Old-age Vulnerability in Indonesia: 
A Longitudinal Social Network Approach

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Paper presented to the BSPS Conference, University of Kent, 12-14\textsuperscript{th} September 2005.

Introduction

This paper is concerned with three related questions: How can vulnerable older people in a contemporary developing society be identified? What are the processes leading to their vulnerability? What is the role of older people’s social networks in determining vulnerability or security? Addressing these questions in full requires consideration of a range of different vulnerabilities and pathways leading to them. In this paper the focus is more modest, namely on the effects of a specific crisis (the recent loss of a spouse) on the availability or lack of acceptable care and practical help in old age. Vulnerability is thus defined as the heightened risk of being without adequate care in old age. It is argued that understanding this vulnerability in the context of Indonesia requires understanding informal social networks and their adaptability over time. Certain types of networks are likely to be more reliable sources of support than others, and so it is with a characterisation of networks and their operation as support networks in a crisis that I am concerned here.

Early research on ageing in developing countries regarded elderly people as traditionally protected by extensive family networks (e.g. Goode 1964), but increasingly imperilled by the forces of ‘modernisation’ (Chen and Jones 1989; Cowgill 1974; Cowgill and Holmes 1972; Westley and Mason 2002:86-7). Both these generalisations are implausible, as older populations now and in the past are heterogeneous in terms of wealth, family status, health, access to institutional protection, and so on. More recently there has emerged a ‘risk group approach’ in which specified subsets of elders—the poor, the childless, widows, those living alone or in rural areas—are defined as vulnerable on \textit{a priori} assumptions about the nature of old-age and support arrangements (e.g. Hermalin, Ofstedal and Mehta 2002: 465ff.). This approach remains unsatisfactory, as not all childless or impoverished older people are equally vulnerable, nor are all elders with children or material resources secure. Instead, vulnerability is the outcome of the combined and cumulative effects of exposure (e.g. childlessness), threats (e.g. health crises) and coping capacities (e.g. social networks, assets), all of which are shaped by individual life histories and social, demographic and economic contexts. In order to understand which elders are vulnerable, and for what reason, it is necessary to examine the interactions between exposure factors, threats, and the resources people have at their disposal to avoid or mitigate specific bad outcomes. In the context of societies without well-established welfare states—historical populations and contemporary developing societies—the coping resources most relevant to old-age security are the family and community institutions. To date, most research on ageing in developing countries has focused quite narrowly on the immediate family—especially coresident children—at the expense of wider kin networks and relations beyond the household (e.g. Beard and Kunharibowo 2001; Knodel and Chayovan 1997; Varley and Blasco 2003). For a variety of reasons elaborated on below, this focus misses important relationships and fails to account for shifting divisions of labour among kin network members.

This paper provides preliminary results from a longitudinal study of kin networks of Javanese elders which aims at relating network characteristics to outcomes in old age. Although the number of networks analysed for the purpose of this paper is too small to allow firm conclusions or generalisations, the paper highlights key challenges involved in the study of networks, introduces a qualitative analysis method, and presents tentative results, to be tested further with additional network and survey data from Indonesia.
Methodology

This paper is based on ongoing socio-demographic research on ageing and old-age support in three Indonesian rural communities (East Java, West Java and West Sumatra). The findings presented here are from the East Javanese site, a village of 2500 inhabitants given the pseudonym Kidul, where the author conducted fieldwork of 12 months in 1999-2000 and four months in 2004-2005. (Two brief returns took place between the two main fieldwork periods.) Data collection combined ethnographic and demographic methods. Semi-structured interviews with 97 percent 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 adult family members in most cases. Bilateral kinship diagrams were assembled and used to ask in detail about the location of kin, exchanges over the life course, and the intensity and quality of relationships. Living in the village made possible observation of activities and interactions, and provided direct experience of problems and adjustments to changing circumstances in older people's lives. At the end of the first phase of fieldwork, 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, exchanges and outcomes 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 in order to understand the provision of care and the division of labour among network members 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 economic status of respondents 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 percent aged 65 to 74 years, and 21 percent were over 75 years of age. One third of elderly respondents (N=68) died over the period April 1999 to April 2005. Mortality was concentrated among the oldest age group and among men; as a result in 2005 the sex ratio was 0.45.

A framework for understanding vulnerability

The study of vulnerability has a long history, especially in approaches to natural disasters, social development, epidemiology and famine (e.g. Bankoff, Frerks and Hilhorst 2004; Blaikie et al. 1994; Delor and Hubert 2000; Watts and Bohle 1993). Although ‘the elderly’ are often defined as vulnerable subgroups (HelpAge International 2002; Wisner 1993), the concept of vulnerability has rarely been applied to the study of ageing in a systematic way (but see Grundy 2006; Hermelin, Ofstedal and Mehta 2002; Lloyd-Sherlock 2006). In developing a framework for examining pathways to vulnerability in old age it was therefore necessary to draw on other disciplines (Schröder-Butterfill and Marianti 2006). Vulnerability has been defined as “the exposure to contingencies and stress, and difficulty coping with them” (Chambers 1989: 1). This definition considers both a threat and the ability or inability on the part of an exposed subject to cope with that threat. Thus, the notion of exposure (also referred to in the literature as risk factors or risk groups) recognises that not every subject is equally at risk to a given threat; the notion of coping captures the fact that there is something about the nature and actions of the subject which makes him or her more or less susceptible to harm (cf. Wisner 1993: 127).
order to understand vulnerability as a process it is necessary to separate, and relate to each other, different analytical domains, namely threats, exposure, coping and outcomes. Their relationship to each other is depicted in Figure 1.

