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THE IMPACT OF KINSHIP NETWORKS ON OLD-AGE VULNERABILITY IN INDONESIA

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SUMMARY

This article examines the problem of care provision for elderly people in Java, a contemporary developing society characterised by lack of formal welfare services, nuclear family organisation and high levels of childlessness. A similar socio-demographic, cultural and economic regime existed in historical Northwest Europe, where it has been seen as having contributed to the early emergence of community based old-age care and low involvement of wider kin networks. Here the role of kin in providing old-age care in a nuclear family system is re-examined by drawing on longitudinal data of elderly people's life histories and support networks in a village in East Java. The central argument is that the identification of elders most vulnerable to a lack of care and support in old age requires understanding the nature and functioning of kin networks over time. The paper discusses three key aspects of networks—network membership, exchanges within networks and network dynamics—and arrives at a characterisation of different kin networks on the basis of size, composition, location and social status. By focusing on the effects of a specific crisis, namely the loss of a wife, on care outcomes in old age, it is possible to determine what kinds of kin networks are best able to adjust to a sudden change in older people's circumstances and protect them from declines in welfare. This reveals the importance, especially for childless elderly people, of extended, heterogeneous and well-connected kin networks.

This article addresses a central socio-demographic problem in societies without well-established formal welfare systems, namely the provision of care for elderly people. Whilst this is of concern in any historic and contemporary developing society, it is particularly problematic in societies with nuclear family systems and those with high levels of childlessness. In the former, older people are not automatically part of households containing younger members, giving rise to what Laslett has referred to as “nuclear hardship” (Laslett, 1988). In the latter, they may be deprived of common sources of intergenerational old-age care. In both situations older people are forced to rely on spouses, who may themselves be of advanced age, or to negotiate care from kin or community members.

The best studied examples of developing societies combining nuclear family organisation with high levels of childlessness are found in historical Europe, and demographers and social historians have long shown an interest in the implications of the North-west European demographic regime for old-age care and vulnerability (Kertzer and Laslett, 1995; Kreager, 2004; Thomson, 1991). It has been shown that the rule preventing coresidence of conjugal units was often relaxed to accommodate the “victims” of nuclear hardship, especially elderly people and widows (Wall, 1984, 1995; Laslett, 1988; Robin, 1984). Moreover, it has been argued that the combined effects of nuclear family organisation, migration, celibacy and adult mortality encouraged the early development of fairly structured community-based welfare, chiefly in the form of Poor Law provisions. By contrast, the role of kinship

networks has mostly been judged negligible, partly due to uncertainty about the local availability of kin, partly on grounds of the supposed individualism of Western European kinship systems (Smith, 1996, 1988; Thomson, 1991, 1984; Laslett, 1988; but see also King, 2004; Barrett, 2003). Of course, informal patterns of kin support are difficult to recover from historical materials which tend to privilege documented arrangements, like coresidence or Poor Law payments, and this may have contributed to perceptions of the unimportance of kin networks in nuclear family systems. The aim of the present paper is therefore to raise our understanding of the functioning of kinship networks and their role in mediating vulnerability in old age by examining a *contemporary* developing society characterised by nuclear family organisation and high levels of childlessness.

The Javanese in Indonesia are atypical for most of Asia in that they have a nuclear family system going back at least to the 19th century (Boomgaard, 1989; Jay, 1969; Geertz, 1961). Married children are expected to set up independent households, but as marriage ages have traditionally been low and divorce, especially among first marriages, widespread, independent household formation is often delayed, and reincorporation of divorced, widowed or impoverished adult children common (Jones, 1994, 2001; Schröder-Butterfill, 2004b). Migration, both to cities and other rural areas Indonesia, has long been a central aspect of rural Javanese society (Kreager, 2006; Hugo, 1982; Hardjono, 1977). Mobility, together with divorce and remarriage, have contributed to spousal separation and the spread of sexually transmitted disease (Van der Sterren et al., 1997). As a result, many of today's older people in rural Java are involuntarily childless or live separately from adult children (Schröder-Butterfill and Kreager, 2005; Hull and Tukiran, 1976). This raises questions analogous to those in historical North-west Europe about the provision of care to older people. How do Javanese nuclear families deal with the challenge of caring for elderly members? What is the role of wider kinship networks in the provision of care? Which elderly are most vulnerable in a system characterised by the ideal of intergenerational independence and a practical lack of children?

These questions are approached by focusing on the impact of a specific source of nuclear hardship—the recent loss of a spouse—on the availability of care in old age. Vulnerability is defined here as the heightened risk of being without adequate and acceptable care and practical help. It is argued that explaining this vulnerability necessitates understanding kin networks and their adaptability over time. Certain types of networks are likely to be more reliable than others, and so it is with a characterisation of kin networks and their operation as support networks in a crisis that we are concerned here.

METHODOLOGY

This paper is based on socio-demographic research on ageing and old-age support in rural Indonesia.¹ The findings presented here are from a community in the province of East Java, where eight percent of the population are aged 60 years and over. Fieldwork in a village of 2500 inhabitants (given the pseudonym Kidul) was conducted over a period of 12 months in 1999-2000 and four months in 2004-2005. Data collection combined ethnographic and demographic methods. Semi-structured interviews with 97% of people aged 60 years and over (N=206) produced data on life and marital history, the availability of children and other kin, health, work and daily activities, and support given and received. Repeated in-depth interviews were conducted with 40 elders, complemented by interviews with one or several

¹The comparative project *Ageing in Indonesia*, headed by Philip Kreager and funded by the Wellcome Trust, has been running since 1998 in three rural communities (East Java, West Java and West Sumatra). It comprises British and Indonesian researchers at Oxford University, Universitas Indonesia (Depok) and Universitas Andalas (Padang). Since 2004 the research in East Java is also being funded by the British Academy.

adult family members in most cases. Bilateral kinship diagrams were used to ask in detail about the location of kin, exchanges over the life course, and the intensity and quality of relationships. In early 2000 two randomised surveys were conducted in the study community. One examined older people's health, health-service utilisation and care in illness (N=67); the other covered household economy and inter-household support exchanges (N=106). The surveys allow the differentiation of the population into socio-economic strata and yield quantitative data on the arrangements, processes and exchanges uncovered by ethnography. In 2004 surviving elderly respondents were re-interviewed to capture changes in their situation and adjustments in their support networks. Interviews with close relatives of deceased elders were also conducted to understand the division of labour in the provision of care at the end of a person's life. Re-surveys of health and household economy took place in March and April 2005. This article draws primarily on the qualitative material, with survey data feeding into the assessment of respondents' economic status and exchanges with network members.

The total older population of Kidul in 1999 comprised one-third men (N=74) and two-thirds women (N=132), with a sex ratio of 0.56. Thirty-nine percent were aged under 65 years, a further 39% aged 65 to 74 years, and 21% were over 75 years of age.² One third of respondents (N=68) died over the period April 1999 to April 2005.

A FRAMEWORK FOR UNDERSTANDING VULNERABILITY

The unequal creation and distribution of vulnerability has long been studied in the fields of natural disasters, social development, epidemiology and famine (e.g. Blaikie et al., 1994; Delor and Hubert, 2000; Watts and Bohle, 1993; Bankoff et al., 2004). In demography, however, there has been a tendency to view “the elderly” as a generic population group. Early research on ageing in historical and contemporary developing societies tended to regard all older people as traditionally protected by extensive family networks. This apparent security was said to give way to widespread vulnerability under the influence of “modernisation” (Cowgill and Holmes, 1972; Chen and Jones, 1989; Stone, 1977; Goode, 1964). Both these generalisations are implausible (Aboderin, 2004; Thornton, 2001). Neither were extended family networks universal in the past, nor are they converging on a nuclear family norm and form. Moreover, older populations have always been heterogeneous in terms of wealth and status, health, kin availability, access to formal protection, and so on. More recent research has sought to capture this by defining certain subsets of elders—the poor, the childless, widows, those living alone—as being “at risk” on the basis of *a priori* assumptions about old-age and support (e.g. Hermalin et al., 2002, 465 *et sq.*). This approach remains unsatisfactory, as not *all* childless or impoverished older people are equally vulnerable, nor are all elders with children or wealth secure. Instead, vulnerability is the outcome of the combined and cumulative effects of exposure or “risk factors” (e.g. childlessness), threats (e.g. health crises) and coping (e.g. social networks, assets), all of which are shaped by individual life histories and social, demographic and economic regimes (Chambers, 1989). In order to understand which elders are vulnerable, and for what reason, it is necessary to examine the interactions between threats, exposure, coping and outcomes. Their relationship to each other is depicted in Figure 1.

