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Post-Bereavement Internal Migration in Nyanza, Kenya: Timing and Destination Among Resident Households

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Abstract
This study examined post-bereavement internal migration among resident households in Nyanza, Kenya, focusing on the timing and destinations of relocation following adult mortality. Although adult deaths disrupt household livelihoods, care and land access, whether bereaved households relocate more frequently or sooner than other households, and towards which settlements and kin, remains unclear. The study used retrospective event histories (2009–2026) from 1,200 households in 18 purposively selected sub-counties, supplemented by 24 key informant interviews and 12 focus group discussions. Of the 677 households that lost an adult aged 15–59 years between 2009 and 2024, 386 (57.0%) had moved by interview time. Kaplan–Meier estimates showed that 23.8 per cent had experienced a first post-death move within 12 months and 36.6 per cent within 24 months. Discrete-time event-history analysis indicated that the odds of moving were elevated only during the first six months after a death (OR = 1.44, 95% CI [1.09, 1.90]). Overall, 45.1 per cent of first moves ended in urban localities. Among widow-headed households, 23 of 34 lineage-directed moves were towards the widow's natal lineage, although almost half occurred more than two years after the death. The study concludes that adult mortality is associated with a modest, short-lived increase in household relocation within an established mobility system. It recommends tracing departing households in surveys, recording lineage direction and linking newly bereaved households to support within six months. The findings provide comparison-based Kenyan evidence on post-bereavement relocation, contributing to migration theory and informing bereavement support.

Key words: Adult mortality, bereavement, household relocation, internal migration, widowhood.

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INTRODUCTION

Life-course research in high-income settings shows that adverse life events are often followed by residential change, frequently towards family (Spring et al., 2024). Across sub-Saharan Africa, the death of a prime-age adult reduces labour, income, consumption and crop production and can threaten care arrangements and access to land (Beegle et al., 2008; Mather et al., 2004); it can also be followed by household dissolution and by the movement of individual members, particularly children and widows (Ford & Hosegood, 2005; Hosegood et al., 2004). In Kenya, the death of a male household head has been associated with a sharp fall in the value of crop production (Yamano & Jayne, 2004), but the residential consequences of such losses have not been measured, and three things remain unresolved: whether bereaved households relocate as whole units, how soon they move, and whether such moves exceed the already high background mobility of comparable non-bereaved households. Prospective surveillance in western Kenya records migration (Odhiambo et al., 2012) but, to our knowledge, has not been used to examine the timing and destinations of whole-household moves after a death.

Existing studies leave three specific aspects of post-death relocation unestablished. First, on timing, the strongest prospective evidence models whether intact households out-migrated within a fixed observation window (Hosegood et al., 2004), and panel studies such as the Kagera survey traced movers to limit attrition rather than to analyse relocation (Beegle et al., 2008); none estimates whether whole-household moves cluster in the months immediately after a death, are deferred for years, or simply follow the background rate of mobility. Second, because post-death moves have not been compared with those of non-bereaved households observed over equivalent time, it is not known whether the share of bereaved households that move represents an excess associated with the death or the ordinary mobility of the setting. Third, on destinations, existing work records whether members leave but not where whole households go, either along the settlement hierarchy or, for widows, towards natal rather than marital kin. This study addresses these gaps. It builds on the livelihood and dissolution literature by treating whole-household relocation as an outcome in its own right, extends retrospective event-history methods to a censored comparison with non-bereaved households, and separates the lineage direction of widows' moves, an underexplored dimension of post-bereavement mobility in East Africa. Timing and lineage direction need separate investigation. The share of moves recorded long after a death depends on how long households were observed as well as on how they behaved, so timing can be assessed only with censoring and against a non-bereaved comparison. Settlement-type categories, for their part, do not show whether a widow returns to her natal kin or remains within her late husband's lineage, trajectories that carry different implications for land tenure and support.

The six counties of Nyanza (Siaya, Kisumu, Homa Bay, Migori, Kisii and Nyamira) suit these questions because they combine high historical prime-age adult mortality with substantial and varied internal mobility. In 2018, estimated HIV prevalence among adults aged 15–49 years was 21.0 per cent in Siaya, 20.7 per cent in Homa Bay, 16.3 per cent in Kisumu, 13.3 per cent in Migori, 4.4 per cent in Kisii and 4.2 per cent in Nyamira (National AIDS Control Council, 2018). HIV prevalence is therefore presented as contextual background rather than as a measured explanatory variable: HIV status and cause of death were not ascertained, the study includes adult deaths from all causes, and prevalence does not enter any model. It explains why prime-age deaths were frequent enough over 2009–2024 to be analysed as a time-varying exposure, and it reflects an epidemic that shaped widow-headed households, the fostering of orphans and contested succession to marital land. Its relevance to the research questions is therefore indirect: a high and spatially uneven burden of prime-age deaths supplies enough bereavement events to estimate post-death timing against background mobility (question ii) and a substantial population of widow-headed households in which the lineage direction of moves can be examined (question iii).

The counties also differ in settlement type. Towns such as Kisumu and Homa Bay are potential destinations; peri-urban areas offer intermediate options near markets and wage work; rural and highland farming areas hold the ancestral homes to which lineage-directed moves lead; and lakeshore areas are linked to fishing beaches by highly mobile livelihoods. Sampling across these settings captures differences in background mobility and in the destinations available. Parts of Siaya and Kisumu have been covered since 2001 by the KEMRI/CDC Health and Demographic Surveillance System (HDSS), which records deaths and migrations prospectively and provides

the closest regional benchmark (Odhiambo et al., 2012). Each setting bears on a specific research question. Contrasts in background mobility between urban, peri-urban, lakeshore and rural origins are needed to judge whether post-death moves exceed the mobility normally observed in a place (questions i and ii), while the coexistence of towns, market centres, fishing beaches and ancestral farming homes provides the range of destinations against which settlement streams and lineage direction can be distinguished (question iii). Including the Gusii highlands of Kisii and Nyamira alongside the Luo-speaking lake basin also widens the range of tenure and succession arrangements under which widows' residential options are negotiated (Henrysson & Joireman, 2009).

The study asks three questions: (i) what proportion of resident bereaved households had a recorded move after the death, and how far does that proportion depend on time since death; (ii) how quickly did bereaved households move, and did their risk of moving differ from background mobility among non-bereaved households; and (iii) towards which settlement types and whose lineage did bereaved households move, particularly where a widow headed the household?

To answer them, the study uses retrospective event histories from January 2009 to interviews in 2026 for 1,200 households resident in 18 purposively selected sub-counties, complemented by 24 key informant interviews and 12 focus group discussions. Time to the first post-death move is estimated with Kaplan–Meier methods, post-death and background mobility are compared in a discrete-time event-history model with adult death as a time-varying exposure, and lineage-directed moves among widow-headed households are classified by direction.

LITERATURE REVIEW

Adult Mortality, Household Livelihoods and Migration

Research on prime-age adult mortality in sub-Saharan Africa has followed two largely separate lines: one estimates the livelihood consequences of death, the other measures residential change. Reading the first as evidence about the second has encouraged overstatement of how far bereavement drives migration. The livelihood literature is the more mature. Globally, reviews of rural household demography show how the loss of working-age members depletes labour and assets (de Sherbinin et al., 2008), and cross-national surveys in sub-Saharan Africa document the depletion of labour, savings and land through distress sales and mortgaging (Mather et al., 2004). In the Kagera panel in Tanzania, which tracked movers, household consumption fell by 7% within five years of an adult death, a 19-percentage-point gap in consumption growth relative to the average household (Beegle et al., 2008), and responses varied with assets, the sex of the deceased and time since death (Adhvaryu & Beegle, 2012; Hunter et al., 2007). In Kenya, the death of a male head was associated with a 68% decline in the net value of crop production (Yamano & Jayne, 2004), but the estimate is observed only among households that remained intact. None of these studies treats relocation as an outcome. The omission is methodological as much as substantive: panel designs treat movers as a source of attrition to be traced or corrected, and farm-household surveys condition on households that remain in place, so neither is designed to show whether a death changes where a household lives. Their estimates of livelihood loss are therefore best read as describing the pressures on households that stayed, not the full range of responses to a death.

The step from these documented consequences to relocation is rarely made explicit, yet each consequence implies a distinct mechanism with different expectations for whether, when and where a household moves. Loss of labour may make farming at the origin unviable, raising the aspiration to move towards wage work or towards kin who can supply labour, most plausibly once the first agricultural season after the death has failed. Loss of income may both motivate and constrain a move, because funeral costs and distress sales deplete the resources needed to relocate; this mechanism implies delay or immobility among the poorest rather than immediate departure. Loss of caregiving capacity may redistribute children or older members rather than move the whole household, so its signature is partial rather than whole-household mobility. Loss of the deceased's land claim may compel departure, whereas secure succession may anchor survivors; because succession is negotiated after burial, this mechanism ties the timing of any move to funeral and succession processes and its destination to the kin group able to offer land. A household may therefore migrate as a unit, stay, reorganise or dissolve, and studies that observe only one of these outcomes cannot tell whether a death increased mobility or merely changed its form. Because the mechanisms are not mutually exclusive, the empirical task is not to isolate a

single pathway but to establish whether their combined effect produces moves that exceed, precede or redirect the mobility that households would otherwise have undertaken.

Direct evidence is limited. Life-course research in high-income settings shows that adverse events are often followed by moves towards family (Spring et al., 2024), but register data and housing markets in those settings differ so sharply from rural Africa that this work offers hypotheses rather than benchmarks. In Africa, INDEPTH analyses of internal migration focus on individuals and on education rather than bereavement (Ginsburg et al., 2016). In KwaZulu-Natal, children's mobility rose after adult deaths (Ford & Hosegood, 2005), and households with an adult death were about four times more likely to dissolve (hazard ratio 4.3), but adult mortality was not associated with the out-migration of intact households (Hosegood et al., 2004). That study separates dissolution from migration prospectively, but it models whether rather than when moves occurred and records no destinations, and its South African setting, shaped by circular labour migration and distinct tenure arrangements, limits direct transfer to the lineage-based land systems of western Kenya. A Tanzanian conference abstract reports an association between adult deaths and members' migration (Murunga & Masanja, 2011), although its brevity precludes assessment of design or confounding.

In Kenya, the KEMRI/CDC HDSS in western Kenya registers deaths and migrations (Odhiambo et al., 2012) but has not been used to analyse post-death household moves. Four gaps follow: no Kenyan study has examined whole-household relocation after an adult death; timing has not been modelled under unequal observation; comparison with background mobility is rare; and no study records whose lineage households move towards. Because this study observes only resident households, it addresses these gaps in a way that complements rather than replaces prospective surveillance.