Figure 1: A framework for understanding vulnerability

Vulnerability is a probabilistic concept; it captures the relationship or proximity of a subject to harm. A person’s risk of suffering harm—her vulnerability—is the incremental outcome of a set of distinct, but related, risks, namely: the risk of being exposed to a threat, the risk of a threat materialising and the risk of lacking the defences to deal with a threat. Thus, differential exposure, differential likelihood and magnitude of threat, and differential coping capacity all have an impact on the risks of encountering a bad outcome and on the severity of that outcome. The different domains can interact to compensate for each other, or can 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 outcomes, 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.

Old-age vulnerabilities in rural Java

Outcomes

There are a number of outcomes which older people in rural Java feel vulnerable to and seek to avoid. These include a lack of the material resources necessary to live a decent life; exclusion from social participation; lack of care and practical help; dependence on others, especially dependence on the ‘wrong kind’ of person or institution; and a bad or untimely death. For the purpose of this paper the focus is on vulnerability to a lack of care, of which vulnerability to inappropriate dependence or a bad death may be corollaries (van Eeuwijk 2006). A lack of care is understood here to comprise both a lack of physical care in illness or frailty and a lack of practical help, chiefly help with routine instrumental tasks of daily living, like shopping and cooking; access to medical care is not included for the purpose of this paper.

In rural Java there exists a rough hierarchy of preferences with regard to who should provide care when it is needed; on the basis of this it is possible to distinguish between ‘good’, ‘moderate’ and ‘bad’ outcomes. Domestic and care work are highly 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 care and practical help, and for both men and women reliance on coresident or nearby 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 less normative again, and care by non-relatives usually stigmatising and generally of a lower quality, if forthcoming at all (Marianti 2002: 125ff.; Schröder-Butterfill 2003; 2004).
Exposure or risk factors

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

Threats

Threats are specific events that have the power of propelling people towards bad outcomes, unless they have access to resources for mitigation. Although not all vulnerabilities arise in response to a specific or sudden change in state, the concept of a threat is apt for capturing the often discontinuous nature of late-life progression. Common threats in old age include those which increase the need for support—such as cessation of work, onset or increased severity of illness, frailty or disability—as well as those which threaten the availability of assistance—viz. economic crisis, constriction of formal services, or loss of a key network member. For analytical purposes, too, it is useful to focus on specific threats because they throw into sharp relief the reliability and adaptability (or otherwise) of a person’s coping strategies (cf. Scott and Wenger 1995: 167ff.). In other words, it is often in situations in which need becomes manifest 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 arrangements.

The gendered patterns of practical independence in daily life give rise to different interpretations of living arrangements and suggest lower levels of vulnerability to a lack of care among women. As Table 1 shows, it is very rare for elderly men to live alone or without another adult woman. Only seven per cent are in household arrangements that suggest a complete lack of care or practical help; it’s not that these men are vulnerable, they have already reached a ‘bad end’. One quarter live just with a spouse, a further third with a spouse and a dependent descendant or other relative; taken together, these 60 per cent of older men may be thought of as

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3 On 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 percent of older men and 12 percent of older women. Other losses to older people’s immediate family networks have the potential of precipitating a crisis and are almost as common. Three percent of older men and 15 percent of older women who were re-interviewed reported the loss of a child or key carer over the six year period. Five percent of older people experienced the death of an adult child, three percent saw a child depart on long-term, long-distance migration, and three percent saw relations with a child severed due to conflict. Where older people have ample family networks, the loss of one child may prove to be relatively insignificant. However, many older people in East Java have small immediate families and are thus vulnerable in the face of further loss.

4 At the start of fieldwork (in 1999), 87 per cent of elderly men but only 26 per cent of elderly women were married. By 2005 the percentages married had declined to 77 and 15 per cent, respectively.
vulnerable in the event of their wives’ deaths. One third live with an adult child or grandchild and may be regarded as secure. For adult women it is unproblematic and relatively common to live by themselves (14 per cent), although like their peers living just with a spouse or with a young descendant (24 per cent), they are vulnerable to inadequate care provision should they fall ill or become frail.

Table 1: Living arrangements of elderly people in Kidul (percent), 1999-2005

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2004-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Alone</td>
<td>2.7</td>
<td>13.6</td>
</tr>
<tr>
<td>Husband and wife only</td>
<td>24.3</td>
<td>9.1</td>
</tr>
<tr>
<td>Married couple and …</td>
<td></td>
<td></td>
</tr>
<tr>
<td>only dependent descendants</td>
<td>33.8</td>
<td>6.1</td>
</tr>
<tr>
<td>at least one mature descendant</td>
<td>27.0</td>
<td>9.1</td>
</tr>
<tr>
<td>‘other’</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Widowed or divorced elder and …</td>
<td></td>
<td></td>
</tr>
<tr>
<td>only dependent descendants</td>
<td>0.0</td>
<td>7.6</td>
</tr>
<tr>
<td>at least one mature descendant</td>
<td>6.8</td>
<td>45.5</td>
</tr>
<tr>
<td>‘other’</td>
<td>4.1</td>
<td>8.3</td>
</tr>
<tr>
<td>Total (N)</td>
<td>74</td>
<td>132</td>
</tr>
</tbody>
</table>

Source: Author’s field data, 1999-2000, 2004, 2005. Notes: A dependent descendant is a child or grandchild under the age of 19 or under the age of 25 if still in education or not working. The category ‘other’ comprises relatives other than children or grandchildren (chiefly siblings or very elderly parents) or non-relatives (especially former employers or ‘patrons’). [1] indicates arrangements that can be described as unproblematic in terms of care provision, [2] arrangements that suggest vulnerability to a lack of care, and [3] arrangements that are indicative of a present lack or inadequacy of care.