Vulnerability, as a probabilistic concept, captures the *relationship* or *proximity* of a subject to harm. Differential exposure to threats, differential likelihood and magnitude of threats, and differential coping capacity all have an impact on the risk of encountering a bad

²Age data are approximate, as few respondents knew their exact age or year of birth. Ages were estimated by relating life-course events, such as schooling, first marriage, childbearing, to key historical events, such as the Japanese occupation (1942-45), the proclamation of Independence (1945), the war for Independence (1945-59), or the anti-communist purge (1965-6).

outcome and on the severity of that outcome. They can interact to compensate for each other, or be mutually exacerbating. There are therefore *degrees of vulnerability*, both in the proximity to harm that a person finds herself in, and in the severity of harm that she may encounter. Certain individuals may be several contingencies away from a bad outcome, and we might think of them as either “weakly” or “prospectively” vulnerable. Others have already met a “bad end”, and thus strictly speaking they are no longer *vulnerable*, or only vulnerable to the sequelae of their injured state (Schröder-Butterfill and Marianti, 2006).

OLD-AGE VULNERABILITIES IN RURAL JAVA

In applying this framework to old-age vulnerability in Java, it is necessary first to identify the outcomes older people seek to avoid and then to examine the factors which contribute to, or protect from, the attainment of bad outcomes.

Outcomes

Among the states older people in rural Java feel vulnerable to are a lack of material resources for respectable existence; exclusion from social participation; lack of care and practical help; dependence on others, especially dependence on the “wrong” person or institution; and a bad or untimely death. For the present analysis the focus is on vulnerability to a lack of care, of which vulnerability to inappropriate dependence and a bad death are corollaries. Care is defined as comprising physical care and practical help with routine tasks of daily living, like shopping and cooking.

In Java there exists a hierarchy of preferences concerning who should provide care, on the basis of which “good”, “moderate” and “bad” outcomes can be distinguished. Domestic and care work are gendered, with women responsible for tasks like shopping, cooking, cleaning and caring for sick family members. For men it is most acceptable to rely on their wives for these tasks, and for both men and women reliance on daughters is welcome. Increasing kinship distance induces increasing feelings of “awkwardness” (*sungkan*) or “shame” (*malu*) in the event of dependence, thus reliance on daughters-in-law, grandchildren or siblings is inferior to reliance on spouses or daughters. Care by distant relatives is even less normative, and care by non-relatives stigmatising and usually of low quality (Mariani, 2002, 125 *et seq.*; Schröder-Butterfill, 2004a, 2003).

Exposure

Certain subgroups of older people are at greater risk from a lack of care should they need it, because they lack customary sources of care or manifest a heightened need for assistance. They include older people in poor health (27% in Kidul); those with no surviving children (25%); those with no adult children nearby (9%); spouseless men (13%); and *de facto* childless elders, *i.e.* those who receive no support whatsoever from existing children (5%). These predominantly demographic exposure factors are shaped by economic disadvantages, with childlessness, for example, more common among poorer strata (Schröder-Butterfill and Kreager, 2005).

Threats

Threats are events that propel people towards bad outcomes, unless they have adequate coping resources. Although not all vulnerabilities arise from specific or sudden threats, the concept is apt for capturing the often discontinuous nature of the lifecourse in later-life. Common threats in old age include those which increase the need for support—such as cessation of work, onset of illness, frailty or disability— and those which threaten the availability of assistance—*viz.* economic crises, constriction of formal services, or loss of a key carer. For analytical purposes, too, it is useful to focus on specific threats, because they

throw into sharp relief the reliability and adaptability of a person's coping strategies. In other words, it is often in situations where need becomes apparent or existing arrangements break down that vulnerability can best be assessed.

The present analysis takes a particular crisis common in later life, namely the loss of a wife, and examines its impact on care arrangements³. The pronounced gender division of labour in domestic tasks, and the preference for reliance on wives for the performance of such tasks, make Javanese men heavily dependent on their wives, even in the absence of illness or frailty. As a result, although men are much more likely than women to be married in old age⁴, they are much more sensitive in practical terms to the death or departure of their spouses. Widowerhood inevitably precipitates responses from a man's relatives, and this allows the reliability and flexibility of kin networks to be examined directly.

Coping capacities

By coping capacities are meant the assets and relationships which allow individuals to protect themselves from a bad outcome or recover from a crisis. We follow Moser (1998) in regarding every person as having an initial stock of “assets”, which include their human capital, productive assets and social capital. However, “the ability to avoid or reduce vulnerability depends not only on initial assets, but also the capacity to manage them—to transform them into income, food or other basic necessities” (Moser, 1998, 5). This conception of coping capacities points to the importance of examining networks and other “assets” over time, and in particular of investigating the ways in which support is mobilised during a crisis.

In the context of rural Indonesia, formal protection can largely be discounted as a coping capacity for protecting from vulnerability to a lack of care, as only a minority of older people receive a pension, and formal social care is lacking altogether. Individual wealth is also of limited direct use as there is no market for care provision. Wealth and influence have to be converted into social debts and obligations in order to ensure support from kin or neighbours in the event of illness, disability or frailty. In short, analysis of vulnerability to a lack of care in old age requires analysis of people's informal social networks as their most important coping resource (Benda-Beckmann et al., 1988; Niehof, 1995).

Figure 2 summarises the exposure factors, threats and coping capacities which shape older people's vulnerability to a lack of care in rural East Java. Elders displaying one or several of the exposure factors are at greater risk from encountering care failures, especially if they also experience a threat which increases their need for, or supply of, support. However, the likelihood of a bad outcome materialising depends crucially on their compensatory resources, in particular, the availability and reliability of their social networks.

NETWORKS IN FOCUS

Social demographers, economists and policy makers in the field of ageing have tended to interpret social networks quite narrowly and focused primarily on the role of adult children, especially coresident children, at the expense of considering wider kin networks and non-kin relations (e.g. Knodel and Chayovan, 1997; Beard and Kunharibowo, 2001). Surveys of ageing routinely collect data on the availability and location of children, and on several types of exchange (e.g. money, visits, food, help) with a set of predefined absent family

³On the basis of life history data it was possible to establish that almost one quarter of elderly people lost their spouses after entering old age. More specifically, 24 of the 206 older people lost their spouses in the six-year observation period, *i.e.* between 1999 and 2005. This represents 11% of older men and 12% of older women.

⁴At the start of fieldwork (in 1999), 87% of elderly men but only 26% of elderly women were married. By 2005 the percentages married had declined to 77% and 15%, respectively.

members (usually children, siblings, parents). However, this limited conceptualisation of “networks” misses important relationships, for example with more distant kin, and fails to capture and explain shifting divisions of labour among network members. For example, it is likely that the actions of a given network member—e.g. their support provision—are influenced by the actions or inactions of other members.

Increasingly the need to study real networks—rather than parent-child dyads—is acknowledged by social demographers of ageing in Asia (Hermalin, 2003; Martin and Kinsella, 1994). However, networks are difficult to study because network composition is fluid, network members and exchanges within networks are diverse, and the reliability of social networks *as support networks* often only becomes apparent retrospectively. Understanding networks for the purpose of analysing vulnerability thus requires consideration of three aspects of networks, namely network membership, the interpretation of exchanges within networks, and network dynamics.