Theorising Post-Bereavement Migration

Push–pull theory would treat an adult death as a push factor (Lee, 1966), but it remains a static inventory of determinants that cannot explain why the same shock leads one household to leave at once, another to leave later, a third to stay and a fourth to disperse (de Haas, 2010; McDowell & de Haan, 1997). The study therefore adopts the aspirations–capabilities framework (de Haas, 2021) as its principal lens. Mobility is treated as the joint outcome of the aspiration and the capability to move and stay, including involuntary immobility (Carling, 2002), as a substantive outcome. An adult death may raise the aspiration to move while depleting the capability to do so. Households that retain resources may therefore move soon after the death, those whose resources are depleted by funeral costs and lost earnings may defer or forgo a move, and those with secure land and kin support may stay. For the study's expectations, the framework therefore contributes chiefly to whether and when households move: it implies that any excess mobility will be short-lived and concentrated among households whose capabilities survive the death, rather than a delayed response accumulating over years. Its limitation is that it was developed mainly for labour and international migration and says little about who within a household holds the aspiration or controls the capability, which is why it is complemented below. Aspirations are not measured here; instead, the framework's implications for timing and staying are tested with event-history data.

Two complementary perspectives address who decides and where households go. Household decision models place the migration decision within the collectively organised household (Stark & Bloom, 1985), but a collective decision is not a unanimous one: a widow may favour her natal kin, adult sons may wish to stay on land they expect to inherit, and the deceased's brothers may influence whether the household remains (De Jong, 2000; Gubhaju & De Jong, 2009). In western Kenya, sons' migration was tied to parents' control of land and to expected inheritance (Hoddinott, 1994). Because these models explain why households send one member away, whole-household moves are expected mainly where the death removes the member whose earnings or land claim anchored the household. Household models thus contribute expectations about whether the household moves as a unit and who decides, but their assumption of a cohesive, income-pooling unit sits uneasily with bereavement, when the household's composition and authority are themselves in flux.

Migration systems theory explains destinations: earlier moves and kin ties channel later movement along established routes (Bakewell, 2014; Mabogunje, 1970), and multi-local households span rural homes, towns and livelihood sites (Mercandalli & Losch, 2019; Owuor, 2007). The theory contributes expectations about where households go: post-death moves should follow

established rural–urban and rural–rural routes rather than open new ones. It is, however, better at explaining the persistence of flows than their triggering, and so cannot by itself indicate whether a death adds to them. Among Luo communities, burial and lineage also bind households to rural homes (Cohen & Odhiambo, 1989), so the same ties may anchor households as well as direct their moves, a duality that bears both on where households move and on whether they stay.

Taken together, the perspectives make distinct and complementary contributions to the study's three expectations. On whether households move, the aspirations–capabilities framework and household decision models jointly imply that most bereaved households will not relocate as units, because a death more often raises the aspiration to move than the capability, and because household strategies can redistribute individual members instead. On when households move, the aspirations–capabilities framework implies a short-lived excess soon after funeral and succession decisions among households that retain resources, with no distinct later surge, whereas a static push-factor reading, which lists determinants without specifying when they operate (Lee, 1966), offers no expectation about timing. On where households move, migration systems theory implies that destinations reproduce existing settlement streams, while lineage and tenure perspectives imply that widows' moves divide between natal and marital kin according to the security of their claims on marital land. No single perspective addresses all three dimensions, which is why the study uses them in combination rather than testing one against another.

Each perspective yields a testable implication. The aspirations–capabilities framework implies that any excess risk of moving will be modest and concentrated in a defined period after the death (question ii); this is examined with Kaplan–Meier cumulative incidence and with discrete-time odds by time since death relative to non-bereaved household-months. Household decision models justify defining a move as the relocation of the head and most usual members, and imply differences by headship and sex of the deceased (question i), which are examined descriptively. Migration systems and lineage perspectives imply that moves reproduce existing settlement streams and kin ties, and that the direction of widows' moves reflects tenure security (question iii); these are examined through settlement streams and the separation of natal from marital lineage direction. Not all of these implications can be tested with the present data. Because wealth was recorded only at interview, the capability side of the aspirations–capabilities framework cannot be measured, and incomplete headship classification, described in the methods, prevents a test of the household-decision implication. The study therefore tests the timing implication against background mobility and treats the remaining implications descriptively.

Widowhood, Tenure and Lineage Direction

Gendered tenure insecurity is the most plausible mechanism linking a husband's death to the direction of a move. Globally, women hold a markedly smaller share of assets than men, and the gap is widest for land (Deere & Doss, 2006). In much of sub-Saharan Africa, women's access to land is mediated through husbands, sons or lineage and is most vulnerable at widowhood (Grey & Kevane, 1999); across 15 countries, fewer than half of widows reported inheriting any assets (Peterman, 2012). In Kenya, statutory protection under the Law of Succession Act (1981), the Constitution of Kenya (2010) and the Matrimonial Property Act (2013) coexists with customary practice, and in Kisii women's property claims were weak and dispute resolution costly enough to exclude many women (Henrysson & Joireman, 2009). Among Luo communities, succession and widowhood were negotiated through kinship and land claims during the AIDS era (Geissler & Prince, 2010); widow inheritance remained common (Agot et al., 2010), and widows negotiated or resisted it (Luginaah et al., 2005; Perry et al., 2014). This literature establishes that widows' residence is consequential and contested, but it rests on single-community samples and says little about how often different residential outcomes occur. Much of it was also produced during the AIDS epidemic and framed around HIV risk, so it treats widow inheritance and cleansing primarily as health behaviours rather than as residential decisions, and rarely distinguishes a widow who returns to her natal kin from one who moves elsewhere.

A widow's position also varies with her age, whether she has sons, whether bridewealth was transferred, co-wife status and relations with her husband's brothers (Henrysson & Joireman, 2009). Three destination types follow. A move to the widow's natal lineage is a return to her birth kin, often signalling weakened marital claims; a move to the deceased's lineage keeps the household within the marital kin group; and a move towards family

outside lineage land reflects kin-directed mobility without a lineage claim (Spring et al., 2024), although that category was derived from high-income settings in which lineage land does not structure residence. A single "return" code conflates these trajectories, and, to our knowledge, no regional study has separated them. The methods describe how the questionnaire operationalised the first two types; the third could not be measured because co-residence with non-lineage kin was not recorded.

The Timing of Shock-Induced Migration and Its Measurement

Timing is the least settled dimension of post-shock migration. Internationally, moves after adverse events accumulate over years (Spring et al., 2024). In sub-Saharan Africa, the evidence comes mainly from covariate shocks: in Tanzania, resources erode immediately after shocks while adaptation takes time (Blocher et al., 2024), and a weather-induced fall in agricultural income raised migration within a year only among middle-wealth households (Kubik & Maurel, 2016), suggesting that both the poorest and the better-off stay. These findings transfer only partly to bereavement. Weather shocks strike whole communities and weaken the kin networks that would receive migrants, whereas an adult death is an idiosyncratic shock that leaves those networks intact and is followed by culturally prescribed funeral and succession processes that may themselves set the timing of any move. None of these studies times household relocation after a death, and, to our knowledge, no Kenyan study has examined the timing of household moves after any shock.

Measurement compounds the gap. Because households are observed for different lengths of time after a death, interval shares reflect the observation window as well as behaviour and require censoring and person-time denominators (Allison, 1982; Courgeau & Lelièvre, 1992); treating one life event as a time-varying exposure for another provides the template for joint analysis (Mulder & Wagner, 1993). Retrospective surveys omit households that left or dissolved and are prone to recall error (Bilsborrow et al., 1984, 1997), problems that prospective HDSS registration overcomes (Ginsburg et al., 2016). The present study therefore combines censoring, a non-bereaved comparison, a time-varying exposure model and checks for recall heaping, while acknowledging that a retrospective design cannot match the coverage of prospective registration.

METHODOLOGY

Study Design, Sampling and Analytical Sample

The study used a cross-sectional household survey with retrospective event histories running from January 2009 to the date of interview, complemented by a qualitative component described below. Adult deaths in 2009–2024 define the bereaved group, so that every bereaved household had at least 13 months of follow-up; household moves up to the interview, including those in 2025 and 2026, are counted. All six counties in Nyanza were included. Three sub-counties were selected purposively in each county. This number was intended to secure a contrast in settlement type within each county, so that differences in post-death mobility were not confounded with county-level differences in mortality, ethnicity or land pressure, while keeping fieldwork and supervision feasible and giving each county equal weight. Three was the smallest number that allowed each county to contribute its principal settlement contrasts, typically a town or peri-urban centre, a farming hinterland and, where present, a lakeshore or highland zone. The resulting 18 sub-counties also provided enough clusters for cluster-robust inference with the wild bootstrap (Cameron et al., 2008). Within each county, sub-counties were chosen to maximise contrast in settlement type, using the classification described below, rather than to represent the county's population. In Kisii, however, the three selected sub-counties were inland or rural, so no urban or peri-urban site was sampled and the within-county contrast there is limited to highland and lower-lying farming settings. The design therefore aims at contrast rather than statistical representation.

Before fieldwork, each sub-county was assigned to one primary settlement category based on the urban–rural classification of the 2019 Kenya Population and Housing Census (Kenya National Bureau of Statistics, 2019), county integrated development plans, and consultations with sub-county health management teams. Urban sub-counties were defined as those containing a county headquarters or major municipality, while peri-urban sub-counties were those adjoining a municipality or containing secondary market towns characterised by a mixture of agricultural and non-agricultural livelihoods. Rural sub-counties were predominantly agricultural areas characterised by dispersed homesteads. Lakeshore sub-counties were defined as those bordering Lake Victoria, where livelihoods depended substantially on fishing activities along the beaches, whereas inland sub-counties

comprised the densely settled, non-lacustrine highland core of Kisii and Nyamira.

Rural and inland therefore both denote farming settings and differ in altitude and settlement density rather than in livelihood. Bomachoge Borabu and Masaba North, which lie on the margins of the highland zone with lower settlement density and more mixed crop and livestock farming, were assigned to the rural category on the basis of county integrated development plan zoning and sub-county health management team consultations. Because each assignment preceded household sampling, settlement category could not be influenced by observed migration outcomes.

Because many sub-counties combine these characteristics, the categories denote the dominant setting rather than mutually exclusive types. Thus, Bondo and Rachuonyo North, which border Lake Victoria, were assigned to the rural category because crop and livestock farming rather than fishing was the dominant livelihood identified in these sources, and Kisumu Central and Homa Bay Town, also on the lakeshore, were assigned to the urban category because they contain county headquarters. Nyando was assigned to the lakeshore category because its lower wards border the Winam Gulf and its floodplain and beach communities are linked into lake-based mobility, although crop farming, including irrigated rice, now dominates its livelihoods; a sensitivity analysis reclassifying Nyando as rural is reported with the event-history results.

Households were selected systematically from community health promoter (CHP) registers updated during the 2026 fieldwork. The target sample for each sub-county was distributed proportionately across community health units according to the number of registered households. Sampling followed three sequential procedures. First, household registers were reviewed and reconciled to improve the completeness and accuracy of the sampling frame. Duplicate entries were identified by cross-checking household heads' names, village locations and CHP household identification numbers, while households confirmed to have permanently relocated or dissolved were excluded. Where registers were incomplete, CHPs and village elders conducted community walk-throughs to identify and incorporate previously unlisted resident households. The resulting registers were subsequently verified, finalised and assigned consecutive household identification numbers.