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. I 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 ‘assets’ over time, and in particular of investigating the ways in which resources and support are mobilised (or not) during a crisis.

In the context of vulnerability to a lack of care, coping capacities can be grouped into three broad groups: individual capacities (esp. wealth and reputation), social networks, and formal social protection. In rural Java formal protection can largely be discounted, as only a minority (15 percent) of older people receive a pension, and formal social care facilities are lacking altogether. Individual assets are also of limited use as there is no market for care provision. Therefore wealth and influence have to be converted into socially mediated debts and obligations to ensure support from kin or neighbours in the event of illness, disability or frailty. An analysis of vulnerability to a lack of care in old age in a pre-transitional or transitional society thus requires analysis of people’s informal networks.

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 clearly at greater risk from encountering care failures, especially if they experience an event 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.
Social networks in focus

Social demographers, economists and policy makers in the field of ageing have tended to interpret informal support networks quite narrowly and focused primarily on the role of adult children. Standardised surveys of ageing now routinely collect data on the availability and location of children, and on several categories of exchanges (e.g. money, visits, food, help) with a set of predefined absent family members. Yet, this limited conceptualisation of ‘networks’ misses important relationships and fails to account for shifting divisions of labour among network members. For instance, it is a reasonable assumption 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 membership is fluid, network members and exchanges within networks are heterogeneous, and the reliability of social networks as support networks often only apparent retrospectively. Understanding networks for the purpose of analysing vulnerability thus requires consideration of three aspects of networks, namely network membership, exchanges within networks, and network dynamics.

Network membership

Individuals are embedded in different, partially overlapping and potentially vast 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 for studying networks with a particular functional aspect—in this case, the provision of care 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 membership of networks in individual cases. These steps entail interpretation both at the normative level—the logic of different cultures and family systems—and the level of practice—individual negotiations of norms and realised constellations.

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 and foremost to his sister’s children for support, rather than to his own (Indrizal 2004; Kato 1982). The Javanese, not unlike many European populations, 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 offspring are not pronounced (Hüsken 1991; Jay 1969; Koentjaraningrat 1957). 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, keen awareness of status differences and associated patterns of avoidance, and relatively short genealogical memories. In addition, 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 (Hugo 1982; Jones 1994; Nakamura 1983).

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5 For the present paper I am interested chiefly in kin networks, although during future analysis neighbours and friends, and community and religious institutions will be added to the networks under consideration.
Although aggregate completed fertility among presently elderly people in Java is moderately high, with an average number of children ever born of around 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 2004). In short, kin network membership in Java is in a state of constant flux.

In practical terms this underlines the importance of collecting data on people’s marriages, divorces and remarriages; childbearing, adoption and other child-rearing arrangements; migration, including migration of children; labour histories, especially where these involve aspects of patronage. Although primary responsibility for old-age care attaches to spouses and children, their availability cannot be taken for granted, and kin other than children, including nephews and nieces, grandchildren and siblings, often play an important supportive role. Information on their availability needs therefore also to be collected. Ultimately, the aim is to characterise an individual’s relevant network in terms of its size, genealogical composition, spatial distribution and relative social and economic status.

Exchanges within networks

Consideration of practices like marriage, adoption or migration immediately introduces the need for consideration of exchanges between network members, as membership rarely involves merely the existence or movement of individuals, but their incorporation (or exclusion) through material, practical and emotional investment. Knowledge of past and present exchanges and interactions are central to explaining network membership and relationship quality. Precisely because kin relations in Java are fragile and contested, the continued existence of a given bond depends in part on constant reaffirmation through communication and small-scale exchanges of gifts (Bourdieu 1976:121; Li 1989; Mauss 1954 [1925]). These exchanges create reciprocities which individuals might later draw on.

Another reason why data on network exchanges are important is the fact that the provision of goods and services is, of course, what constitutes support and therefore security in old age. Different types of support can be distinguished: money; the provision of food; practical and emotional care; coresidence; large-scale transfers of housing, land or money; and the safeguarding of another’s interests. However, understanding the relationship between resource flows and old-age vulnerability is complicated by problems surrounding the proper interpretation of exchange data. Javanese families are nuclear, not extended (Geertz 1961; Niehof 1995). This means that adult children should ideally set up separate households after marriage and generations be economically independent of each other. This preference for independence in old age, combined with continued economic participation and relatively low levels of acute need for care and support on the part of elderly people, mean that the exchanges that can be recorded at any given time may be small-scale, even symbolic. Many network members may not be engaging in present exchanges at all, although they were actively involved in the past. It is therefore difficult to draw conclusions about the intensity, quality or reliability of a relationship on the basis of cross-sectional data alone, as lack of flows may connote independence or neglect. Whilst data on past and present interactions help to delimit the pool of network members from whom support may be expected and allow preliminary assessment of vulnerability, we require data on flows of goods and services in a situation of manifest need in order to understand—retrospectively—who the vulnerable categories are.