Network membership

Individuals are embedded in different, partially overlapping social networks comprising, for example, networks of kinship and friendship, of common residence in a community, of religious or political affiliation, or of employment. A key challenge in studying networks with a particular functional aspect—in this case, the provision of care and support to older people—is the identification of network boundaries within which most of the relevant activities are likely to take place. A second step is then to identify actual network membership in individual cases. This entails interpretation both at the normative level—the logic of different cultures and family systems—and at the level of practice—individual negotiations of norms and realised constellations (Bourdieu, 1976; Lockwood, 1995). For the present analysis the focus is on *kinship* networks, rather than wider networks that include non-kin and community institutions. This is because the provision of physical care and practical support in rural Java is heavily concentrated among kin, whereas material and emotional support also derives from neighbours, friends and religious institutions.

Different societies have different ideas about who among a range of kin matters, and what expectations attach to different degrees of relatedness (Skinner, 1997). Among the matrilineal Minangkabau of West Sumatra, for example, a man will look first to his sister's children for support, rather than to his own (Kato, 1982; Indrizal, 2004). The Javanese, by contrast, have bilateral family networks in which relatives are traced through *both* parents and cognatic as well as affinal links matter; gender preferences with regard to support or inheritance are not well-articulated (Jay, 1969; Hüsken, 1991). This means that in theory individuals are embedded in almost limitless webs of kinship. In practice, network composition and interactions are restricted by demographic constraints, awareness of status differences and associated patterns of avoidance, and relatively short genealogical memories. Distinctions are made between close and distant kin (Geertz, 1961, 3, 18). High levels of divorce and remarriage and long-standing patterns of population mobility create ruptures in people's relations with close kin. Although aggregate completed fertility among presently elderly people in Java is moderately high (with an average number of children ever born of 4.5 children (Biro Pusat Statistik, 1992, 239)), large minorities of elders are involuntarily childless (Schröder-Butterfill and Kreager, 2005). Migration further removes offspring from local networks, and it is not uncommon for relations with children to be severed following long-term migration (Kreager, 2006). Yet links may also be created, for example through informal adoption, marriage, and practices of patronage (Schröder-Butterfill, 2004a). In short, kin network membership in Java is more or less permanently in a state of flux. In practical terms this necessitates collecting data on kin other than children, including nephews and nieces, grandchildren and siblings, adoptees and step children, so

that networks may be characterised in terms of their size, genealogical composition, spatial distribution and relative social and economic status.

Exchanges within networks

Consideration of practices like marriage, adoption or migration points to the need to consider exchanges between network members, as membership involves not just the existence of individuals, but their incorporation or exclusion through material, practical and emotional investment. Precisely because kin relations in Java are fragile and contested, the continued existence of a given bond partly depends on constant reaffirmation through communication and exchanges (Mauss, 1954 [1925]; Bourdieu, 1976, 121; Li, 1989). These create reciprocities which individuals might later draw on. Knowledge of past and present exchanges and interactions are thus central to explaining network membership and relationship quality.

Of course, data on network exchanges are also important because the provision of goods and services is what constitutes support and therefore security in old age. However, understanding the relationship between resource flows and old-age vulnerability is complicated by ambiguities surrounding the interpretation of data on exchanges. In a nuclear family society, where preference is for intergenerational independence and many people continue to work and be healthy well into old age, the exchanges that are recorded at any given time may be small-scale. Many network members may not be engaging in present exchanges at all, although they were active in the past. It is therefore difficult to draw conclusions about the quality or reliability of a relationship on the basis of cross-sectional data alone, as lack of flows may indicate independence or neglect. Whilst evidence of past and present interactions helps to delimit the pool of network members from whom support may be expected and allows preliminary assessment of vulnerability, we require data on flows in a situation of manifest need in order to understand the causes and consequences of vulnerability.

Network dynamics

The preceding points about changing network compositions and exchanges are closely related to a final aspect, namely the degree to which networks are capable of adjustment in response to a crisis: who steps in to fill a gap left by a departing or deceased network member, and how are needs for specific types of assistance met? Analysis of network dynamics entails analysis of division of labour in a kin network: whether, for example, female and male, or genealogically close and distant, kin occupy different but complimentary roles, or whether support is disproportionately provided by only a few. Either possibility raises the question of how support is negotiated among network members. Is increased need for assistance met by an intensification of activities by members already active, or do previously inactive members become involved? What kinds of identities can substitute for each other without significantly changing the nature of support, and what substitutions result in qualitatively different kinds of assistance?

The following hypotheses concerning network dynamics are formulated. They can be grouped into hypotheses concerning the composition of networks, and those concerning predictors of support provision. 1) The size and composition of kin networks matter for the provision of care in old age. Close kin are more important than extended or distant kin, and where adult children are accessible, other kin are unlikely to provide care. However, among childless elders the availability of extended kin, especially nephews and nieces, is key to explaining vulnerability. 2) Previous and ongoing exchanges are important predictors of who will provide significant support in a crisis, with intensity of past exchanges overriding genealogical proximity in predicting assistance. Support provision is structured by gender,

wealth and location, with local female kin central for provision of care, local male kin for additional practical tasks, companionship and social support of older men. (Wealth matters for material help, but this is not considered here.) The specialisation in support roles means that large and heterogeneous networks are best able to respond to crises, although the number of people providing support at any given time is likely to be quite small.

OLDER PEOPLE'S KIN NETWORKS IN EAST JAVA: SHRINKING CONCENTRIC CIRCLES

In the remaining sections the network membership, exchanges and dynamics of ten older men are analysed. Each network is different, but only some differences impact on vulnerability. Therefore a strategy for reducing the heterogeneity and deriving a set of network characteristics, which can be compared directly and related to vulnerability, was developed. Using the example of an elderly man named Ridwan a number of analytical constructs—different circles of kin—are introduced and their relevance to assessing vulnerability examined.

Network membership and exchanges

Figure 3 illustrates the kin network of Ridwan. Taken in its entirety, the diagram represents what we refer to as the abstract kin network, which is the universe of all relatives which *Ego* (in this case Ridwan) was able to identify by name and kin relationship (Kreager and Schröder-Butterfill, 2005). The abstract kindred is abstract in that it has no real sociological manifestation: there are unlikely to be occasions on which all or most members interact, in fact, not all members will know each other, and some are no longer alive. Members who are merely members of *Ego's* abstract kin network are very unlikely to provide support, although in attending festivities, such as weddings, they may contribute larger gifts than non-kin would. Where wealth differentials among genealogically distant members of the abstract kindred are large, social interactions are avoided, lest the poorer member be suspected of fishing for favours. Nonetheless, the abstract network matters for reasons to do with reputation and status. As we shall see, whether or not *Ego* has kin links to a person of high standing may affect whether someone intervenes when things threaten to go awry. Therefore the size, relative wealth and status of the local abstract kindred are important. We distinguish large (40 + members), medium (15 – 40 members) and small (<15 members) local abstract kin networks. An assessment is made whether they include an important local person (e.g. a village official, religious leader, or rich landowner). In the case of Ridwan, the abstract kindred is large and it contains important persons—a former religious official and the largest local landowner (see Table 1).

In terms of actual support provision, the abstract kin network is not the relevant unit of analysis. Expectations for significant support flows attach to genealogically close kin, therefore networks need to be characterised further in terms of their kin composition. We distinguish the availability and location of close kin (spouses, children) and extended kin (siblings, adult nephews and nieces, adult grandchildren). This allows direct identification of subgroups of elders who are vulnerable due to a lack of key network members, especially spouses and children (see “exposure” in Figure 2). Moreover, the availability of kin in various categories identifies the universe of likely *potential* sources of support in accordance with the local hierarchy of moral responsibilities among kin. Ridwan has no surviving children of his own. His extended kin network is of medium size, numbering 13 and including a sister and cognatic and affinal nephews (see Figure 3 and Table 1).