Second, a systematic sampling interval (k) was determined independently for each community health unit by dividing the total number of eligible households in the cleaned register (N) by the allocated sample size (n), with the resulting value rounded down to the nearest whole number. The sampling interval varied according to the size of the community health unit and its corresponding sample allocation. Third, a random starting number (r) was selected between 1 and k, after which households were systematically identified at successive intervals (r, r + k, r + 2k, and so forth) until the required sample was obtained. The use of a random start ensured that eligible households had a defined probability of selection, while systematic selection provided a transparent and reproducible procedure. Households that could not be contacted after three separate visits, or whose eligible respondents declined participation, were recorded as non-responses and were not replaced. Overall, 1,200 of the 1,240 targeted households completed interviews, representing a response rate of 96.8 per cent.

The unit of analysis is the household as constituted at interview in 2026, defined as people who usually lived together and shared meals, rather than the lineage. Histories were traced through the household's continuing core: the current head or, where headship had changed, the surviving spouse or other continuously resident adults. A household that had split from a parent household after 2009 entered observation at its formation, events involving members who joined through a merger were counted only from the date they joined, and a change of headship after a death was recorded as an event within a continuing household.

The analytical population is restricted to households represented in the 2026 residence-based frame. Households that left the selected sub-counties permanently or dissolved before frame construction could not be sampled, whereas households that moved in after a death elsewhere could. The direction and magnitude of this selection are unknown. The restriction also bears on destinations: because every sampled household lived in one of the 18 sub-counties in 2026, destination shares describe moves by households that ended up in sampled areas.

An adult death was defined as the death of a person aged 15–59 years at the time of death who had been a usual household member immediately before death. This included members temporarily away for treatment or care and excluded relatives living elsewhere. Age at death was taken from the roster, death notification or community register, or otherwise from the respondent's report checked against calendar events.

Reported histories identified 677 bereaved households, of which 386 recorded a subsequent move, and 523 non-bereaved households, of which 295 recorded a move. The proportion of 57.0% (386 of 677) is the share of surviving resident bereaved households that had moved by interview. It depends on how long each household was observed after the death, is not directly comparable with the non-bereaved share, and is not an estimate of the probability of post-bereavement migration in the original population at risk, which would require the households that left or dissolved. The study estimates neither that probability nor a causal effect of bereavement. A further 27 of the 523 households without an adult death in 2009–2024 lost an adult between January 2025 and interview; they remain in the non-bereaved group for descriptive purposes, are censored at that death in the Kaplan–Meier comparison and contribute exposed months in the event-history model.

Event-History Construction and Outcome Definition

Retrospective event histories established the reported order of adult deaths and household moves. Community registers, available in 14 of the 18 sub-counties, anchored dates for 512 of the 677 bereaved households (75.6%). The remaining 165 (24.4%) relied on respondent recall checked against calendar events and the roster. Time since death was measured in completed months from the reported month of death to the month of the first subsequent move. The nine moves made in the calendar month of death (month 0) were included in the first interval, labelled 0–3 months. Because recall over periods of up to 17 years may produce heaping, the monthly distribution of first post-death moves (months 0–36) was inspected for excess counts at 6, 12, 18 and 24 months, and timing was compared between register-anchored and recall-only households.

A migration event was defined as a change in the household's primary residence of at least 5 km, lasting at least three months, excluding short visits, medical stays and seasonal agricultural movement. A household move required relocation of the head and the majority of usual members; moves by individual members alone were not counted. The questionnaire coded a move as *lineage-directed* when the destination was the ancestral or lineage area of either the head or the deceased. Direction was derived only for female-headed households in which the deceased was the head's husband (hereafter widow-headed households), by combining this code with the sex of the head, the sex of the deceased and the deceased's relationship to the head. For that group, a move to the head's lineage is a return to the widow's natal home, and a move to the deceased's lineage keeps the household within the husband's lineage. For other households, the combined code is reported descriptively and is not interpreted as return migration. Family-directed moves outside lineage areas appear only in the settlement-stream dimension, because co-residence with non-lineage kin was not recorded.

Classification data were incomplete. Sex of the household head was missing for 348 of 1,200 households (29.0%), and sex of the deceased was missing for 312 of 677 bereaved households (46.1%). Joint headship–deceased-sex classification was available for only 347 bereaved households, leaving 330 unclassified. Of these 330, 152 (46.1%) were in Kisii and Nyamira and 178 (53.9%) were in the other four counties (Table 1). Thus, missingness cannot adequately be explained solely by the documented tablet-export incident affecting Kisii and Nyamira, or by a two-week module omission in four teams elsewhere. The concentration by team (0%–78%) is consistent with a fieldwork or data-processing component, but the available documentation does not establish the duration, number of interviews affected, or relative contribution of each mechanism.

The 312 missing deceased-sex entries are not explained by a failure of the relationship-to-head module, and their cause could not be established from the available records. The 330 unclassified households differed from classified households in migration status (52.1% versus 61.7% had moved), register anchoring (70.3% versus 80.7%) and geography (Table 1), so complete-case classification is selective and cannot be assumed missing at random. Headship-by-deceased-sex and widowhood results are consequently restricted to observed cases, reported as descriptive, and interpreted alongside worst-case allocation bounds; neither missing category is imputed.

Table 1 compares classified and unclassified bereaved households on all characteristics observed for both groups.

Table 1: Characteristics of Classified and Unclassified Bereaved Households

Characteristic	Classified (n = 347) n (%)	Unclassified (n = 330) n (%)
Recorded post-death move	214 (61.7)	172 (52.1)
No recorded move	133 (38.3)	158 (47.9)
Year of death 2009–2016	145 (41.8)	120 (36.4)
Year of death 2017–2024	202 (58.2)	210 (63.6)
Register-anchored dates	280 (80.7)	232 (70.3)
Kisii and Nyamira sub-counties	65 (18.7)	152 (46.1)
Settlement category		
Urban	43 (12.4)	23 (7.0)
Peri-urban	60 (17.3)	33 (10.0)
Rural	143 (41.2)	131 (39.7)
Lakeshore	70 (20.2)	56 (17.0)
Inland	31 (8.9)	87 (26.4)
Total	**347 (100.0)**	**330 (100.0)**

Two sensitivity analyses address classification and dating. The timing analysis was repeated separately for register-anchored and recall-only households. For the headship-by-sex-of-deceased proportions, assumption-based bounds were calculated by allocating all 172 unclassified movers, and then all 158 unclassified non-movers, to each cell in turn. No sensitivity analysis can recover the households excluded by the residence-based frame.

Statistical Analysis

The analysis has four components. First, descriptive frequencies summarise recorded post-death moves, the joint classification where complete, and destination tags. The proportion moved is also tabulated by year of death, to show its dependence on the length of observation. Conventional confidence intervals are not attached to these proportions, because the sub-counties were purposively selected.

Second, time from death to the first subsequent household move was analysed with the Kaplan–Meier estimator, with households that had not moved censored at interview (Courgeau & Lelièvre, 1992). Because every death in the bereaved group occurred by December 2024 and interviews began in February 2026, each bereaved household was observed for at least 13 months; no household is censored before 12 months, so the Kaplan–Meier estimates at 6 and 12 months equal the crude shares, and censoring first affects estimates beyond 13 months. Cumulative incidence is reported and plotted at 6, 12, 24, 60 and 120 months (Figure 2). For comparison, each non-bereaved household was assigned a pseudo-reference date drawn at random from the distribution of death dates among bereaved households in the same county, and time from that date to its next move was analysed in the same way; non-bereaved households with an adult death in 2025–2026 were censored at that death. Curves were compared with the log-rank test, which is reported as descriptive because it does not account for clustering by sub-county or for purposive site selection, and the bereaved analysis was repeated separately for register-anchored and recall-only households. Grouped counts by interval since death describe when observed moves occurred and are not treated as hazards, because the intervals are of unequal width and the final interval is open-ended.

Third, a discrete-time event-history model (logistic regression on household-month records) was fitted for all 1,200 households (Allison, 1982). Each household entered observation in January 2009 or at its formation, if later, and contributed months until the interview in February–April 2026, so moves in 2025 and 2026 are included. Households formed by a split therefore entered at their formation date and did not inherit the parent

household's earlier exposure. The outcome was a move in a given month, and recurrent moves were retained. A household remained at risk after each move, its history continued at the new residence, and the cumulative number of previous moves entered as a covariate. Adult death entered as a time-varying exposure coded as no adult death yet, or as 0–6, 7–12, 13–24 or more than 24 months since the most recent adult death. Where a household experienced more than one adult death, the exposure clock reset at each subsequent death, and an indicator for more than one death was included (46 households had more than one adult death in 2009–2026). Deaths between January 2025 and the interview were recorded in the roster and are coded as exposure. A move reported in the same month as a death was assigned to the 0–6-month category when the respondent reported that the death preceded the move. Deaths before 2009 were not recorded, so households bereaved earlier enter as unexposed. Because any lingering effect of those deaths would raise the reference rate, this misclassification biases the exposure estimates towards no effect. The household-level distribution of recurrent post-death moves is reported with the timing results.

The model adjusts for calendar period (2009–2012, 2013–2016, 2017–2020 and 2021–2026), county and settlement category. Because a mover's location in 2026 is a consequence of the outcome, county and settlement category are measured at the place of residence at the start of each month, reconstructed from the residence history, and therefore enter as time-varying characteristics of the origin of any move in that month. The specification used in an earlier version, with location fixed at 2026, is reported as a sensitivity analysis. Characteristics measured only at interview, such as headship and wealth, were excluded as predictors because they may be consequences of a death or a move. With only 18 purposively selected sub-counties, confidence intervals were obtained from the wild cluster bootstrap at sub-county level with Rademacher weights and 999 replications (Cameron et al., 2008). Because Rademacher weights yield few distinct bootstrap samples with 18 clusters, intervals using Webb six-point weights are also reported (Webb, 2023). Model fit is summarised by the log pseudo-likelihood, the Akaike information criterion (AIC) and the area under the receiver operating characteristic curve (AUC), and the joint contribution of the four exposure terms by a bootstrap Wald test. Further sensitivity analyses reclassified Nyando as rural, and Bomachoge Borabu and Masaba North as inland. In the Kaplan–Meier and descriptive analyses, by contrast, households with more than one death are classified by their first death in the period, and only the first subsequent move is counted.

