1 Response pathways are trajectories households take to deal with risks and can include negative or positive coping, adapting, maladapting, or no response (See Singh, Dorward, & Osbahr, 2016 for more details).
- 2 For this study, wellbeing included material, subjective, and relational wellbeing.

Exercises and Discussion Questions

1. How are life histories different from other qualitative methods? What strengths do life histories bring to ethnographic research?
2. What are the key things to keep in mind when selecting and recruiting participants for conducting life history interviews?
3. Discuss other methods you think can complement life histories when trying to understand issues that are temporal in nature (e.g., shifts in public perceptions, changes in government regimes).
4. How would you deal with ethical concerns (respondent anonymity, broaching sensitive topics) while conducting life histories?
5. Think of a context in your own research where you could use life histories and make a data collection plan for the same.

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