As was argued above, there is no straight relationship between kin availability and flows of support. Not all children, nephews, nieces or grandchildren are equal in their involvement

with *Ego*. Bonds with children may have been severed, whilst extended kin may have become “like children” through long-term interaction and exchange. It is necessary to distinguish the network further by drawing on data on support flows to identify the subset of kin with whom significant relations exist. We refer to this subset as the proximate kindred, which is defined as those kin with whom substantial exchanges—including money, labour, childrearing or education, assets and care—are taking place or have taken place (Kreager and Schröder-Butterfill, 2005). The proximate kin network is the most important subset for analytical purposes, because it identifies a relatively small group of individuals from whom support might be expected on the basis of reciprocity and documented interaction. In analysing vulnerability we are mainly asking whether the proximate kin network of an individual is large, well-resourced and reliable enough to cope with a crisis by bringing forth members who provide care and support when needed. In the case of Ridwan, his proximate kindred numbers eight and includes his wife (before she died), his brother-in-law, two affinal nephews he helped raise, their spouses and two of their children (whom Ridwan and his wife care for). Of this group three were most important for his welfare in 1999, namely his wife and one of the nephews plus his wife, who were providing him with income in exchange for childcare. The small subset of proximate kin who provide the most significant support at any given time are referred to as the immediate kin (Figure 3 and Table 1).

Table 1 provides the network characteristics for the ten older men considered here. The following points are worth drawing attention to. In accordance with the nuclear family ideal, before their wives died most men resided in nuclear household arrangements (*i.e.* just with a wife or a wife and unmarried offspring). In two cases (Hari, Fendi) coresidence with married descendants reflects unattained economic independence on the part of the younger generation, in the other case (Samad) it is the outcome of his desire to cement bonds with an adopted child (see Row 2, Table 1). Half of the men lack biological children and are vulnerable because they lack important sources of customary support (see row 3). Childlessness is concentrated among the poorer elders. However, three men have raised other relatives' children or have married someone with children (Row 4). Acquiring children in this way is an important coping strategy in Java, but does not always result in strong filial bonds (Schröder-Butterfill, 2004a). Only Samad has successfully and unequivocally “acquired” children, Lubis and Mis have only tenuous links to the children they raised. Three of the ten men have no children locally (Row 5). This lack seriously limits the availability of care and practical support and again points to vulnerability. The range in the size of the extended kin network (siblings, adult grandchildren, nephews and nieces) is enormous—between zero and 26—due to differences in reproductive success and migration in *Ego's* wider family (Row 6). Above it was hypothesised that extended kin rarely provide important support if children are available, and this is largely borne out (Row 11). Therefore the two elderly fathers with small extended kin do not cause concern. However, the extended kin networks of the childless men point to important differences in vulnerability: the child-poor networks of Mis, Ridwan and Arief are partly compensated by the availability of siblings, nephews and nieces, whilst Lubis entirely lacks extended kin to make up for the fact that he only has non-local step- and adopted children. Two men have small and poorly connected local abstract networks (Rows 7-8). As we shall see, this is important for undermining the security of the childless and poor Lubis, but has little impact on the welfare of the rich Hussin, who has a daughter locally. The large and influential abstract kin networks of Ridwan and Mis will turn out to be important.

The similarity in the size of proximate kin networks across the heterogeneous group of men is striking (Row 9). On average, prior to their wives' deaths, the men had significant exchange relationships with 8.8 network members. None of the proximate networks are of a size that would suggest serious vulnerability. Indeed, their approximately similar size indicates that inequalities in terms of availability of kin are partly compensated through

active engagement by the men with a subset of their respective kin networks. In other words, elders appear to engage in network building where demography has denied them adequate networks. In each case the involvement by proximate kin is uneven, with between two and seven members being classified as immediate kin on account of stronger flows of support (Rows 10 and 11). That said, in 1999 the overall intensity of support exchanges was relatively low as the men maintained wide-reaching independence. Among men with children, wives and offspring dominate among the immediate kin; among the childless, wives, nephews/nieces and relatives raised by the men feature.

Assessment of “pre-crisis” vulnerability

Analysis of the men’s network characteristics before the loss of their wives produces the following assessment of their vulnerability to a lack of care (see Table 1, Row 12). Kolil, Samad, Suroso and Hari look secure because of their ample availability of children nearby and their medium to large abstract kin networks. Although Suroso's extended kin is small, he has adequate and well-connected abstract kin. Samad's childlessness is more than compensated by his successful adoptions and large extended and abstract networks. Fendi and Hussin appear weakly vulnerable, as they rely on very few close kin locally, and their extended or abstract networks, respectively, are small and lack an influential person. Their proximate networks are also comparatively small. However, Hussin is wealthy and could presumably draw on his large non-local extended kin in a crisis, whilst the fact that four of Fendi's six proximate kin count among his immediate kin suggests that their involvement is deep. Mis also seems only weakly vulnerable, as his childlessness is off-set by large and well-connected extended and abstract networks, and he has built up links via exchanges. Arief and Ridwan appear fairly vulnerable as they lack any children: if their wives die they will have to rely on inferior sources of care. That care would be forthcoming seems guaranteed by their large number of extended relatives, the size and standing of the abstract network (in the case of Ridwan), and the fact that both men have built up large proximate networks. Lubis stands out as highly vulnerable: he has no biological children, and none of his step- and adopted children are local. In addition he has few extended kin and a small, uninfluential abstract network. By comparison with his childless peers, the proximate kin network he has constructed is small.

Network dynamics following the loss of a spouse

In 1999 the men relied on their wives for care and were economically independent. Following their wives' deaths, they were forced to rely on other kin for daily tasks. This disruption in care provision made possible an analysis of networks' adjustments and reliability. Thus in 2004-5 the men's new care arrangements were recorded and different outcomes distinguished. Some of the men have secure and socially acceptable arrangements, relying on children, preferably a daughter; some have reached a moderate end, provided for adequately, but not by the ‘right’ sort of kin; and one has encountered a “bad end”, poorly cared for and eventually dying in misery (see Table 2, Row 7). These outcomes raise two questions. To what extent was it possible to predict these outcomes on the basis of our previous assessment of vulnerability? In other words, does Row 12 in Table 1 map onto Row 7 in Table 2? And how were the arrangements arrived at? By what processes did immediate kin network members in 2004-5 crystallise out of the proximate networks in 1999?

Older men with children

All of the older men with children received good care after their wives died. Even those who appeared weakly vulnerable on the basis of network *composition* proved to have networks which were reliable and responsive enough, which suggests that the size of extended networks is relatively unimportant for those with children. However, the processes by which

good arrangements were reached differed in the division of labour involved. We distinguish between “intensification” and “extensification” in the adjustments to network constriction. Two brief case studies exemplify this.

In 1999, Hussin was 80, his wife had died shortly before. Until her death, the couple had lived on their own. They had four children of which one daughter lived locally, a daughter and son lived roughly 15 km away, and a third daughter lived several hours away. Hussin and his wife were not originally from Kidul. Their migrant status explains their small local abstract kin network. The couple worked as farmers and acquired substantial plots of irrigated and non-irrigated land. In the early 1990s they sold the irrigated land, but kept the dry land, which Hussin continued to work. The money from the land sale was used to build houses for all four children. The youngest daughter initially lived with her parents after her marriage, but then set up an independent household in the village. Relations with her were close and involved regular exchanges of gifts of food and money. Another daughter visited regularly and gave her parents “pocket money”, whilst the two remaining children only visited on an annual basis.

After his wife's death, Hussin was urged to sell his house and move in with his local daughter. He depended on her for food and domestic tasks, but continued contributing produce from his land. When he fell ill in 2003, this daughter cared for him and then took him to hospital where he died. All siblings helped her with the payment of the hospital bill.