Network dynamics

The preceding points about changing network compositions and network exchanges are closely related to the final aspect of networks to be considered here, namely the degree to which a network is capable of adjusting its activities in response to changes in the demand for, or supply of, support. It is this aspect that I am above all interested in here. Who steps in to fill a gap left by a departing or deceased network member, and how are needs for specific types of

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6 Individual preferences and economic constraints often intervene to modify this in practice. The Javanese nuclear family system is therefore not as strict as that found in historical and contemporary Northwest Europe (cf. Hajnal 1982; but see also Laslett 1988; Wrigley 1985).
assistance met by network members? Analysis of network dynamics entails analysis of division of labour among an older person’s kin network. We want to know, for example, whether female and male, local and absent, genealogically close and distant kin occupy different but complimentary roles, or whether actual support provision tends to fall disproportionately on a few network members. Either case raises the question of how support provision is negotiated among network members. Is increased need for assistance met by an intensification of support 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 and acceptability of support, and what substitutions result in qualitatively different levels and kinds of assistance?

The following hypotheses concerning network dynamics arise from the literature and our previous research. 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 exist, 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 or security. 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 support. 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 an analysis strategy on network membership, exchanges and dynamics of ten older men is presented. Each network is different, but only some differences are likely to be important. It is therefore necessary to reduce the heterogeneity in a way that allows the derivation of a manageable set of network characteristics which can be compared and related to questions of vulnerability. As noted above, only a subset of all individuals a person is related to will be important for particular types of old-age support. Yet the identity of that subset is open to empirical investigation. For this reason a number of analytical constructs—different ‘circles’ of kin—were developed and their relevance to assessing vulnerability examined. These will be introduced using the example of an elderly man named Ridwan. (All personal names are pseudonyms.)

Figure 3 illustrates the kin network of Ridwan. Taken in its entirety, the diagram represents what I refer to as the abstract kin network, which is the universe of all relatives which Ego (in this case Ridwan) identified by name, often over the course of several interviews, and for which the exact kin relationship can be specified (cf. Kreager and Schröder-Butterfill 2004). The boundaries implied by inclusion in the diagram are somewhat arbitrary; successive interviewing would doubtless uncover additional links. The abstract kindred is abstract in the sense that it has no real sociological manifestation: there are unlikely to be any occasions on which all or most members interact; in fact, not all members will know each other personally, and some network members are no longer alive. Members who are merely members of Ego’s abstract kin network (as opposed to members of a smaller subset of kin) are very unlikely to provide support, although they may attend festivities, such as weddings, and may in that context contribute somewhat larger gifts than non-kin would. Where wealth differentials among genealogically distant members of the abstract kindred are large, social interactions are likely to be avoided, lest the poorer individual 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 is part of an important local family or 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 abstract kindred, especially the local abstract kindred, are important data. Local abstract kin networks are categorised as large (40 + local members), medium (15 – 40 local members) or small (<15 local members). A qualitative assessment is made of whether they include an important local person or family (e.g. a village official, religious leader, or rich landowner) and whether network members are on average rich, of medium wealth or poor. In the case of Ridwan, the abstract kindred is large; it contains important persons—the former
In terms of actual support provision, the abstract kin network is not the relevant unit of analysis. Expectations for significant support flows normally attach to close kin, therefore networks need to be characterised further in terms of their kin composition. I distinguish between the availability and location of what I refer to as close kin (spouses, children) and extended kin (siblings, adult nephews and nieces, adult grandchildren). An analysis of kin network membership on the basis of the availability and location of kin by genealogical status is important for two reasons. Firstly, the lack of close kin network members, such as children or spouses, points directly to vulnerability and represents important ‘exposure factors’ in the vulnerability framework, above. Secondly, the availability of kin in various categories identifies the universe of potential sources of support, together with a likely hierarchy of responsibility among them. Ridwan has no surviving children of his own; although he helped raise two affinal nephews they didn’t become ‘adopted children’ (anak angkat). His extended kin network is of medium size, numbering 13, and includes cognatic and affinal nephews and nieces and a sister (see Figure 3 and Table 3).

As I 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 interactions and exchanges. It is therefore necessary to distinguish the network further by bringing in data on exchange and identifying the subset of close and extended kin with whom significant relations are maintained. I refer to this subset as the proximate kindred, which is defined as those kin with whom significant exchanges are taking place or have taken place in the past (Kreager and Schröder-Butterfill 2004). ‘Significant’ exchanges include the gift or receipt of money, labour, childrearing or education, assets (land or houses), and care. The proximate kin network is the most important subset of kin 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 I am 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, the two affinal nephews he helped raise and their spouses and two of their children (whom he and his wife care for). Of this group three were most important for his welfare in 1999, namely his wife and one of the affinal nephews plus wife, who were providing him with income in exchange for childcare services. The small subset of proximate kin who provide the most significant support at any given time are referred to as the immediate kin.

