

OCCASIONAL PAPERS

Knowledge for development effectiveness

A methodology for assessment
of the impact of microfinance on
empowerment and vulnerability

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by

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Enabling the rural poor to overcome poverty



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Acronyms

ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ROSCA	rotating savings and credit association
RRA	rapid rural appraisal
SC	scheduled caste
SHG	self-help group
ST	scheduled tribe
VEP	vulnerability as expected poverty
VER	vulnerability as uninsured risk
VEU	vulnerability as expected utility

Foreword

One of IFAD's strategic objectives in contributing to the goal of reducing rural poverty is to provide improved financial and related non-financial services in rural areas. In fact, two thirds of the Fund's current projects have a rural finance component and approximately one fifth of the Fund's resources are dedicated to rural finance. Rural finance interventions provide small-scale credit and other financial services to poor households and very small, informal businesses. They provide a mechanism for the poor to smooth the effects of income shocks on consumption, find safe and affordable repositories for their savings, take advantage of profitable investment opportunities and insure against risk.

Experience worldwide shows that when microfinance services reach women, the benefits are particularly sustainable. Savings rates are higher; group life is more intensive; repayment rates are remarkable; enterprise growth and graduation are stronger; and there are measurable improvements in child nutrition and education, family health and household sanitation, shelter and general welfare.

The present paper offers a broad framework for assessing the impact of microfinance projects on the empowerment and vulnerability of the rural poor, going well beyond the conventional criteria of rates of return and financial sustainability of microfinance institutions. These are new and emerging strategic concerns in the Asia and the Pacific region, and we hope that the methodology proposed will enrich the criteria for IFAD's interventions in microfinance through contextual adaptation. Empowerment is defined as "increasing poor people's freedom of choice and action to shape their own lives", while the addressing of vulnerability builds resilience to various shocks.

This study is based on a small but detailed survey of members of self-help groups in six villages in the Pune district of India, where the IFAD-supported Maharashtra Rural Credit Project was implemented. There is no dearth of studies that examine targeting accuracy in microfinance programmes, reduction in the transaction costs of borrowing by and lending to self-help groups, microenterprise development and capacity-building in self-help groups.

Rather than providing a checklist of impact indicators, this paper identifies a few key indicators that impinge on aspects of social capital, empowerment of the poorest and self-insurance. The indicators used are familiar and easy to construct. As there are few detailed empirical reviews, an attempt is made to propose a selective list of indicators that could be adapted, refined and extended through systematic application.

We believe that the study will be of interest to policy-makers, development practitioners, academics and civil society, and enrich our understanding of the impact of microfinance.

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I. Overview

The purpose of this study was to develop a broad framework for assessing the impact of microfinance projects on empowerment, going well beyond the conventional criteria of rates of return and financial sustainability of microfinance institutions. Application of this framework would require careful adaptation to each specific context in the Asia and the Pacific region. It would be necessary to consider: the overall macroeconomic scenario, financial intermediation and the nature and functioning of credit markets in rural areas; extent and severity of poverty; access to formal and informal sources of credit, disaggregated by caste/ethnicity, landownership and gender; and formal and informal insurance networks.

Objective

A case is made, first, for broadening simple economic or financial analysis of IFAD's microfinance interventions.

Economic analysis of projects focuses on their contribution to the well-being of the target group, broadly interpreted, while financial analysis assesses the net monetary benefit to the project or operating entity. Thus the items considered as costs and benefits differ, as well as their valuation. A payment in the form of wages, for example, is a financial cost to the project/operating entity. However, it is an economic cost only to the extent that the use of labour involves sacrifice of output elsewhere in the economy.

Conversely, a project may have an economic cost in the form of environmental effects – such as the effect of tubewell schemes on the water table – but no corresponding financial costs if there is no monetary outflow. Economic costs may be larger or smaller than financial costs. Similar comments apply to economic and financial benefits. Economic costs and benefits are measured by shadow prices, and these differ from the market prices used in financial analysis. Often this divergence is due to market imperfections.¹

IFAD loans and the related interest payments are financial transfers. However, the investment/expenditure financed by a loan involves an economic cost. The financial cost of a loan occurs when the loan is repaid, while the economic cost occurs when the expenditure occurs. In general, how an investment is financed is irrelevant from the point of view of economic analysis.