Hari, in his mid-seventies in 1999, was also not originally from Kidul, but had moved there when he was young. He worked as a minor civil servant and receives a small pension. His wife sold food in the market. The couple have seven surviving children, four of whom have moved to places that are 2-10 hours distant. In 1999, an adult divorced son and a married daughter were living with them, a further married son lived next door. As Hari didn't own land, none of the children were given largescale support in adulthood. However, Hari and his wife were net providers of practical and financial support to their unsuccessful coresident daughter, whose husband first lost his work and then left her. Between 2000 and 2002 this daughter went on international labour migration, leaving her three small children in the care of her elderly parents. After her return, she continued to depend heavily on Hari's pension, and she and her mother shared the domestic work.

In 2002, Hari's wife developed cancer. After a short spell in hospital, paid for by Hari, she was cared for at home by the coresident daughter and another married daughter, who usually lives seven hours away, but who came to Kidul to provide care in her mother's last months of life. This daughter never previously provided any significant assistance, and soon after her mother's death she returned home. Since his wife has died, Hari relies on his coresident daughter for daily domestic tasks; in turn he continues to finance the entire household's needs from his pension. His bonds with his two local sons have intensified, and they provide companionship.

In both examples, a daughter substitutes for her mother by taking on domestic help and care. Being cared for by a daughter after a wife's death is the preferred option in Java, and all six men with local daughters are able to conform to the normative solution⁵. The key differences between the two examples lie in the division of labour among network members

⁵“Nuclear hardship” is dealt with in a variety of ways (Row 2, Table 2). In one case the elderly father is incorporated into the household of his married daughter (Robin, 1984), in two cases the widowed father succeeds in keeping a married daughter in the household—a solution which is made more acceptable by the spouseless state of the elderly parent, and in the remaining cases previously existing coresidential arrangements are maintained, although the net direction of support flows is altered in favour of the elderly man. Where a daughter is lacking in the household (Samad and Fendi), practical help and care are shared between a non-coresident daughter and a coresident daughter-in-law or granddaughter.

and the degree to which additional members of the proximate kindred are drawn on during and after the crisis. In the case of Hussin adjustment is achieved through “intensification” of existing support: the daughter, with whom exchanges were most active in the past, single-handedly covers her elderly father's practical needs, although her siblings assist with medical provision. The small initial size and further constriction of the proximate and immediate networks of Hussin turn out to be unproblematic, as one daughter is wealthy, able and committed enough to provide all necessary support. (A further case of pure intensification is Samad).

Hari's support network also experiences intensification of previous support—with the coresident daughter now covering all domestic tasks—but newly-emerged needs are taken care of through a complimentary division of labour, for which additional members of the proximate network are drawn on (“extensification”). The example underlines the importance of having proximate networks that are neither too small nor homogeneous, so that failure or constraints on the part of individual members, or the emergence of diverse needs, do not result in inadequate provision.

The stability in the size of the immediate kin networks over time is striking: despite the loss of a key member, all fathers experience at worst a small constriction (as would be expected), at best a slight increase (see Row 5, Table 2). This underlines the resilience and reliability of the elderly fathers' networks, and in particular their ability to mobilise additional members where necessary. In all cases, members of the immediate kin group post-bereavement are recruited from the proximate networks pre-bereavement. Reliance is overwhelmingly on close kin, chiefly children and children-in-law (Row 6).

Older men without children

All four men without own or successfully adopted children experienced significant declines in well-being following the loss of their wives. There is good agreement between predicted vulnerability on the basis of network characteristics in the past and actual outcomes. Two brief examples again illustrate key variations in network dynamics.

Ridwan remained childless despite multiple marriages. His first marriage was to the daughter of a wealthy farmer. The marriage remained without issue, but for several years the couple helped to raise two sons of Ridwan's wife's sister (*i.e.* Ridwan's affinal nephews), named Eddy and Tiwon. Despite his first wife's death Ridwan maintained a close bond with Eddy and Tiwon, who are economically successful. Ridwan, by contrast, experienced economic decline during the course of his life due to a taste for the good life and gambling. His and his wife's main source of money in old age was from Tiwon in exchange for child-care services. Eddy also occasionally gave money, food or clothing. Although in 1999 Ridwan mentioned the existence of a large local network of extended kin, no exchanges were taking place.

In 2002, Ridwan's wife fell ill and eventually died. During her illness, the couple received small-scale practical support from a range of kin and neighbours, although the money for medication came from Ridwan's sale of land. After his wife's death, Ridwan initially lived alone and received food from Eddy, Tiwon and various neighbours. Soon, however, his nephews by descent began putting pressure on him to move in with a “blood relative”. They felt shamed by their poor uncle's dependence on others—chiefly affinal nephews—for daily support. As one nephew, a rich landowner, put it: Eddy and Tiwon were “strangers” (*orang lain*), they had merely been raised by Ridwan. It wasn't right that Ridwan should depend on them, rather than “relatives” (*saudara*). Eventually Ridwan sold his little house and built a room for himself onto the side of his sister's house. His daily needs are now met by his sister

and her married daughter, whilst a range of friends and kin occasionally give him “cigarette money”.

Lubis, in his early 80s in 1999, had no children of his own, but his first wife had two children whom he helped raise. He later married a divorcée with two daughters who were raised by their grandmother. Lubis and his wife also helped bring up two boys belonging to a neighbour. None of the step- and “raised” *children* lived locally. In 1999, Lubis mentioned in passing the existence of non-local great-nephews and nieces with whom contact was negligible. The elderly couple lived on their own, and their economic situation was precarious, as neither had regular work. Support from children was inadequate, ranging from none to occasional gifts of food, money or clothing. The “raised” son living nearest provided the most, namely small sums of money every few months.

In 2002, Lubis's wife's daughter suddenly appeared after not having visited for years. When she left Lubis's wife decided to go with her. The old man subsequently lived on his own, relying for daily food on a neighbour and a local affinal nephew (Lubis's first wife's sister's son) called Rusmin, who had never previously provided support. After six months Lubis fell and became bed-bound. A step-daughter once visited and sent money to compensate Rusmin and the neighbour for their troubles, but soon the money dried up. Rusmin quickly tired of caring for the old man, who needed cleaning up after soiling himself and providing with food, and decided that it was the turn of Lubis's only remaining blood relatives to do their bit. Under a pretext he lured Lubis into a car and took him to the nearby town, where a great-nephew was living. This great-nephew was the heir to Lubis's house, and as Rusmin bluntly put it: “He who has the right to inherit also has the right to care!” When Lubis realised what was happening he put up a tearful protest but to no avail. He only survived a few months on the floor of his great-nephew's house. His wish of being buried in Kidul was not respected.

Where older men lack children there is no “automatic” substitute for a wife. There is therefore much greater heterogeneity in who steps in to provide care, and none of the solutions are comparable to care by an own child. Not only is care by extended or abstract kin less socially acceptable, but the quality of care is also lower. Thus the four childless men were forced to live alone and were cared for “at arm's length” by non-coresident helpers (see Row 2, Table 2), although Lubis and Arief were eventually incorporated into the households of relatives when physical care needs became intense. Importantly, none had access to medical care once unable to seek and pay for it themselves.

Earlier a distinction was made between “intensification” and “extensification” in network dynamics. Among childless men, intensification occurs in only one example, where all support is ultimately provided by one of several sisters. However, intensification is accompanied by what might be termed “fading”: the disappearance of previously involved kin from immediate support networks. Fading is found among two of the childless men, but not among networks consisting primarily of children. This suggests that the bonds of obligation are weaker among more distant kin.