Table 3 summarises key characteristics of the different overlapping circles of kin for all ten older men considered here. The following points, which bear on an assessment of vulnerability, are worth drawing attention to. Half of the men examined lack biological children and may therefore be considered vulnerable on grounds of exposure (see row 3, Table 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 represents an important aspect of coping strategies among presently older people in Java, but does not always result in strong filial bonds (Schröder-Butterfill 2004). Only Samad can be said to have successfully and unequivocally ‘acquired’ children, Lubis and Mis have rather tenuous links to the children they raised. Three out of ten men have no children locally (row 5). This lack seriously limits the availability of care and practical support from sources normally expected to provide it and again points to an important source of vulnerability. The range in the size of the extended kin network (siblings and adult grandchildren, nephews and nieces) is enormous (between zero and 26) due to differences in reproductive success and migration in Ego’s extended family (row 6). Above it was hypothesised that extended kin rarely provide important support if children are available, and this is largely borne out below (see row 12). Therefore the two elderly fathers with few extended kin do not cause concern. However, the extended kin networks of the childless men point to important differences in relative 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 kin networks (rows 7-9). 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.

[Table 3 roughly here]

Once the focus is on the circle of kin with whom the men have engaged in important exchanges over their life course (proximate kin network), the similarity in size across the heterogeneous group of men is striking (row 10). On average, prior to their wives’ deaths, the men had exchange relationships with 8.8 network members. None of the proximate kin networks are of a size that would suggest serious vulnerability; indeed, their approximately similar size suggests that some of the inequalities in terms of overall availability of kin are being compensated. In other words, people appear to engage in network building where demography has denied them adequate networks. In each case the active involvement by proximate kin network members is uneven, with between 2 and 7 members being classified as immediate kin on account of more intensive flows of support (rows 11 and 12). 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 dominated among the immediate kin, whilst among the childless, wives, nephews/nieces and relatives raised by the men featured.

Assessment of ‘pre-crisis’ vulnerability

Investigation of the network characteristics in terms of membership and exchanges of the ten older men in the period preceding their bereavement suggests the following tentative assessment of vulnerability to a lack of care (see Table 3, row 13). Kolil, 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, this is compensated for by adequate and well-connected abstract kin. Samad’s childlessness is more than made up for by his successful adoptions and large, well-resourced extended and abstract kin network. Fendi and Hussin appear weakly vulnerable, as they rely on very few close kin locally, and their extended family or abstract kindred, respectively, are small and not connected to an influential person or family. Their proximate kin are also comparatively small in size. However, Hussin is very wealthy and could presumably draw on his large non-local extended kin network in the event of 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 is also classed as only weakly vulnerable, as his childlessness is off-set by large, local and well-resourced extended and abstract kin networks. Like Samad he has built up links via exchanges with a large number of kin. Arief and Ridwan appear fairly vulnerable as they lack any children: this means that in the event of their wife’s death they will be forced to rely on inferior sources of care. However, that care would be forthcoming seems assured by their large number of extended relatives, the size and standing of the abstract kin network (in the case of Ridwan), and the fact that both men have built up large proximate kin networks. Lubis stands out as highly vulnerable on several grounds. 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 kin network. By comparison with his other childless peers, the proximate kin network he has constructed is small.

Network dynamics following the loss of a spouse

Although a preliminary assessment of vulnerability to a lack of care has been possible on the basis of network configurations and exchanges in 1999, at that time none of the men needed much support, as they relied on their wives for care and were largely economically independent. Following the loss of their spouses the men were suddenly required to rely on other kin for daily tasks. It therefore became possible to analyse the ways in which different networks adjust to a change in circumstances. In 2004-5 the men’s new situations and support arrangements were recorded, and different outcomes distinguished. Some of the older men have ended up in a secure and socially acceptable arrangement—reliant on a child or children (preferably a daughter)—and well cared for; some have reached a moderate end, provided for adequately, but not by the people they would ideally depend on; and one has encountered a ‘bad end’, poorly cared for and eventually dying in misery (see Table 4, row 7). These outcomes raise two questions. To what extent was it possible to predict these outcomes on the basis of previous assessment of vulnerability? (In other words, does row 13 in Table 3 map onto row 7 in Table
And how were the support arrangements arrived at? By what processes did the members of immediate kin networks in 2004-5 crystallise out of the proximate networks in 1999?

Older men with children

All of the older men with children encountered a good outcome in terms of care provision 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 to compensate for the loss of a key network member, which suggests that the size of extended and abstract networks is relatively unimportant for those with children. However, the processes by which good outcomes were reached differed in terms of the division of labour involved. Broadly, it is possible to distinguish between ‘intensification’ and ‘extensification’ in the adjustments to network constriction. Two brief case studies highlight this.

Hussin

In 1999, Hussin was roughly 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 in the village, a daughter and a son lived roughly 15 km away, and a third daughter lived several hours away. Hussin and his wife were not originally from Kidul but had moved there in the 1970s. Their migrant status explains their small local abstract kin network. Hussin and his wife worked as farmers and acquired substantial plots of irrigated and non-irrigated land in Kidul. In the early 1990s they sold the irrigated land, but held on to 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 to a white-collar worker, but then set up an independent household in the village with the help of her parents. Relations with the local daughter were close and involved regular mutual visits and exchanges of gifts of food and money. Another daughter visited regularly and gave her parents ‘pocket money’, whilst the two remaining children came only once a year.