Fourth, destinations were classified in two separate dimensions. Lineage-directed moves among widow-headed households were classified by direction and by time since death, and each household's first post-death move was assigned to exactly one settlement stream: rural-to-urban, rural-to-peri-urban, peri-urban-to-urban, intra-rural, urban-to-rural or urban-to-peri-urban, or urban-to-urban. Streams were coded at the locality of origin and of the first destination on a three-category urbanity scale (rural, peri-urban and urban), using the 2019 census classification of urban centres. Lakeshore and inland denote ecological and livelihood zones within that scale, so a lakeshore or inland locality was coded rural unless it was a classified urban or peri-urban centre, such as a beach market town. The lineage tag is a separate dimension. Analyses were conducted in Stata 18.0 (StataCorp, 2023).

Qualitative Component

The qualitative strand supplies contextual evidence for interpreting the survey and is not a formally integrated mixed-methods design. It comprised 24 key informant interviews and 12 focus group discussions with 101 participants, conducted between May and June 2026, after the survey, in 12 of the 18 survey sub-counties (two per county, spanning each county's settlement categories). Two key informants per sub-county were drawn from sub-county health management teams, CHPs and their supervisors, local administrators, civil registration officers and community leaders. One discussion was held per sub-county; across the 12 sub-counties, four discussions each were held with adult men, adult women and youth, with six to ten participants invited by CHPs and village elders; personal experience of bereavement was neither a criterion for inclusion nor recorded. Sessions were audio-recorded with consent, transcribed and translated into English where necessary.

Coding in NVivo 14 (Lumivero, 2023) combined a deductive codebook (the four livelihood pathways, succession and widowhood, lineage obligations, kin networks and destinations, and timing) with inductive codes added after open coding of the first four transcripts, such as the exhaustion of food stocks after funerals, negotiated land use with the deceased's

brothers, and stigma surrounding deaths that participants attributed to HIV. That code records participants' own attributions; HIV status and cause of death were not measured in the survey. Eight transcripts were double-coded independently (Cohen's $\kappa = 0.81$ across 214 segments). The number of sources and sites in which each retained theme appeared is reported in Table 10. Quotations were chosen to represent recurrent themes, including divergent accounts of delayed relocation and of staying. Because participants were current residents rather than traced movers, the accounts illustrate locally perceived processes and do not establish migrants' motives, the prevalence of mechanisms or causal pathways.

Ethical Considerations

The study received ethical approval from the Jaramogi Oginga Odinga University of Science and Technology Ethics Review Committee (approval reference JOOUST/ERC/2025/092, 8 December 2025) and a research licence from the National Commission for Science, Technology and Innovation (NACOSTI/P/26/4184943). Written informed consent, or a witnessed thumbprint after the consent form had been read aloud, was obtained from every household respondent, key informant and focus group participant. Consent explicitly covered the reporting of information about deceased household members, consistent with verbal-autopsy practice.

Interviewers were trained in bereavement-sensitive interviewing, and participants showing distress were offered a pause, termination of the interview or referral to a community health promoter. All participant identifiers have been removed or replaced with anonymised codes.

FINDINGS AND DISCUSSION

Recorded Migration Among Resident Households

Among the 677 resident households reporting an adult death, 386 had a recorded household move after the death; among the 523 without one, 295 had a recorded move. The two proportions (57.0% and 56.4%) are close, but non-bereaved households were observed from 2009 and bereaved households only from the death. Table 2 shows that this proportion depends strongly on the time elapsed since the death. The exposure-based comparison is presented with the timing results below.

Table 2 addresses the first research question by showing how the recorded share of bereaved households that moved depends on the time available for a move to be observed. Households are grouped into two-year cohorts by year of death, and the final column gives the median follow-up from death to interview. The gradient is monotonic: the proportion that moved falls from 70.8 per cent in the 2009–2010 cohort, observed for a median of 194 months, to 43.4 per cent in the 2023–2024 cohort, observed for a median of 26 months, a difference of 27.4 percentage points. Pooling cohorts, 64.9 per cent (172 of 265) of households bereaved in 2009–2016 had moved, compared with 51.9 per cent (214 of 412) of those bereaved in 2017–2024. Because the gradient tracks follow-up so closely, the table shows that the crude 57.0 per cent is largely a function of exposure duration, which is why timing is assessed with censored and person-time methods in the timing analysis below rather than from these proportions.

Table 2: Recorded Post-Death Household Moves by Year of Death Among Resident Bereaved Households

Year of death	Bereaved households (n)	Moved after death (n)	Moved (%)	Median months from death to interview
2009–2010	48	34	70.8	194
2011–2012	61	41	67.2	171
2013–2014	72	46	63.9	147
2015–2016	84	51	60.7	122
2017–2018	96	56	58.3	98
2019–2020	105	58	55.2	75
2021–2022	112	57	50.9	50
2023–2024	99	43	43.4	26
Total	**677**	**386**	**57.0**	**92**

Note: Households that were bereaved more recently had less time in which a move could be observed. A household with more than one adult death is classified by the first death in the period. Medians are computed from each household's month of death and its interview date (9 February to 24 April 2026); every bereaved household had at least 13 months of follow-up.

Table 3 disaggregates the same outcome by county, sub-county and the settlement category used in selection, and shows how much the recorded share varies across the sampled settings. Variation is modest. Sub-county proportions span 10.6 percentage points, from 51.6 per cent in Kisumu Central to 62.2 per cent in Bondo, and county proportions lie within a narrower band, from 54.1 per cent in Nyamira (53 of 98) to 59.5 per cent in Siaya (69 of 116). Grouped by setting, the recorded share was 58.8 per cent in rural sub-counties (161 of 274), 58.7 per cent in lakeshore sub-counties (74 of 126), 55.9 per cent in inland sub-counties (66 of 118), 53.8 per cent in peri-urban sub-counties (50 of 93) and 53.0 per cent in urban sub-counties (35 of 66). Households living in rural and lakeshore sub-counties at interview therefore record slightly higher shares than those living in urban sub-counties. With 30 to 47 bereaved households per sub-county and no adjustment for time since death, these differences are descriptive and do not support a ranking of sub-counties.

Table 3: Bereaved Households and Recorded Post-Death Moves by Sub-County

County	Sub-county	Setting	Bereaved households (n)	Moved after death (n)	Moved (%)
Siaya	Bondo	Rural	45	28	62.2
	Gem	Rural	40	24	60.0
	Ugunja	Peri-urban	31	17	54.8
Kisumu	Kisumu Central	Urban	31	16	51.6
	Muhoroni	Rural	36	22	61.1
	Nyando	Lakeshore	43	26	60.5
Homa Bay	Homa Bay Town	Urban	35	19	54.3
	Rachuonyo North	Rural	46	27	58.7
	Suba North	Lakeshore	41	25	61.0
Migori	Awendo	Rural	38	22	57.9
	Nyatike	Lakeshore	42	23	54.8
	Uriri	Peri-urban	32	17	53.1
Kisii	Kitutu Chache North	Inland	47	27	57.4
	Nyaribari Masaba	Inland	38	21	55.3
	Bomachoge Borabu	Rural	34	19	55.9
Nyamira	Borabu	Inland	33	18	54.5
	Manga	Peri-urban	30	16	53.3
	Masaba North	Rural	35	19	54.3
Total			**677**	**386**	**57.0**

Note: Setting refers to urban, peri-urban, rural, lakeshore or inland as used in sub-county selection. Proportions are descriptive and are not adjusted for differences in time since death. Bondo, Rachuonyo North, Kisumu Central and Homa Bay Town border Lake Victoria but are classified by their dominant setting. Kitutu Chache North is the northern of the two constituencies formed when Kitutu Chache was divided ahead of the 2013 general election.

Household Composition Among Classified Resident Bereaved Households

Among the 347 bereaved households with complete information on headship and sex of the deceased, 214 recorded a subsequent move, and 133 did not (Table 4). Because classified households had a different migration distribution from the 330 unclassified households, Table 4 describes the classified subgroup only and does not establish effect modification. The assumption-based

bounds are wide: allocating all unclassified movers, or all unclassified non-movers, to a cell gives ranges of 26.5–85.3 per cent for male-headed households that lost a male member, 23.0–86.5 per cent for male-headed households that lost a female member, 20.2–90.1 per cent for female-headed households that lost a male member and 16.7–87.1 per cent for female-headed households that lost a female member. Differences of a few percentage points between cells therefore cannot be interpreted.

Table 4 relates to the household decision perspective by cross-classifying recorded moves by sex of the household head and sex of the deceased. It is restricted to the 347 bereaved households (51.3%) for which both variables were available, and cell sizes range from 69 to 114 households. The observed proportions lie within a 10.6-point band, from 55.1 per cent among female-headed households that lost a female member to 65.7 per cent among female-headed households that lost a male member, the cell that contains the widow-headed households examined in the analysis of lineage direction below. The overall share in the classified subgroup (61.7%) exceeds that among all bereaved households (57.0%), reflecting the selective missingness documented in Table 1. The assumption-based bounds are between 59 and 70 percentage points wide in every cell and overlap completely, so the table describes the composition of the classified subgroup rather than differences in mobility by headship or sex of the deceased.

Table 4: Recorded Post-Death Household Movement by Sex of Household Head and Sex of Deceased Among Classified Resident Bereaved Households

Head of household	Sex of deceased	Recorded move (n)	No recorded move (n)	Recorded move (%)
Male	Male	72	42	63.2
Male	Female	58	36	61.7
Female	Male	46	24	65.7
Female	Female	38	31	55.1
Total classified sub-group		**214**	**133**	**61.7**

Timing of First Moves After Adult Death

Among the 386 resident bereaved households that recorded at least one move following an adult death, 32 (8.3%) made their first move within 0–3 months, including nine in the same calendar month as the death. A further 55 households (14.2%) moved within 4–6 months, 74 (19.2%) within 7–12 months, 56 (14.5%) within 13–18 months, and 28 (7.3%) within 19–24 months, while the remaining 141 (36.5%) moved more than 24 months after the death. Cumulatively, 161 households (41.7% of those that moved) had relocated within 12 months, increasing to 245 (63.5%) within 24 months (Table 5; Figure 1). The 386 movers made 1,100 post-death moves in total, including recurrent moves: 100 households (25.9%) made exactly one move, 100 (25.9%) two, 80 (20.7%) three, 50 (13.0%) four and 56 (14.5%) five or more, so 286 (74.1%) moved more than once. The 1,110 moves in exposed household-months in Table 7 also include moves by households first bereaved in 2025–2026.

These grouped counts describe when observed moves occurred, not the risk of moving. The final interval spans up to about 207 months (17 years) and is therefore mechanically large: 68.8 per cent of deaths occurred in 2009–2020, so most bereaved households were observed for at least five years in which a late move could be recorded. Moves by reported month since death showed no marked heaping at 6, 12, 18 and 24 months (Table 6), and the share of moves within 12 months was similar between register-anchored and recall-only households (42.1% and 40.6%, respectively), although with no more than five recall-only moves in any month, this check has limited power to detect modest heaping.