Extensification—the involvement of previously marginal network members to deal with increased support needs—is found among both men with and without children, although the processes differ. Among childless men the immense discontinuity in the identities of key carers is striking (see Rows 4 and 6, Table 2). On the one hand, there are significant sequential shifts in prime sources of support over time. These result in apparent increases in the size of immediate networks, but in fact the involvement of members is consecutive, rather than simultaneous. The discontinuities detract from people's sense of security and well-being. Rather than networks adjusting primarily in response to the changing needs of

the elderly men, they occur in response to the priorities and constraints of network members. On the other hand, there are discontinuities in the recruitment of immediate kin network members. Unlike in the cases of older fathers, previously uninvolved network members—*i.e.* members of the abstract or extended, not the proximate, networks—become involved in care provision following a crisis. This indicates that the proximate networks of childless men were not large, able or reliable enough to cope with the loss of a key member. Ridwan is fortunate in having a large, local network of extended kin who become engaged at the point where practical care is in doubt. The same is the case with Mis, where extended kin step in to provide the practical help which his proximate kin are unable or unwilling to supply. The new support arrangements are not entirely built on previous interactions and exchange, nor are they built on altruism, as protection of family reputation and/or profits from inheritance are at stake. An unexpected finding is the emphasis of blood relations over created bonds (affinal and “raised” relatives) in the ultimate provision of intimate care. This is at odds with the ideological emphasis on equality between these categories of kin in villagers' discourses.

CONCLUSIONS

This paper has been concerned with understanding differential vulnerability among elderly people in Indonesia. Vulnerability cannot be inferred from a limited set of risk factors, as not all elders who appear vulnerable, such as the frail, childless or those without a spouse, find themselves in a bad situation even after experiencing a crisis. People's coping resources mediate vulnerability, and their reliability in actual interactions with risks and threats need analysing. In a developing society like rural Java, where formal services are lacking, families are nuclear in orientation and childlessness is common, the relevant coping resource for people's access to care is their kin network. The aim of this paper was to go beyond a narrow conceptualisation of kin support in terms of support from children, and study kin networks and their contributions in their entirety. This involved characterising people's networks in terms of their size, composition, status, and exchanges, and tracing the processes by which certain subsets of people's networks become sources of support.

The number of networks considered here is too small to be conclusive regarding the kinds of networks best able to meet older people's needs, but several points in relation to the hypotheses proposed above stand out. The examples suggest that, apart from spouses, children (own or successfully adopted) are the most important network members, and that older people with children are likely to have access to care irrespective of the size and composition of their wider networks. That said, not all children are equivalent. For the purpose of care and practical help, daughters are most important, and even in the cases where the elderly man resided with a son or a granddaughter, a local daughter was involved in care provision. However, older people are likely to have diverse and changing needs. The evidence presented on the division of labour among children and the extensification of immediate kin networks following a crisis suggests that even for older people with children, networks that are heterogeneous in their composition are better able to provide support.

For older people without children, the size, composition and status of extended kin networks are clearly important. Childless elders interact with, and derive support from, a wide range of kin, especially nephews, nieces, affines and siblings. However, networks comprising extended or distant kin seem to be qualitatively different from those comprising close kin. In particular, they appear less reliable in terms of the quality and extent of care provided and the continuity of involvement of immediate kin members. Individual members in childless networks are much more liable to withdraw, with the result that responsibility for elders is passed from person to person, without particular consideration of elders' preferences. It is in this context that having links to a high-status abstract kin network member is important, as

such members may intervene to prevent an outcome that would reflect unfavourably on the reputation and interests of kin.

The general case for arguing that networks matter has been made. As the examples show, old-age care is the result of unequal division of labour between network members and not reducible to parent-child or nephew-uncle dyads. At any given time support is provided by a very small number of kin whose identity cannot be prejudged and may change in response to changing needs and circumstances. This means that not only support, *but also non-support* require explanation, and explanations are likely to entail consideration of what others are doing or not doing. Inevitably, in seeking to understand the processes by which certain members providing support crystallise out of much larger networks, more questions are raised than answers provided. A key hypothesis was that previous and ongoing exchanges were important predictors of who would provide significant support, to the extent that past resource flows would override genealogical proximity in determining support provision. It was assumed, for example, that members of the immediate kin network would invariably derive from the *proximate* network, that is, the circle of kin with whom important exchanges have taken place. In fact, this is not always the case, and the evidence on the role of exchanges in shaping support is mixed. Exchanges seem to matter in explaining who is most important as long as the older person remains active (as was the case, for example, with Ridwan whilst he was providing childcare services), but once outright dependence arises, other considerations appear to override. Thus in several instances network members with whom no (particular) prior exchanges had been reported surprisingly emerged as key. In a similar vein, where several children, nephews or nieces had benefited from support in the past, usually only one or two reciprocated. Clearly, factors other than the ones considered here—possibly the *nature* of exchanges in the past—will require scrutiny to shed light on division of labour and responsibility. The outlines of an answer to the question, *Who is vulnerable to a lack of care in old age?*, are at least reasonably clear: older men without a spouse and children, who are part of small and poorly-connected extended and abstract kin networks.

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BIBLIOGRAPHICAL REFERENCES

- Aboderin I. Modernisation and Ageing Theory Revisited: Current Explanations of Recent Developing World and Historical Western Shifts in Material Family support for Older People. *Ageing and Society*. 2004; 24(1):29–50.
- Bankoff, G.; Frerks, G.; Hilhorst, D., editors. *Mapping Vulnerability: Disasters, Development and People*. London: Earthscan; 2004.
- Barret, S. Kinship, Poor Relief and the Welfare Process in early Modern England. In: Tomkins, A.; King, S., editors. *The Poor in England 1700-1850: An Economy of Makeshifts*. Manchester: Manchester University Press; 2003.
- Beard VA, Kunharibowo Y. Living Arrangements and Support Relationships among Elderly Indonesians: Case Studies from Java and Sumatra. *International Journal of Population Geography*. 2001; 7(1):17–33.
- Benda-Beckmann, FV.; Benda-Beckmann, KV.; Casino, E., et al. *Between Kinship and the State: Social Security and Law in Developing Countries*. Dordrecht: Foris; 1988.
- Biro Pusat Statistik. *Penduduk Indonesia: Hasil Sensus Penduduk 1990*. Jakarta: Biro Pusat Statistik; 1992.