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 also still contributed produce from his land to the household. When he fell seriously 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

Hari, in his mid-seventies in 1999, was also not originally from Kidul, but had moved there with his parents when he was young. A veteran from Indonesia’s war for independence, he worked as a minor civil servant and receives a small government 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 away. In 1999, an adult divorced son and a married daughter were living with them, a further married son lived next door. As Hari doesn’t own any land or assets, none of the children have been given large-scale support in adulthood. However, for most of their elderly life-course, 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. This daughter spent two years on labour migration (2000-2002), leaving her three small children in the care of her elderly parents. After her return, she and her children continued to depend heavily on Hari’s pension for their daily needs, 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 three months of life. This daughter never previously provided any significant assistance, and 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 income. His bonds with his two local sons have intensified, and he spends much time with them for companionship.

In both these examples, a daughter substitutes for her mother by taking on the tasks previously undertaken by the wife. Being cared for by a daughter after a wife’s death is the most popular option in Java, and all six older men with local daughters are able to conform to the normative solution, although in the case of Hussin this necessitates his change of residence, and in the cases of Samad and Fendi, the tasks of practical help and care are shared between a non-
coresident local daughter and a coresident daughter-in-law or adult granddaughter, respectively.

The key differences between the two examples lie in the division of labour among network members 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 almost entirely through ‘intensification’ of existing support: the daughter with whom exchanges were most active in the past more or less single-handedly covers her elderly father’s practical and care needs, although her siblings assist with medical provision at the end. The relatively small initial size and further constriction of the proximate and immediate kin networks of Hussin turn out to be unproblematic, as the one daughter is wealthy, able and committed enough to provide all necessary support. (Another case of pure intensification is that of 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 kin network are drawn on (‘extensification’). The example points to the importance of not having proximate networks that are too small or homogeneous, so that failure or constraints on the part of individual members, or the emergence of heterogeneous needs (e.g. for material and practical, or physical and emotional support), do not result in inadequate provision.

The overall stability in the size of the immediate kin network over time among the cases with children is striking: despite the loss of a key member, all elders experience at worst a small constriction (as would be expected following the death of the wife), at best a slight increase, in their number of immediate kin (see row 5, Table 4). 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 in 2004-5, i.e. those currently providing the most significant support, are recruited from the elders’ proximate circle in 1999 (with newly married-in family members being the exception). Reliance is overwhelmingly on close kin, chiefly children and children-in-law, with the addition of adult grandchildren in one case (row 6).

Older men without children

All four older men without own or successfully adopted children emerged as vulnerable to different degrees on the basis of the analysis of their kin networks in 1999. Following the loss of their wives, all experienced a significant decline in well-being, with one older man meeting an unequivocally ‘bad end’, and the three others finding themselves in arrangements that were only moderately acceptable. There is fairly good agreement between predicted vulnerability on the basis of network characteristics in the past and actual outcomes. Again two brief examples will illustrate some of the significant variations in network dynamics.

Ridwan

Ridwan, whose abstract kin network was given in Figure 3, remained childless despite multiple marriages and experienced economic decline during the course of his life due to a taste for the good life and gambling. His first marriage was to the daughter of an immensely wealthy farmer. The marriage remained without issue, but for several years the couple helped to raise the two oldest sons of Ridwan’s wife’s sister (i.e. Ridwan’s affinal nephews, named Eddy and Tiwon). Despite his first wife’s death and Ridwan’s subsequent remarriages, he maintained a close bond with Eddy and Tiwon, who are economically successful. Ridwan himself, by contrast, was living with his last wife in a primitive bamboo house. Most of the rice land he had inherited had been used to pay off debts, although a part had been secretly and fraudulently sold by a nephew. The couple’s main source of money in old age was from Tiwon in exchange for childcare 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 with these 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 wide range of kin and neighbours, although the money for medication came from Ridwan’s sale of his remaining residential land. After his wife’s death,
Ridwan initially lived on his own and received cooked food from Eddy, Tiwon and various neighbours. Soon, however, his nephews by descent put pressure on him to move in with one of his ‘blood relatives’. 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 by marriage and descent give him cigarette money from time to time.

Lubis

Lubis, in his early 80s in 1999, had no children of his own, but his first marriage was to a widow with two children whom he helped raise. He later married a divorcée with two daughters from a previous marriage who were raised by their grandmother. Lubis and his wife also helped bring up two sons belonging to a neighbour when they were living in a nearby town. None of the step- and ‘raised’ (angkat) children lived locally, the closest (a ‘raised’ son) living in a nearby town, the others living in distant parts of Java and on the island of Sumatra. In 1999, Lubis mentioned in passing the existence of non-local great-nephews and great-nieces with whom contact was virtually non-existent. The elderly couple lived on their own. Their economic situation was precarious, as neither still had regular work. The support from children was inadequate, ranging from none (by the present wife’s daughter on Sumatra), to occasional gifts of food, money or clothing by the others. The ‘raised’ son living in the nearby town provided the most, namely small sums of money every few months.