Table 5 turns to the second research question and records when the 386 observed first moves took place, grouped by interval since death. Because the intervals differ in width, the counts are most informative when expressed per month of interval: about 8.0 moves per month in months 0–3, 18.3 in months 4–6, 12.3 in months 7–12, 9.3 in months 13–18 and 4.7 in months 19–24. Observed moves therefore cluster in the first half-year after a death, peaking in months 4–6, after funerals and initial succession meetings, and decline steadily thereafter. These are distributions of moves among movers rather

than risks, because their denominator excludes the 291 bereaved households that did not move; they are therefore read alongside the censored estimates in Figure 2.

Table 5: Timing of Recorded Post-Death Household Moves Among Resident Bereaved Households

Time since death	Interval width (months)	Observed moves (n)	Cumulative % of observed moves
0–3 months	4	32	8.3
4–6 months	3	55	22.5
7–12 months	6	74	41.7
13–18 months	6	56	56.2
19–24 months	6	28	63.5
>24 months	open	141	100.0

Note: Intervals are of unequal width, and the final interval is open-ended (up to about 207 months, from January 2009 to April 2026), so counts are not interval-specific hazards.

Table 6 is a data-quality check on the timing results. It disaggregates first post-death moves by reported month since death for months 0–36 and by source of dates, distinguishing the 285 moves (73.8%) whose dates were anchored by community registers from the 101 moves (26.2%) that relied on recall. Recall error typically produces heaping at round durations, but no such pattern is evident. The counts at months 6, 12, 18 and 24 (17, 11, 8 and 4) are within one move of the average of the adjacent months (16.5, 11.0, 7.0 and 4.0), and among recall-only households they are equal to or lower than those averages. The two sources also yield similar timing, with 42.1 per cent of register-anchored and 40.6 per cent of recall-only moves occurring within 12 months of the death. The table therefore supports treating the monthly timing used in Tables 5 and 7 as not materially distorted by recall.

Table 6: First Post-Death Household Moves by Reported Month Since Death (Months 0–36), by Source of Dates

Months since death	All moves (n)	Register-anchored (n)	Recall-only (n)
0	9	7	2
1	7	5	2
2	8	6	2
3	8	6	2
4	20	15	5
5	18	13	5
6	17	13	4
7	15	11	4
8	13	10	3
9	12	9	3
10	12	9	3
11	11	8	3
12	11	8	3
13	11	8	3
14	10	7	3
15	10	7	3
16	9	7	2
17	8	6	2
18	8	6	2
19	6	4	2
20	5	4	1
21	5	4	1
22	4	3	1
23	4	3	1
24	4	3	1
25	4	3	1
26	4	3	1
27	4	3	1
28	3	2	1
29	3	2	1
30	3	2	1
31	3	2	1
32	3	2	1
33	3	2	1
34	2	1	1
35	2	2	0
36	2	2	0
More than 36	**105**	**77**	**28**
Total	**386**	**285**	**101**

Note that heaping is indicated by counts at 6, 12, 18 and 24 months that are markedly higher than at adjacent months, particularly among recall-only households. No such pattern is evident in either group. Month 0 refers to moves in the calendar month of death, which are included in the 0–3 month interval of Table 5.

Figure 1 presents the interval counts from Table 5 graphically, so that the shape of the observed timing

distribution can be seen at a glance. The bars rise from 32 moves in months 0–3 to 74 in months 7–12, fall to 28 in months 19–24, and then rise to 141 in the open interval beyond 24 months. The apparent late peak is an artefact of interval width: the final bar aggregates up to 17 years of follow-up, whereas the first five bars together cover two years. Read with the per-month rates in Table 5, the figure shows that observed moves are concentrated in the first year after a death, and it motivates the censored comparison that follows.

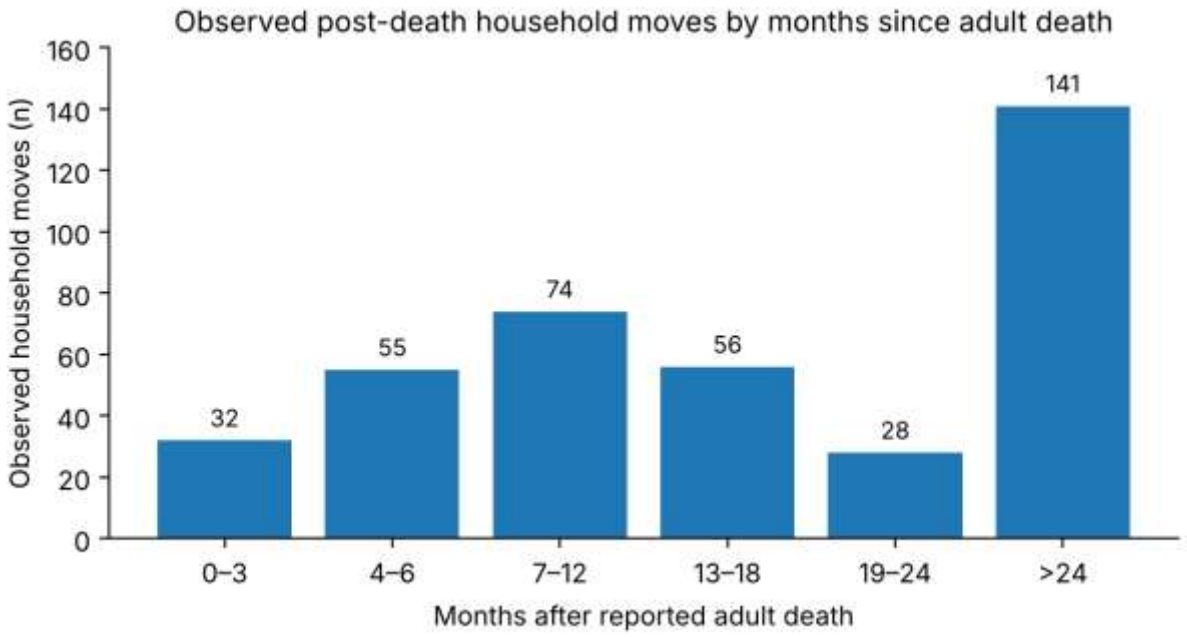


Figure 1: Distribution of Observed Post-Death Household Moves by Months Since the Reported Adult Death

Kaplan–Meier estimates, which take account of the different lengths of time households were observed, are shown in Figure 2. Among bereaved households, cumulative incidence of a first post-death move was 12.9 per cent at 6 months, 23.8 per cent at 12 months, 36.6 per cent at 24 months, 50.8 per cent at 60 months and 64.0 per cent at 120 months; the median time to a move was 58 months. Because every bereaved household was observed for at least 13 months, the 6- and 12-month estimates equal the crude shares (87 and 161 of 677 households). Censoring first matters at 24 months: 27 households bereaved in 2024 that had not moved were censored with 13–23 months of follow-up, so the 24-month estimate slightly exceeds the crude share (245 of 677, 36.2%). Among non-bereaved households, cumulative incidence from the reference date was 9.2 per cent, 19.1 per cent, 32.1 per cent and 47.3 per cent at 6, 12, 24 and 60 months, respectively (log-rank $p = 0.17$, unadjusted for clustering). The gap between the curves opened mainly in the first six months, reached 4.7 percentage points by 12 months, did not widen thereafter (4.5 points at 24 months) and narrowed to 3.5 points by 60 months; over the whole follow-up, the two curves were not statistically distinguishable.

Figure 2 is the principal descriptive evidence on timing because, unlike Table 5 and Figure 1, it accounts for unequal follow-up and compares bereaved households with a non-bereaved reference. It plots Kaplan–Meier cumulative incidence of a first move at 6, 12, 24, 60 and 120 months. Bereaved estimates are higher at every landmark, but the gap does not grow: it is 3.7 percentage points at 6 months, 4.7 at 12 months, 4.5 at 24 months and 3.5 at 60 months. Expressed as increments between landmarks, bereaved households accumulated 12.9 points in the first six months against 9.2 among non-bereaved households, whereas later increments were similar or slightly smaller (10.9 against 9.9 points in months 7–12, 12.8 against 13.0 in months 13–24, and 14.2 against 15.2 in months 25–60). The difference therefore arises mainly in the first six months, and over the full follow-up the two distributions are not statistically distinguishable (log-

rank p = 0.17). Half of bereaved households had moved by 58 months.

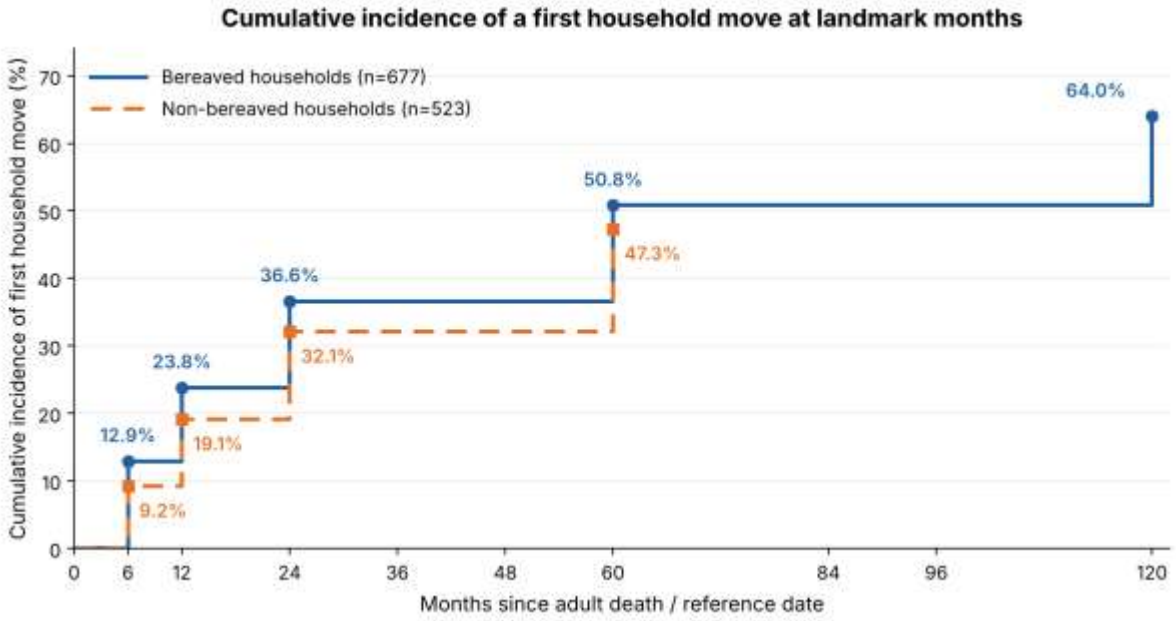


Figure 2: Kaplan–Meier Cumulative Incidence of a First Household Move Among Bereaved and Non-Bereaved Households in Nyanza, Kenya, at Landmark Months (6, 12, 24, 60 and 120), 2009–2026

Table 7 presents the discrete-time model for all 1,200 households, based on 207,346 household-months and 3,284 moves, with county and settlement category measured at the origin of each month. Relative to household-months with no prior adult death, the odds of a move were 1.44 (95% CI 1.09–1.90) in months 0–6 after a death, 1.17 (0.88–1.55) in months 7–12, 1.06 (0.80–1.40) in months 13–24 and 0.97 (0.75–1.25) more than 24 months after a death. Only the first-six-months estimate differed from one, and the four exposure terms were jointly significant (bootstrap Wald test, p = 0.048). Intervals based on Webb weights were slightly wider but led to the same conclusions (1.06–1.95 for months 0–6). Previous moves were the strongest predictor (OR 1.27 per previous move); households living in urban, peri-urban and lakeshore settings moved more often than those in rural settings, and experiencing more than one adult death was not associated with moving. Model fit statistics are given in the note to Table 7. The months 0–6 estimate was stable across sensitivity analyses: 1.42 (1.08–1.87) with location fixed at 2026, 1.43 (1.08–1.89) with Nyando classed as rural, and 1.44 (1.09–1.91) with Bomachoge Borabu and Masaba North classed as inland.