- Blaikie, P.; Cannon A, T.; Davis, I., et al. *At Risk: Natural Hazards, People's Vulnerability, and Disasters*. London: Routledge; 1994.
- Boomgaard, P. *Children of the Colonial State: Population Growth and Economic Development in Java, 1795-1880*. Amsterdam: Free University Press; 1989.
- Bourdieu, P. Marriage Strategies as Strategies of Social Reproduction. In: Forster, R.; Ranum, O., editors. *Family and Society*. Baltimore: Johns Hopkins Press; 1976. p. 117-42.
- Chambers R. Vulnerability, Coping and Policy. *IDS Bulletin*. 1989; 20(2):1-7.
- Chen, AJ.; Jones, GW. Ageing in ASEAN: Its Socio-Economic Consequences. Singapore: Institute of Southeast Asian Studies; 1989.
- Cowgill, DO.; Holmes, LD. *Ageing and Modernization*. New York: Appleton Century; 1972.
- Delor F, Hubert M. Revisiting the Concept of 'Vulnerability'. *Social Science and Medicine*. 2000; 50:1557-70. [PubMed: 10795963]
- Geertz, H. *The Javanese Family: A Study of Kinship and Socialization*. New York: Free Press of Glencoe; 1961.
- Goode, WJ. *The Family*. Englewood Cliffs: Prentice-Hall; 1964.
- Hardjono, J. *Transmigration in Indonesia*. Kuala Lumpur: Oxford University Press; 1977.
- Hermalin, A., editor. *The Well-Being of the Elderly in Asia: A Four-Country Comparative Study*. Ann Arbor: The University of Michigan Press; 2003.
- Hermalin, A.; Ofstedal, MB.; Mehta, K. The Vulnerable and Their Potential Disadvantages, 461-518. In: Hermalin, A., editor. *The Well-Being of the Elderly in Asia: A Four-Country Comparative Study*. Ann Arbor: University of Michigan Press; 2002.
- Hugo G. Circular Migration in Indonesia. *Population and Development Review*. 1982; 8(1):59-83.
- Hull T, Tukiran. Regional Variations in the Prevalence of Childlessness in Indonesia. *Indonesian Journal of Geography*. 1976; 6(32):1-25. [PubMed: 12278803]
- Hüsken, F. Power, Property and Parentage in a Central Javanese Village. In: Hüsken, F.; Kemp, J., editors. *Cognition and Social Organization in Southeast Asia*. Leiden: KITLV Press; 1991. p. 151-67.
- Indrizal, E. Problems of Elderly without Children: A Case Study of the Matrilineal Minangkabau, West Sumatra. In: Kreager, P.; Schröder-Butterfill, E., editors. *Ageing without Children: European and Asian Perspectives*. Oxford: Berghahn; 2004. p. 49-76.
- Jay, R. *Javanese Villagers: Social Relations in Rural Modjokuto*. Cambridge MA.: M.I.T. Press; 1969.
- Jones, GW. *Marriage and Divorce in Islamic Southeast Asia*. Singapore: Oxford University Press; 1994.
- Jones GW. Which Indonesian Women Marry Youngest, and Why? *Journal of Southeast Asian Studies*. 2001; 32(1):67-78.
- Kato, T. *Matriliney and Migration: Evolving Minangkabau Traditions in Indonesia*. Ithaca: Cornell University Press; 1982.
- Kertzer, DI.; Laslett, P., editors. *Aging in the Past: Demography, Society and Old Age*. Berkeley: University of California Press; 1995. *Studies in Demography*
- King, S. Notional and Functional Kinship Amongst the English Poor 1750-1850; Paper presented to the IUSSP seminar on "The New History of Kinship"; Paris. 30 Sept. -1 Oct.; 2004.
- Knodel J, Chayonan N. Family Support and Living Arrangements of Thai Elderly. *Asia-Pacific Population Journal*. 1997; 12(4):51-68. [PubMed: 12293567]
- Kreager, P. Where are the Children?. In: Kreager, P.; Schröder-Butterfill, E., editors. *Ageing without Children: European and Asian Perspectives*. Oxford: Berghahn; p. 1-45.
- Kreager P. Migration, Social Structure and Old-Age Support Networks: A Comparison of Three Indonesian communities. *Ageing and Society*. 2006; 26(1)
- Kreager, P.; Schröder-Butterfill, E. Gaps in the Family Networks of Older People in Three Rural Indonesian Communities. *Oxford Institute of Ageing, Oxford University*; 2005. Working Papers 305
- Laslett P. Family, Kinship and Collectivity as Systems of Support in Pre-industrial Europe: A Consideration of the 'Nuclear-Hardship' Hypothesis. *Continuity and Change*. 1988; 3(2):153-75.

- Li, T. *Malays in Singapore: Culture, Economy and Ideology*. Oxford: Oxford University Press; 1989.
- Lockwood M. Structure and Behavior in the Social Demography of Africa. *Population and Development Review*. 1995; 21(1):1–32.
- Marianti, R. *Surviving Spouses: Support for Widows in Malang, East Java*. Amsterdam: Amsterdam University; 2002. PhD Thesis
- Martin, LG.; Kinsella, K. Research on the Demography of Aging in Developing Countries. In: Martin, LG.; Preston, SH., editors. *Demography of Aging*. Washington, D.C.: National Academy Press; 1994. p. 356-403.
- Mauss, M. *The Gift: Forms and Functions of Exchange in Archaic Societies*. London: Cohen & West; 1954 [1925].
- Moser C. The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies. *World Development*. 1998; 26(1):1–19.
- Niehof A. Ageing and the Elderly in Indonesia - Identifying Key Issues. *Bijdragen tot de Taal-, Land- en Volkenkunde*. 1995; 151(3):422–37.
- Robin J. Family Care of the Elderly in a Nineteenth-Century Devonshire Parish. *Ageing and Society*. 1984; 4(4):505–16.
- Schröder-Butterfill E. Patterns of Kin and Community Support. *IIAS Newsletter*. 2003; 32:13.
- Schröder-Butterfill, E. Adoption, Patronage, and Charity: Arrangements for the Elderly Without Children in East Java. In: Kreager, P.; Schröder-Butterfill, E., editors. *Ageing Without Children: European and Asian Perspectives*. Oxford: Berghahn; 2004a. p. 106-46.
- Schröder-Butterfill E. Intergenerational Family Support Provided by Older People in Indonesia. *Ageing and Society*. 2004b; 24(4):497–530.
- Schröder-Butterfill E, Kreager P. Actual and De Facto Childlessness in Old Age: Evidence and Implications from East Java, Indonesia. *Population and Development Review*. 2005; 31(1):19–55.
- Schröder-Butterfill E, Marianti R. A Framework for Understanding Old-Age Vulnerabilities. *Ageing and Society*. 2006; 26(1)
- Skinner, GW. Family Systems and Demographic Processes. In: Kertzer, DI.; Fricke, T., editors. *Anthropological Demography: Toward a New Synthesis*. Chicago: University of Chicago Press; 1997. p. 53-95.
- Smith, RM. Welfare and Management of Demographic Uncertainty. In: Keynes, M.; Coleman, D.; Dimsdale, N., editors. *The Political Economy of Health and Welfare*. London: Macmillan; 1988). p. 108-35.
- Smith, RM. Charity, Self-Interest and Welfare: Reflections from Demographic and Family History. In: Dauntton, M., editor. *Charity, Self-Interest and Welfare in the English Past*. London: UCL Press; 1996. p. 23-49.
- Stone, L. *The Family, Sex and Marriage in England 1500-1800*. London: Weidenfeld & Nicolson; 1977.
- Thomson D. 'I Am Not My Father's Keeper': Families and the Elderly in Nineteenth Century England. *Law and History Review*. 1984; 2(2):265–86.
- Thomson, D. The Welfare of the Elderly in the Past: A Family or Community Responsibility?. In: Pelling, M.; Smith, RM., editors. *Life, Death, and the Elderly: Historical Perspectives*. London: Routledge; 1991. p. 194-221.
- Thornton A. The Developmental Paradigm, Reading History Sideways, and Family Change. *Demography*. 2001; 38(4):449–65. [PubMed: 11723944]
- Van der Sterren, A.; Murray, A.; Hull, T. A History of Sexually Transmitted Diseases in the Indonesian Archipelago since 1811. In: Lewis, M.; Bamber, SB.; Waugh, M., editors. *Sex, Disease and Society: A Comparative History of Sexually Transmitted Diseases and HIV/AIDS in Asia and the Pacific*. Westport: Greenwood Press; 1997. p. 203-30.
- Wall R. Residential isolation of the elderly: a comparison over time. *Ageing and Society*. 1984; 4(4): 483–503.
- Wall, R. Elderly Persons and Members of Their Households in England from Preindustrial Times to the Present. In: Kertzer, DI.; Laslett, P., editors. *Aging in the Past: Demography, Society and Old Age*. Berkeley: University of California Press; 1995. p. 81-106.

Watts MJ, Bohle G. Hunger, Famine and the Space of Vulnerability. *Geojournal*. 1993; 30(2):117–25.