In 2002, Lubis’s wife’s daughter suddenly appeared, not having visited for years. When she returned home, 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 called Rusmin (Lubis’s first wife’s sister’s son), who had never previously provided support. After six months he fell and became bed-bound. A step-daughter (via the first wife) once visited from Jakarta, and for a few months 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 carrying to the toilet, cleaning up after soiling himself and providing with food. He 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 to him he put up a tearful protest but to no avail. He only survived a few months on a makeshift mattress 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 institutionalised or automatic substitute for a wife. Therefore I found much greater heterogeneity in who steps in to provide assistance, and none of the solutions are comparable to care by an own child, as reflected in the moderate to bad outcomes the old men experienced. The difference lies not only in the lesser desirability and social acceptability of arrangements, but also the quality of care received. Thus all four men were cared for by non-coresident helpers (see row 2, Table 4), although Lubis and Arief were eventually incorporated into the households of relatives when physical care needs became intense. None had access to medical care once they were unable to seek and pay for it themselves.

In the cases involving elderly fathers, I distinguished between ‘intensification’ and ‘extensification’ in network dynamics. Among childless men, intensification occurs in only one example (Arief), where all support is ultimately provided by one of several sisters. However, intensification here is accompanied by what might be called ‘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, which suggests that the bonds of obligation are stronger among closer kin.

Extensification—the involvement of previously marginal network members to deal with increased support needs—is found among both sets of men, although there are important differences in the processes of extensification, especially in terms of who steps in. In the cases of childless men, the immense discontinuity in the identities of key support providers is striking (compare rows 4 and 6, Table 4). Firstly, there are significant sequential shifts in prime sources
of support over time. These shifts result in apparent increases in the size of immediate networks of the childless men, although in fact the involvement of members is consecutive, rather than simultaneous. The discontinuities do not contribute to people's sense of security or well-being. Rather than networks adjustments responding primarily to the changing needs of the elderly, they occur in response to the priorities, constraints and interests of their network members.

Secondly, there are discontinuities in the recruitment of immediate kin network members. Unlike in the adjustments among older fathers, previously uninvolved kin network members, i.e. members of the abstract or extended (rather than the proximate) kin become involved in support provision during and following a crisis. This suggests that the proximate networks were not large, able or reliable enough to cope with the loss of a key network member. In the case of Lubis, the members of his proximate kindred (children he had helped raise) neither lived locally, nor were willing to provide adequate and acceptable assistance from a distance. He lacked alternatives in the form of close or extended local kin; thus, when he required sustained support and physical care, he was at the mercy of abstract kin members with whom little prior contact existed. The support he received was of low quality and entailed complete loss of autonomy and ultimately a 'bad death'. In the case of Ridwan, the members of his proximate kindred (chiefly his affinal nephews) step in to provide cooked food—a task previously done by the wife. Yet long-term arrangements for Ridwan's practical support and care in illness remain uncertain until his nephews and nieces intervene. Ridwan is fortunate in that he has a large, wealthy and local network of relatives who become engaged at the point where practical care becomes necessary. The same is the case with Mis, where in addition to members of his proximate kin network more distant relatives step in and provide the practical help which his proximate kin are unable or unwilling to provide. The new support constellations are not (entirely) built on previous interactions and exchange. Nor are they built on altruism, as protection of family reputation and in some cases profits from inheritance are clearly at stake. An unexpected finding is the predominance of blood relatives over bonds created through exchanges (affinal and 'raised' relatives) in the provision of intimate care.

Conclusions: Old-age vulnerability and kin networks in Java

This paper has been concerned with understanding vulnerability among elderly people in Indonesia. Clearly, not all elderly people are vulnerable, nor can vulnerability be inferred from a well-defined set of risk factors. As we have seen, not all elders who appear vulnerable on a priori grounds, such as the frail, childless or those without a spouse, find themselves in a bad situation even after experiencing a crisis. Instead people's coping resources are important, and their reliability in actual interactions with risks and threats needs to be analysed. In a setting like rural Indonesia, where formal services are lacking and support and care cannot be purchased, the relevant coping resource for understanding people's access to care is their kin network. This has, of course, long been recognised. However, the aim of this paper has been to go beyond a narrow conceptualisation of kin support in terms of support from children, and instead to study kin networks in their entirety. The central hypothesis has been that networks are crucial for understanding which elderly people are vulnerable and likely to encounter a bad end. This claim has been examined by investigating the nature of people's networks in terms of their size, composition, status and location, and by trying to trace the processes by which certain subsets of people's networks become sources of support.

The examples show clearly that networks matter: old-age care is almost always the result of communication and division of labour between several network members, rather than simply of parent-child or nephew-uncle dyads. Even though at any given time support is provided by a very small number of kin, the identity of key providers cannot be prejudged (beyond the}

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7 In the case of Ridwan, primary support provision shifts from wife and affinal nephews to affinal nephews and neighbours, and then to a sister, nephews and nieces. In the case of Lubis, the shifts are from wife and raised son to neighbour, affinal relative and step-daughter, and then to great-nephew; similar shifts are found with Mis and Arief.

8 It is impossible to say whether Ridwan's proximate network would have adjusted to further increases in levels of need. Eddy's wife, who was interviewed, claimed that she was happy for the old man to live with them, but was reluctant to interfere in the presence of Ridwan's blood kin.
identification of cultural preferences) and may change in response to changing needs. Where several kin of equal genealogical and geographic proximity exist, understanding their differential involvement in support provision requires examination of network processes. Put simply, not only support, but also non-support need an explanation, and explanations are likely to entail consideration of what others are doing.