Table 7 provides the adjusted test of the second research question. It models the monthly odds of a move across 207,346 household-months for all 1,200 households, treating time since the most recent adult death as a time-varying exposure and adjusting for previous moves, calendar period, and county and settlement category at the origin of each month. In absolute terms, the crude monthly move rate was 2.23 per cent in months 0–6 after a death against 1.55 per cent in unexposed months, so 117 moves were observed where about 81 would be expected at the reference rate. This excess of roughly 36 moves, equivalent to about five additional moves per 100 bereavement episodes over the first seven months and to 1.1 per cent of the 3,284 moves recorded, is consistent with the 3.7–4.7-point gap in Figure 2. The covariates place the effect in context: each previous move raised the odds of moving by 27 per cent, and the associations with urban (OR 1.36) and lakeshore (OR 1.27) residence were comparable in size to, and more durable than, the six-month bereavement effect. Bereavement therefore adds a small, short-lived increment to a mobility regime driven mainly by prior mobility and place.

Table 7: Discrete-Time Logistic Model of Household Moves Among All Resident Households, January 2009 to Interview (February–April 2026)

Variable	Household-months (n)	Moves (n)	Odds ratio	95% CI (Rademacher)	95% CI (Webb)
Time since most recent adult death					
No prior adult death (reference)	140,576	2,174	1.00	–	–
0–6 months	5,236	117	1.44	1.09–1.90	1.06–1.95
7–12 months	4,371	84	1.17	0.88–1.55	0.86–1.59
13–24 months	8,442	144	1.06	0.80–1.40	0.78–1.44
>24 months	48,721	765	0.97	0.75–1.25	0.73–1.29
More than one adult death (yes vs no)			1.08	0.79–1.48	0.77–1.52
Previous moves (per move)			1.27	1.19–1.36	1.18–1.37
Calendar period (reference 2009–2012)					
2013–2016			0.97	0.86–1.09	0.85–1.11
2017–2020			0.93	0.82–1.05	0.81–1.07
2021–2026			0.88	0.77–1.01	0.76–1.02
County of residence at start of month (reference Siaya)					
Kisumu			1.11	0.92–1.34	0.90–1.37
Homa Bay			1.07	0.89–1.29	0.87–1.32
Migori			1.03	0.85–1.25	0.83–1.28
Kisii			0.84	0.68–1.04	0.66–1.07
Nyamira			0.86	0.70–1.06	0.68–1.09
Settlement category at start of month (reference rural)					
Urban			1.36	1.12–1.65	1.10–1.69
Peri-urban			1.19	1.00–1.42	0.98–1.45
Lakeshore			1.27	1.06–1.52	1.04–1.56
Inland			0.88	0.71–1.09	0.69–1.12

Lineage Direction Among Widow-Headed Households

Among the 53 widow-headed households, 41 moved after the death, and 34 of these moves were lineage-directed: 23 towards the widow's natal lineage and 11 towards the deceased husband's lineage (Table 8). Natal moves outnumbered moves within the marital lineage at every duration, but both directions were concentrated well after the death: 11 of the 23 natal returns (47.8%) and 5 of the 11 marital-lineage moves (45.5%) occurred more than 24 months after the death, the period in which the event-history model shows bereaved households moving at background rates. Only nine lineage-directed moves (six natal and three marital) occurred within 12 months. No comparison group is available: for the remaining 62 lineage-directed moves, direction could not be separated reliably, so it is not known whether lineage moves by other households run in a similar direction. The distribution is therefore presented as a description only. Table 8 addresses the lineage dimension of the third research question for the one subgroup in which direction could be derived: the 53 widow-headed households, of which 41 (77.4%) moved after the death, and 34 (82.9% of movers) made a lineage-directed move. Moves towards the widow's natal lineage outnumbered moves within the deceased husband's lineage by about two to one (23 against 11). As the timing columns show, only 9 of the 34 lineage-directed moves (26.5%) occurred within 12 months of the death. The table therefore documents that natal and marital lineage moves are distinct and both common among widow-headed households but, given the small numbers and the absence of a comparison group, it does not show that these moves were triggered by the death or by loss of tenure.

Table 8: Direction of Lineage-Directed Moves Among Widow-Headed Households (Female-Headed Households Whose Deceased Member Was the Head's Husband)

Destination	Moves (n)	% of lineage-directed moves	Within 12 months of death (n)	More than 24 months after death (n)
Towards widow's natal lineage	23	67.6	6	11
Towards deceased husband's lineage	11	32.4	3	5
Total lineage-directed	**34**	**100.0**	**9**	**16**

Migration Streams and Qualitative Context

Settlement streams of first post-death moves are shown in Table 9, with each household assigned to exactly one stream. Table 9 uses the three-category locality scale, whereas Tables 1, 3 and 7 use the five-category sub-county typology described in the methods. The lineage-directed tag is a separate dimension and can overlap with any stream. Urban destinations account for 174 first moves (rural-to-urban 118, peri-urban-to-urban 37 and urban-to-urban 19), whereas only 66 bereaved households lived in the two urban sub-counties at interview. The two figures measure different things: streams are coded at the locality of the first destination, whereas residence at interview is coded by sub-county. Of the 174 urban-destination moves, 31 ended in Kisumu Central or Homa Bay Town, where the household still lived at interview; 98 ended in urban centres located in sub-counties classified by another dominant setting, such as Ahero, Bondo, Awendo, Kendu Bay, Mbita and Keroka; and 45 were followed by a later move, 33 of them returns to a rural or peri-urban locality and 12 onward moves, that brought the household to its 2026 residence. Because every sampled household lived in a sampled sub-county in 2026, the streams describe households that ended up in sampled areas, and moves to destinations outside them, such as Nairobi, are represented only when the household later returned.

Table 9 completes the third research question by assigning each of the 386 first post-death moves to one settlement stream defined by the urbanity of its origin and destination localities. Three patterns stand out. First, origins are predominantly rural: 298 moves (77.2%) began in rural localities, against 37 (9.6%) in peri-urban and 51 (13.2%) in urban localities. Second, the dominant direction is up the settlement hierarchy: 174 moves (45.1%) ended in an urban locality, and 84 (21.8%) moved from rural to peri-urban localities, whereas only 32 moves (8.3%) ran from towns to rural or peri-urban areas, a net gain of 123 households to urban localities once urban-to-urban moves are excluded. Third, intra-rural moves remain substantial (96, 24.9%), consistent with relocation between rural homes and kin. About one move in four (96, 24.9%) also carried the lineage-directed tag, which overlaps with the streams rather than adding to them. These shares describe the first destinations of households that ended up in the sampled sub-counties, as reconciled above.

Table 9: Settlement Stream of First Post-Death Moves Among Resident Bereaved Households

Settlement stream	Households (n)	% of bereaved migrant households
Rural-to-urban	118	30.6
Rural-to-peri-urban	84	21.8
Peri-urban-to-urban	37	9.6
Intra-rural	96	24.9
Urban-to-rural or urban-to-peri-urban	32	8.3
Urban-to-urban	19	4.9
Total	**386**	**100.0**
Lineage-directed tag (overlapping dimension)	96	24.9

Note: Each household's first post-death move is assigned to one settlement stream, so stream percentages sum to 100. The lineage-directed tag is a separate dimension that may apply to a move in any stream and is not added to the stream total. Origins and destinations are coded at the locality level as rural, peri-urban or urban; lakeshore and

inland localities are coded rural unless they are classified urban or peri-urban centres, as described in the methods. The qualitative material is used as contextual illustration. Table 10 shows how widely each retained theme recurred across sources and sites. Accounts of funeral obligations, succession meetings and depleted food stocks were the most widespread and relate to the timing of moves; accounts of natal return, absorption by the marital lineage and retained land relate to destinations and to staying. Accounts of deaths that participants attributed to HIV referred to treatment expenditure, stigma and contested support.

Two accounts illustrate the contrast between delayed movement and remaining in place. A community leader described how funeral and family obligations could precede relocation:

> *When someone dies, you cannot just leave. There is the funeral, then the family meetings about the land and the children. By the time all that is finished, the food is finished too. That is when people start to think about going to town or to their home area. (KII-07, male community leader, Kisumu County)*

A woman who described herself during the discussion as having been widowed described the opposite pathway when access to land was retained:

> *After my husband died, things became very difficult because he was the one providing most of what we needed. Some people told me to go back to my parents, but I could not leave the children and the land. His brothers agreed that I should continue using the farm. I struggled, but we remained here and cultivated what we could. (FGD-06, female participant, self-described widow, Homa Bay County)*

These accounts illustrate locally situated possibilities rather than a common sequence or causal explanation for the quantitative counts.

Table 10 summarises the breadth of the qualitative evidence by showing, for each retained theme, the number of key informant interviews, focus groups and qualitative sub-counties in which it was coded. Themes linked to timing were the most pervasive. Funeral obligations and costs appeared in 30 of the 36 sources (83.3%) and in all 12 sub-counties, and succession and family land meetings in 27 sources (75.0%) and 11 sub-counties, which accords with the concentration of excess mobility in the months following funerals and succession decisions (Table 7). Themes linked to destinations and staying were less widespread but recurrent: retained access to marital land appeared in 22 sources (61.1%), natal return in 18 (50.0%) and absorption within the husband's lineage in 15 (41.7%). Stigma and treatment costs around deaths attributed to HIV were the least frequent theme, appearing in 13 sources (36.1%) across 7 sub-counties. The counts indicate how widely each theme was voiced, not how often each mechanism operated among households.