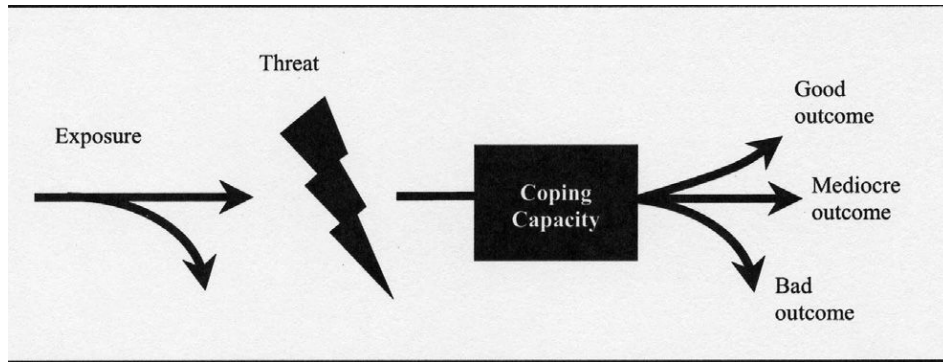


Fig. 1.
A Framework for Understanding Vulnerability

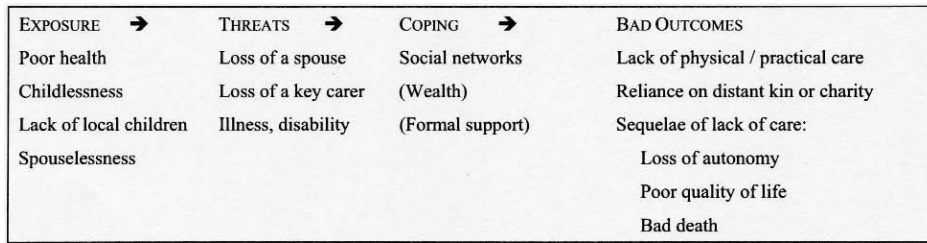
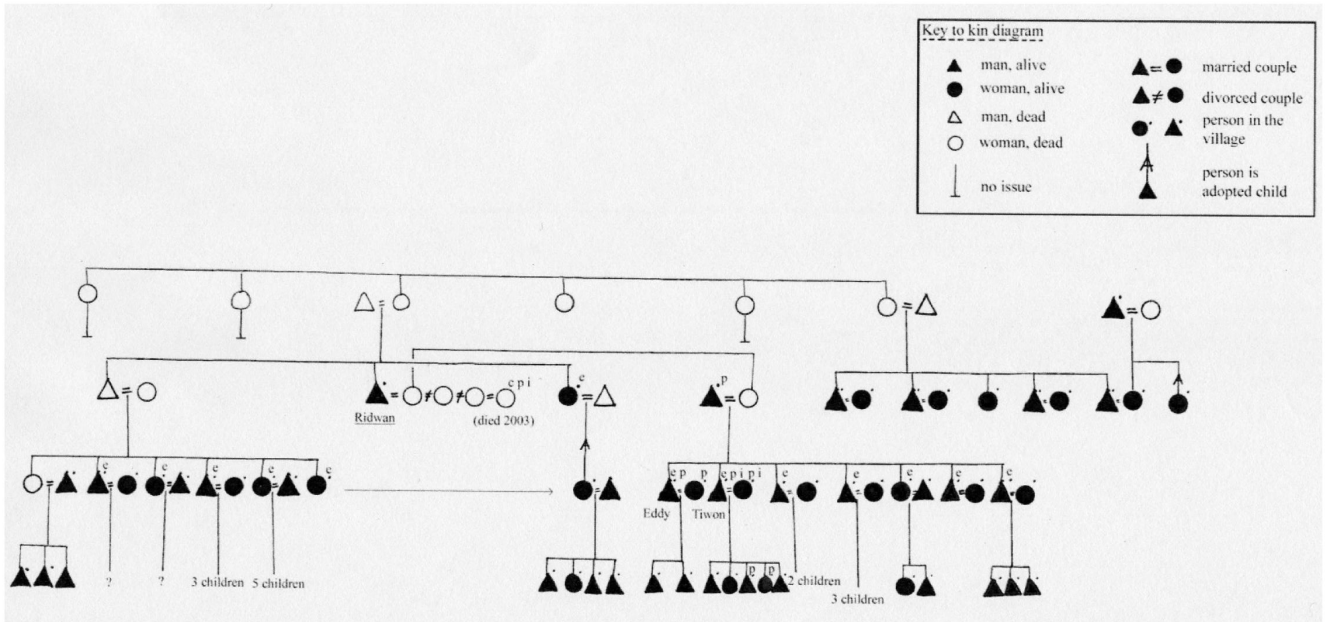


Fig. 2.
Pathways to a Lack of Care in Old Age



Notes: c = close kin (wife, children); e = extended kin (siblings, nephews, nieces, adult grandchildren); p= proximate kin (kin with whom significant exchanges are taking place or have taken place); i = immediate kin (kin who are most important current providers or recipients of support).

Fig. 3.
Ridwan's Kinship Network

Tab. 1

Overview of Elderly Men's Kinship Networks and Assessment of Vulnerability

Notes:

¹ Economic status is grouped into four strata on the basis of survey data.

I=rich, II='comfortably off', III='getting by', IV=poor (for details see Schröder-Butterfill and Kreager 2005).

For abstract kin, L(arge) = 40+, M(edium) = 15-39, S(mall) = <15. For extended kin, L(arge) = 15+, M(edium) = 5-14, S(mall) = <5. Abbreviations: sp = spouse; ch = child; chn = children; nep(s) = nephew(s).

		Hussin	Kolil	Samad	Suroso	Hari	Fendi	Mis	Arief	Ridwan	Lubis
1	Economic status ¹	I	I	II	III	III	III	III	IV	IV	IV
2	Living arrangement	Wife	Wife & unmarried children	Wife & married son	Wife & unmarried daughter	Wife, married daughter & son	Wife & married granddaughter	Wife	Wife	Wife	Wife
3	No. of children	4	7	0	5	7	2	0	0	0	0
4	No. of children incl. 'raised' & step children	3+	3+	3+	3+	3+	1-2	1-2	0	0	3+
5	No. of children locally	1	3+	3+	3+	3+	1	1	0	0	0
6	Size of extended kin	13	9	15	1	3	7	19	26	13	0
7	Size of local abstract kin	S	M	L	M	M	M	L	M	L	S
8	Important person or family in abstract kin?	No	Yes	Yes	Yes	No	No	Yes	No	Yes	No
9	No. of proximate kin	6	10	12	7	14	6	9	13	8	6
10	No. of immediate kin	2	4	4	3	3	4	3	4	3	2
11	Identity of immediate kin	wife, child	wife, children	wife, children, ch-in-law	wife, children	wife, children	wife, ch, grandch (& sp)	wife, nep (& sp)	wife, sister, affinal nep (& sp)	wife, affinal neps (& sp)	wife, raised son
12	Vulnerable?	weakly	not	not	not	not	weakly	weakly	fairly	fairly	highly

Tab. 2
Elderly Men's Immediate Kin Networks and Outcomes Following bereavement

	Hussin	Koilil	Samad	Suroso	Hari	Fendi	Mis	Arief	Ridwan	Lubis
1	Childless?	No	No /	No	No	No	Yes	Yes	Yes	Yes
2	Living arrangement (post-crisis)	Married daughter	Married son	Married daughter	Divorced daughter & son	Married granddaughter	Alone	Alone, then sister	Alone, then sister	Alone, then great-nep
3	No. of immediate kin (pre-crisis)	2	4	3	3	4	3	4	3	2
4	Identity of immediate kin (pre-crisis)	wife, child	wife, children, ch-in-law	wife, children	wife, children	wife, child, grandchild (& sp)	wife, nep (& sp)	wife, sister, affinal nep (& sp)	wife, affinal neps (& sp.)	wife, raised son
5	No. of immediate kin (post-crisis)	2	3	3	4	4	7	1	6	6
6	Identity of immediate kin (post-crisis)	child, ch-in-law	children, ch-in-law	children, ch-in-law	children	children, grandchild (& sp)	step-ch (& sp), neps (& sp), affines	sister	sister, niece (& sp), affinal neps (& sp), distant relatives	step-ch, affinal nep (& sp), neighbour, great-nep (& sp)
7	Outcome	Good	Good	Good	Good	Good	Moderate	Moderate	Moderate	Bad

Notes:

Abbreviations: sp = spouse; ch = child; chn = children; nep(s) = nephew(s)

✓ Samad has no children of his own, but has successfully Adopted.