If we accept that networks are important for outcomes in old age, can we specify what kinds of networks are best able to protect older people and to respond to changes in older people’s needs? The number and range of networks considered here has been too small to draw any firm conclusions, but several points are worth pursuing. 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 in old age irrespective of the size and composition of their wider networks (extended, abstract). That said, it seems to matter what kind of children a person has. For the purpose of care and practical help, daughters are key: even in the cases where the elder resided with a son or a granddaughter, a local daughter was involved in the care provision. (Unfortunately the sample did not include cases of fathers whose daughters were all absent.) However, older people are likely to have diverse and changing needs for which different kinds of kin may be salient. The evidence presented here on division of labour among children and extensification of immediate kin networks following a crisis suggests that even for older people with children, networks that are heterogeneous in their composition will be better able to provide support.

For older people without children, the size, composition and status of wider kin networks are clearly important. Childless elders interact with, and derive support from, a wide range of kin, especially nephews, nieces, affines and siblings. Nonetheless, they are often vulnerable to a lack of care. The analysis has shown networks comprising extended or distant kin to be qualitatively different from those comprising close kin. In particular, they appear to be less reliable in terms of the quality of care provided and the continuity of involvement of immediate kin members. Individual network 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 an abstract kin network which is well-resourced and of high status is important, as network members of high standing may intervene to prevent an outcome that would reflect badly on the reputation of wider kin.

In seeking an understanding of the processes by which members providing support crystallise out of much larger networks among which most members are inactive, more questions have been raised than answers found. One hypothesis was that previous and ongoing exchanges are important predictors of who would provide significant support, to the extent that the intensity of past resource flows would override genealogical proximity in determining the identity of main support providers. It was assumed, for example, that members of the immediate kin network would invariably derive from the proximate network. In fact, the evidence on this is mixed. Exchanges seem to matter in explaining who is most important as long as the older person is still active, but once outright dependence arises, other considerations must override. Thus in several examples (e.g. Hari, Ridwan, Lubis) network members with whom no (particular) prior exchanges had been reported surprisingly stepped in to provide care. In a similar vein, where several children or nephews and nieces had benefited from support by the elder in the past, usually only one or two reciprocated. Clearly, factors other than the ones considered here—for example, relationship quality, the nature of the kin link (‘blood’ versus affinal or fictive kin), economic status of individual members, the nature of exchanges in the past—will require examination to shed further light on division of labour and assignment of responsibilities. In the meantime, the answer to the question, *Who is vulnerable to a lack of care in old age?* can at best be tentative: older men without a spouse and children, who are part of small, poorly-resourced and low-status extended and abstract kin networks.

**Acknowledgements**

The author is grateful to the British Academy, the Wellcome Trust, and the Economic and Social Research Council for generous funding of the research on which this paper is based. Many thanks are due the entire *Ageing in Indonesia* project team, with whom many of the ideas presented here were discussed and developed.
References


Delor, F. and Hubert, M. 2000. Revisiting the Concept of 'Vulnerability'. Social Science and Medicine, 50, 1557-70.


Figure 3: Ridwan’s abstract kin network

Key to kin diagram
- △: man, alive
- ○: woman, alive
- △: man, dead
- ○: woman, dead
- ↑: no issue
- △: married couple
- △ ≠ ○: divorced couple
- ●: person in the village
- ⇪: person is adopted child

Diagram details:
- Ridwan (died 2003)
- Kolil
- Eddy
- Tien
- 3 children, 5 children, 2 children, 3 children
<table>
<thead>
<tr>
<th></th>
<th>Hussin</th>
<th>Kolil</th>
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<th>Suroso</th>
<th>Hari</th>
<th>Fendi</th>
<th>Mis</th>
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<td>Wife &amp; married son</td>
<td>Wife &amp; unmarried daughter</td>
<td>Wife, married daughter &amp; son</td>
<td>Wife &amp; married granddaughter</td>
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<td>weakly</td>
<td>fairly</td>
<td>fairly</td>
<td>highly</td>
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</table>

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).
Table 4: Elderly men’s immediate kin networks and outcomes following bereavement

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<th>Suroso</th>
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<td>No</td>
<td>No</td>
<td>No¹</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Living arrangement (post crisis)</td>
<td>Married daughter</td>
<td>Married daughter</td>
<td>Married son</td>
<td>Married daughter</td>
<td>Divorced daughter &amp; son</td>
<td>Married grand-daughter</td>
<td>Alone</td>
<td>Alone, then sister</td>
<td>Alone, then sister</td>
</tr>
<tr>
<td>3</td>
<td>No. of immediate kin (pre-crisis)</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Identity of immediate kin (pre-crisis)</td>
<td>wife, child</td>
<td>wife, children</td>
<td>wife, children</td>
<td>wife, children</td>
<td>wife, child, grandchild (&amp; sp)</td>
<td>wife, nep ( &amp; sp)</td>
<td>wife, sister, affinal nep ( &amp; sp)</td>
<td>wife, affinal nepets ( &amp; sp)</td>
<td>wife, raised son</td>
</tr>
<tr>
<td>5</td>
<td>No. of immediate kin (post-crisis)</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Outcome</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Notes: ¹ Samad has no children of his own, but has successfully adopted. Although Mis, Ridwan and Lubis have raised children, these have not become ‘adopted children’ (anak angkat) (see Schröder-Butterfill 2004 for a discussion of informal adoption in Java). Abbreviations: sp=spouse; ch=child; chn=children; nep(s)=nephew(s).