Table 10: Recurrence of Qualitative Themes Across Sources and Sites

Theme	Research question	Key informant interviews (n = 24)	Focus groups (n = 12)	Sub-counties (n = 12)
Funeral obligations and costs delaying decisions	ii	19	11	12
Succession and family land meetings preceding any move	ii, iii	17	10	11
Exhaustion of food stocks and savings after funerals	ii	12	9	10
Retained access to marital land enabling staying	iii	14	8	10
Widow's return to natal kin	iii	11	7	9
Absorption or relocation within the husband's lineage	iii	9	6	8
Redistribution of children rather than whole-household moves	i	13	8	9
Moves to towns or fishing beaches for wage work or trade	iii	10	9	10
Stigma and treatment costs around deaths attributed to HIV	ii	8	5	7

Note: Counts are the number of sources and qualitative sub-counties in which the theme was coded at least once (NVivo matrix coding query). The HIV-related theme records participants' own attributions; HIV status and cause of death were not measured.

Discussion

This study examined when and where households residing in 2026 in Nyanza moved after an adult death. Four findings stand out. First, once observation time and calendar period were taken into account, an adult death was associated with higher monthly odds of moving only in the first six months. Second, the large share of observed moves more than 24 months after a death largely reflects long follow-up and background mobility rather than a distinct post-bereavement pattern. Third, among widow-headed households, lineage-directed moves were mostly towards the widow's natal lineage, although almost half of these occurred more than two years after the death. Fourth, first moves ran mainly from rural localities towards urban and peri-urban centres, with substantial movement between rural homes.

Bereavement Within a High-Mobility Setting

The main evidence on whether bereavement changes mobility comes from the event-history model, which compares household-months with and without a recent adult death after adjustment for calendar period, county and settlement type at the origin, and previous moves. The odds of a move were elevated only in the first six months and were indistinguishable from those of households without a death thereafter (Table 7). This short-lived excess against a high background rate is consistent with prospective evidence from rural KwaZulu-Natal, where adult deaths increased household dissolution but were not associated with the out-migration of intact households (Hosegood et al., 2004). It is also compatible with aspirations–capabilities and household-decision perspectives, in which the networks and resources that enable moves can equally enable staying (de Haas, 2021; Stark & Bloom, 1985), although neither capability nor intra-household decision-making was measured, so these frameworks are not tested here. In a region linked by long-established circuits between rural homes, fishing beaches and towns (Bakewell, 2014; Mabogunje, 1970), a death appears to be followed by a modest, short-lived excess of moves within existing mobility rather than to override it. Because the odds more than 24 months after a death were not below one (OR 0.97), the data cannot show whether these moves were brought forward from later or added to them. Previous moves and urban or lakeshore origin were associated with moving to a degree similar to a recent death and, unlike bereavement, throughout the observation period.

Comparing post-death migration hazards in the KEMRI/CDC HDSS, which follows out-migrants and records household dissolution (Odhiambo et al., 2012), with the present estimates would show how far conditioning on residence shapes them.

The Timing of Post-Death Moves

Of observed first moves, 41.7 per cent occurred within 12 months of the death and 36.5 per cent after 24 months. The second figure is not evidence of a distinct, delayed post-bereavement response: the final interval spans up to 17 years, most deaths occurred long enough before interview for late moves to be observed, and non-bereaved households moved at a similar rate. Censored estimates put cumulative incidence at 23.8 per cent by 12 months and 36.6 per cent by 24 months among bereaved households, against 19.1 per cent and 32.1 per cent among non-bereaved households, and the gap opened in the first months after the death and did not widen thereafter. Any effect of bereavement on timing is therefore concentrated in the first six months. This early, short-lived excess differs from international evidence that moves after adverse life events accumulate over several years (Spring et al., 2024) and from Tanzanian evidence that moves are delayed while resources erode (Blocher et al., 2024). In aspirations–capabilities terms (de Haas, 2021), households still able to move may do so soon after funeral and succession decisions, whereas those whose capabilities are depleted stay, so no distinct delayed response emerges above background mobility. Wealth also conditions such responses (Kubik & Maurel, 2016), but it was measured only at interview here. The qualitative accounts of funerals, succession meetings and depleted food stocks describe how a move might be delayed by months, but they do not show that such delays explain the timing distribution.

The timing also helps to weigh the mechanisms set out in the literature review. A labour-loss mechanism would place most excess moves after the first agricultural season had failed, roughly 6–12 months after the death, yet observed moves per month peaked in months 4–6 (Table 5) and the adjusted excess was confined to months 0–6 (Table 7). This timing fits more closely with the land-claim mechanism, in which moves follow burial and the first succession meetings, a sequence described in 27 to 30 of the 36 qualitative sources (Table 10). The income mechanism, which predicts delay or immobility among the poorest, could not be examined because wealth was recorded only at interview. The caregiving mechanism predicts partial rather than whole-household moves; the redistribution of children, voiced in 21 of the 36 sources, falls outside the household-move definition used here and may help to explain why most bereaved households did not relocate as units. These links are interpretive, because the survey did not measure mechanisms directly.

Destinations and Settlement Streams

First post-death moves ran mainly up the settlement hierarchy. More than three-quarters began in rural localities, 45.1 per cent ended in an urban locality, and urban localities gained 123 households net of moves in the opposite direction (Table 9). Intra-rural moves nonetheless accounted for about a quarter of first moves, and the lineage-directed tag applied to a similar share. This pattern accords with migration systems theory, in which earlier moves and kin ties channel later movement along established routes (Bakewell, 2014; Mabogunje, 1970), and with accounts of multi-local households spanning rural homes, towns and livelihood sites in Kenya (Owuor, 2007). More than half of the urban destinations (98 of 174) were smaller centres such as Ahero, Bondo, Kendu Bay and Keroka rather than the two county headquarters, suggesting that bereaved households often move first to nearby market and service towns within reach of their rural homes and lineage land. Two qualifications apply. The residence-based frame represents moves to distant destinations, such as Nairobi, only when households later returned, so the urban share of first destinations is probably understated. And because streams were not tabulated for non-bereaved movers, the data show where bereaved households went but not whether a death redirected them; comparing streams between bereaved and non-bereaved movers would provide that test.

Widowhood, Lineage and Tenure

Table 4 describes a selected subgroup of households with complete headship information and does not support conclusions about whether headship or the sex of the deceased modifies migration; the small differences across its cells are therefore not interpreted. The more informative evidence on widowhood comes from separating the direction of lineage-directed moves among widow-headed households (Table 8).

Most of these moves (67.6%) were towards the widow's natal lineage, and the remainder stayed within the husband's lineage. This is consistent with accounts of

weakened use rights over marital land after a husband's death in patrilineal settings, including the Gusii areas of the study region (Grey & Kevane, 1999; Henrysson & Joireman, 2009), but the data do not show that loss of tenure caused these moves. Almost half of the natal returns (11 of 23) took place more than 24 months after the death, when bereaved households moved at background rates, and only six took place within 12 months. Without a comparison group, it is unknown whether widows move towards natal kin more often than other households move towards the lineage of a female member, and because headship was recorded at interview, some households may have become female-headed after the move. The result is therefore descriptive: natal and marital lineage moves are distinct and both frequent enough to warrant separate measurement. The FGD-06 account of a widow who remained on her husband's land with the agreement of his brothers illustrates a third outcome, negotiated staying (Cohen & Odhiambo, 1989; Geissler & Prince, 2010).

Limitations

Four limitations, set out in order of their likely influence, qualify the findings; for each, the findings most affected are identified.

First, and most consequential, the residence-based frame excluded bereaved households that left the sampled sub-counties or dissolved, and included some that arrived after a death elsewhere (Bilsborrow et al., 1984). This chiefly affects the absolute estimates, namely the 57.0% recorded-move share and the Kaplan–Meier cumulative incidence, and the settlement streams, which omit moves to unsampled areas unless households later returned. For the six-month odds ratio, the direction of bias is unknown: households that left soon after a death were the most likely to be missed, which would understate the excess, whereas households that moved into the sampled areas after a death elsewhere were included because they had moved, which would overstate it.

Second, incomplete and interview-time classification of headship and sex of the deceased, missing for 330 bereaved households and associated with migration status, falls mainly on the widowhood findings. The headship-by-sex comparison (Table 4) and the natal-versus-marital lineage split (Table 8) are therefore descriptive. Because wealth was also measured only at interview, it could not be examined as a prior condition of moving, and its omission could bias the exposure estimates in either direction.

Third, recall-based dating for 24.4 per cent of bereaved households bears mainly on the timing results. No heaping was detected, although the check has limited power given the small number of recall-only moves in any month, and timing was similar for register-anchored and recall-only households (Table 6), but misdating by a few months could shift moves between the 0–6 and 7–12-month categories and blur the short-lived excess. The destination findings are largely unaffected.

Fourth, residual measurement choices and purposive selection limit precision and scope. Coding pre-2009 bereavement as unexposed biases the exposure estimates towards no effect; the settlement typology is approximate, although reclassifying Nyando and the two marginal highland sub-counties did not alter the estimates; and the purposive sample and resident-only qualitative participants mean that the results describe the sampled households rather than Nyanza, and that the qualitative accounts illustrate rather than establish mechanisms.

Implications for Research and Policy

Two design recommendations follow for surveys of mortality and migration. Households that leave the origin community should be followed, as HDSS platforms do (Ginsburg et al., 2016), and destination modules should record whose lineage a household moves towards, not only the type of settlement. For policy, Kenya's Inua Jamii cash transfers target older persons, persons with severe disabilities, and orphans and vulnerable children (State Department for Social Protection and Senior Citizen Affairs, 2025). None of these transfers is triggered by an adult death. Community health promoters, who already record deaths in their registers, are well placed to identify bereaved households, particularly widow-headed households facing succession disputes, for referral to existing support within the first six months after a death, the period in which the excess in moves was concentrated.

CONCLUSION

Conclusion: In 18 sub-counties of Nyanza, 386 of 677 bereaved resident households (57.0%) had moved after an adult death, a crude share that reflects the length of follow-up as well as any response to the death. Kaplan–Meier cumulative incidence, censored at interview, was

23.8 per cent at 12 months and 36.6 per cent at 24 months, and an event-history model comparing bereaved with non-bereaved household-months across all 1,200 households shows that the odds of moving were elevated only in the first six months after a death (OR = 1.44; 95% CI 1.09–1.90). The large share of moves observed more than two years after a death is largely a consequence of long follow-up in a high-mobility setting. Among widow-headed households, lineage-directed moves were mostly towards the natal lineage (23 of 34, or 67.6%), a descriptive pattern rather than evidence of tenure loss. First moves ran mainly from rural localities towards urban and peri-urban centres, with 45.1 per cent ending in an urban locality, consistent with established settlement streams. Because the sample excludes households that left or dissolved, these findings describe surviving resident households. Prospective follow-up, such as that provided by the KEMRI/CDC HDSS, together with destination coding that records lineage direction, is needed to establish whether and when bereavement changes migration. For policy, community health promoters could use their death registers to link newly bereaved households, particularly widow-headed households, to existing support within six months of a death.

REFERENCES

Adhvaryu, A., & Beegle, K. (2012). The long-run impacts of adult deaths on older household members in Tanzania. *Economic Development and Cultural Change, 60*(2), 245–277. https://doi.org/10.1086/662577

Agot, K. E., Vander Stoep, A., Tracy, M., Obare, B. A., Bukusi, E. A., Ndinya-Achola, J. O., Moses, S., & Weiss, N. S. (2010). Widow inheritance and HIV prevalence in Bondo District, Kenya: Baseline results from a prospective cohort study. *PLoS ONE, 5*(11), Article e14028. https://doi.org/10.1371/journal.pone.0014028

Allison, P. D. (1982). Discrete-time methods for the analysis of event histories. *Sociological Methodology, 13*, 61–98. https://doi.org/10.2307/270718

Bakewell, O. (2014). Relaunching migration systems. *Migration Studies, 2*(3), 300–318. https://doi.org/10.1093/migration/mnt023

Beegle, K., De Weerdt, J., & Dercon, S. (2008). Adult mortality and consumption growth in the age of HIV/AIDS. *Economic Development and Cultural Change, 56*(2), 299–326. https://doi.org/10.1086/522895

Bilsborrow, R. E., Hugo, G., Oberai, A. S., & Zlotnik, H. (1997). *International migration statistics: Guidelines for improving data collection systems*. International Labour Office.

Bilsborrow, R. E., Oberai, A. S., & Standing, G. (1984). *Migration surveys in low-income countries: Guidelines for survey and questionnaire design*. Croom Helm.

Blocher, J., Hoffmann, R., & Weisz, H. (2024). The effects of environmental and non-environmental shocks on livelihoods and migration in Tanzania. *Population and Environment, 46*(1), Article 7. https://doi.org/10.1007/s11111-024-00449-4

Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2008). Bootstrap-based improvements for inference with clustered errors. *The Review of Economics and Statistics, 90*(3), 414–427. https://doi.org/10.1162/rest.90.3.414

Carling, J. (2002). Migration in the age of involuntary immobility: Theoretical reflections and Cape Verdean experiences. *Journal of Ethnic and Migration Studies, 28*(1), 5–42. https://doi.org/10.1080/13691830120103912

Cohen, D. W., & Odhiambo, E. S. A. (1989). *Siaya: The historical anthropology of an African landscape*. James Currey.

Constitution of Kenya. (2010). Government Printer.

Courgeau, D., & Lelièvre, É. (1992). *Event history analysis in demography*. Clarendon Press.

Deere, C. D., & Doss, C. R. (2006). The gender asset gap: What do we know and why does it matter? *Feminist Economics, 12*(1–2), 1–50. https://doi.org/10.1080/13545700500508056

de Haas, H. (2010). Migration and development: A theoretical perspective. *International Migration Review, 44*(1), 227–264. https://doi.org/10.1111/j.1747-7379.2009.00804.x

de Haas, H. (2021). A theory of migration: The aspirations-capabilities framework. *Comparative Migration Studies, 9*(1), Article 8. https://doi.org/10.1186/s40878-020-00210-4

De Jong, G. F. (2000). Expectations, gender, and norms in migration decision-making. *Population Studies, 54*(3), 307–319. https://doi.org/10.1080/713779089

de Sherbinin, A., VanWey, L. K., McSweeney, K., Aggarwal, R., Barbieri, A. F., Henry, S., Hunter, L. M., Twine, W., & Walker, R. J. (2008). Rural household demographics, livelihoods and the environment. *Global Environmental Change, 18*(1), 38–53. https://doi.org/10.1016/j.gloenvcha.2007.05.005

Ford, K., & Hosegood, V. (2005). AIDS mortality and the mobility of children in KwaZulu-Natal, South Africa. *Demography, 42*(4), 757–768. https://doi.org/10.1353/dem.2005.0029

Geissler, P. W., & Prince, R. J. (2010). *The land is dying: Contingency, creativity and conflict in western Kenya*. Berghahn Books.

Ginsburg, C., Bocquier, P., Béguy, D., Afolabi, S., Augusto, O., Derra, K., Odhiambo, F., Otiende, M., Soura, A. B., Zabré, P., White, M. J., & Collinson, M. A. (2016). Human capital on the move: Education as a determinant of internal migration in selected INDEPTH surveillance populations in Africa. *Demographic Research, 34*(30), 845–884. https://doi.org/10.4054/DemRes.2016.34.30

Gray, L., & Kevane, M. (1999). Diminished access, diverted exclusion: Women and land tenure in sub-Saharan Africa. *African Studies Review, 42*(2), 15–39. https://doi.org/10.2307/525363

Gubhaju, B., & De Jong, G. F. (2009). Individual versus household migration decision rules: Gender and marital status differences in intentions to migrate in South Africa. *International Migration, 47*(1), 31–61. https://doi.org/10.1111/j.1468-2435.2008.00496.x

Henrysson, E., & Joireman, S. F. (2009). On the edge of the law: Women's property rights and dispute resolution in Kisii, Kenya. *Law & Society Review, 43*(1), 39–59. https://doi.org/10.1111/j.1540-5893.2009.00366.x

Hoddinott, J. (1994). A model of migration and remittances applied to Western Kenya. *Oxford Economic Papers, 46*(3), 459–476. https://doi.org/10.1093/oxfordjournals.oep.a042141

Hosegood, V., McGrath, N., Herbst, K., & Timæus, I. M. (2004). The impact of adult mortality on household dissolution and migration in rural South Africa. *AIDS, 18*(11), 1585–1590. https://doi.org/10.1097/01.aids.0000131360.37210.92

Hunter, L. M., Twine, W., & Patterson, L. (2007). "Locusts are now our beef": Adult mortality and household dietary use of local environmental resources in rural South Africa. *Scandinavian Journal of Public Health, 35*(Suppl. 69), 165–174. https://doi.org/10.1080/14034950701356385

Kenya National Bureau of Statistics. (2019). *2019 Kenya population and housing census: Volume II. Distribution of population by administrative units*. KNBS.

Kubik, Z., & Maurel, M. (2016). Weather shocks, agricultural production and migration: Evidence from Tanzania. *The Journal of Development Studies, 52*(5), 665–680. https://doi.org/10.1080/00220388.2015.1107049

Law of Succession Act, Cap. 160 (1981). *Laws of Kenya*.

Lee, E. S. (1966). A theory of migration. *Demography, 3*(1), 47–57. https://doi.org/10.2307/2060063

Luginaah, I., Elkins, D., Maticka-Tyndale, E., Landry, T., & Mathui, M. (2005). Challenges of a pandemic: HIV/AIDS-related problems affecting Kenyan widows. *Social Science & Medicine, 60*(6), 1219–1228. https://doi.org/10.1016/j.socscimed.2004.07.010

Lumivero. (2023). *NVivo* (Version 14) [Computer software]. https://lumivero.com

Mabogunje, A. L. (1970). Systems approach to a theory of rural-urban migration. *Geographical Analysis, 2*(1), 1–18. https://doi.org/10.1111/j.1538-4632.1970.tb00140.x

Mather, D., Donovan, C., Jayne, T. S., Weber, M. T., Chapoto, A., Mazhangara, E., Mghenyi, E., Bailey, L., Yoo, K., & Yamano, T. (2004). *A cross-country analysis of household response to adult mortality in*

rural sub-Saharan Africa: Implications for HIV/AIDS mitigation and rural development policies (International Development Working Paper No. 82). Michigan State University. https://doi.org/10.22004/ag.econ.11322

Matrimonial Property Act, No. 49 of 2013 (2013). *Laws of Kenya*.

McDowell, C., & de Haan, A. (1997). *Migration and sustainable livelihoods: A critical review of the literature* (IDS Working Paper No. 65). Institute of Development Studies. https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/3369

Mercandalli, S., & Losch, B. (Eds.). (2019). *Rural migration in sub-Saharan Africa: Patterns, drivers and relation to structural transformation*. FAO; CIRAD. https://doi.org/10.4060/ca7404en

Mulder, C. H., & Wagner, M. (1993). Migration and marriage in the life course: A method for studying synchronised events. *European Journal of Population, 9*(1), 55–76. https://doi.org/10.1007/BF01267901

Murunga, F., & Masanja, H. (2011). Association between HIV/AIDS-related adult deaths and migration of household members in rural Rufiji district, Tanzania [Conference abstract P2-454]. *Journal of Epidemiology & Community Health, 65*(Suppl. 1). https://doi.org/10.1136/jech.2011.142976l.82

National AIDS Control Council. (2018). *Kenya HIV estimates report 2018*. Ministry of Health.

Odhiambo, F. O., Laserson, K. F., Sewe, M., Hamel, M. J., Feikin, D. R., Adazu, K., Ogwang, S., Obor, D., Amek, N., Bayoh, N., Ombok, M., Lindblade, K., Desai, M., ter Kuile, F., Phillips-Howard, P., van Eijk, A. M., Rosen, D., Hightower, A., Ofware, P., … Vulule, J. M. (2012). Profile: The KEMRI/CDC Health and Demographic Surveillance System—Western Kenya. *International Journal of Epidemiology, 41*(4), 977–987. https://doi.org/10.1093/ije/dys108

Owuor, S. O. (2007). Migrants, urban poverty and the changing nature of urban–rural linkages in Kenya. *Development Southern Africa, 24*(1), 109–122. https://doi.org/10.1080/03768350601165926

Perry, B., Oluoch, L., Agot, K., Taylor, J., Onyango, J., Ouma, L., Otieno, C., Wong, C., & Corneli, A. (2014). Widow cleansing and inheritance among the Luo in Kenya: The need for additional women-centred HIV prevention options. *Journal of the International AIDS Society, 17*(1), Article 19010. https://doi.org/10.7448/IAS.17.1.19010

Peterman, A. (2012). Widowhood and asset inheritance in sub-Saharan Africa: Empirical evidence from 15 countries. *Development Policy Review, 30*(5), 543–571. https://doi.org/10.1111/j.1467-7679.2012.00588.x

Spring, A., Gillespie, B. J., & Mulder, C. H. (2024). Internal migration following adverse life events: Assessing the likelihood of return migration and migration toward family. *Population, Space and Place, 30*(3), Article e2711. https://doi.org/10.1002/psp.2711

Stark, O., & Bloom, D. E. (1985). The new economics of labour migration. *American Economic Review, 75*(2), 173–178.

StataCorp. (2023). *Stata statistical software: Release 18* [Computer software]. StataCorp LLC.

State Department for Social Protection and Senior Citizen Affairs. (2025). *Inua Jamii: Directorate of Social Assistance Services*. Ministry of Labour and Social Protection, Government of Kenya. Retrieved October 8, 2026, from https://www.socialprotection.go.ke/services-dsa

Webb, M. D. (2023). Reworking wild bootstrap-based inference for clustered errors. *Canadian Journal of Economics, 56*(3), 839–858. https://doi.org/10.1111/caje.12661

Yamano, T., & Jayne, T. S. (2004). Measuring the impacts of working-age adult mortality on small-scale farm households in Kenya. *World Development, 32*(1), 91–119. https://doi.org/10.1016/j.worlddev.2003.07.004