No matter how detailed and careful the economic analysis is, impact assessment must not be confined to narrowly defined economic benefits in terms of net income gains to beneficiaries of microfinance projects and financial rates of return to microfinance institutions. The framework for impact assessment should be broader, as it must embrace both economic and non-economic dimensions of the well-being of poor people, in line with IFAD's mandate:

- impact on the incidence and severity of poverty in rural areas (for example, on the dollar poor);
- expansion of opportunities for poor people to shape their own lives;
- enabling them to mitigate the severity of covariate risks (droughts, floods, a policy regime change in a transitional economy) and idiosyncratic risks or shocks (morbidity, accidents, death of a wage earner); and
- viability of the institutions created (self-help groups, village development councils, linkages between local institutions and banks or financial intermediaries).

These shocks trigger downward mobility, often propelling whole subsets of the rural population into long periods of poverty. Thus specific measures of vulnerability have to be devised for impact assessment (Gaiha and Thapa, 2006, Gaiha and Imai, 2006). Clearly, these concerns go well beyond conventional economic or financial impact assessments. The analytical framework has to be broad enough to address them, and appropriate tools must be devised for implementing this framework in a specific context.²

Macro framework: policy regime and institutional quality

A broad-brush treatment of the macro framework – in terms of the nature of the policy regime and quality of institutions – would be helpful in assessing the feasibility of replicating and scaling up successful interventions through policy dialogue. Indicators for the policy regime would include per capita income, rate of growth of income, fiscal and current account deficits, public debt, share of agriculture in GDP, degree of financial intermediation, share of public expenditure devoted to agriculture and rural development and share of trade in GDP. Those for the quality of institutions would cover degree of political stability, rule of law, management of corruption, voice and accountability, an independent judiciary, and protection of property rights.

Given that IFAD's interventions in microfinance are closely intertwined with the building of local capacity and institutions, an overview from a macro perspective would be helpful in designing these interventions cost-effectively. Even small improvements in institutional quality trigger growth acceleration and more-effective poverty reduction. Thus a deeper understanding of institutional links at the different levels of a specific macroeconomic setting would enrich policy dialogue and add credibility to the scaling up of IFAD interventions. Gaiha, Imai and Nandhi (2006) provide illustrative evidence of mild institutional reforms accelerating growth and poverty reduction.

1 In the simplest case, for example, the shadow wage rate is equivalent to the marginal output of labour foregone elsewhere. When there is unemployment and it is likely to persist, the shadow wage would be zero and not whatever market wage is actually being paid. The latter may be high or low depending on whether there is minimum wage legislation, trade union activity and a competitive labour market (Squire and van der Tak, 1975).

2 A standard procedure is to assign probabilities to risky outcomes and choose accordingly. However, as argued in Gaiha and Thapa (2006), the literature on rational choice is unable to deal with events that have low probability but a high negative pay-off. The prospect theory developed by Kahneman and Tversky (1979), which takes into account the way in which risky options are framed, is far more useful. Specifically, the focus is on whether the acts, contingencies and outcomes are framed in such a way that the norms, habits and expectations of decision-makers are considered, and on how the prospects are evaluated (Gaiha and Thapa, 2006).

Profile of local rural economy

The next step is to construct a profile of the rural economy in which IFAD proposes to intervene (state/province/district). The following set of indicators could be used with some contextual modification:

- economic performance (state/province domestic product over a recent period of five to ten years);
- sectoral composition of state/province income over the corresponding period (shares of agriculture, non-farm activities, trade);
- total population and its rate of growth;
- shares of rural/urban population;
- ethnic/caste composition;
- occupational distribution;
- income and land distribution;
- literacy rates;
- nature and quality of infrastructure (distance to nearest town, roads, transport, power supply, irrigation);
- networks of formal and informal associations (cooperatives, producers' associations, rotating savings and credit associations (ROSCAs), women's groups, village councils);
- informal and formal sources of credit (banks, cooperatives) and interest rates; and
- salient features of microfinance initiatives (when was the first microfinance scheme launched?, what is its coverage?, range of services provided?).

II. Methodology

Survey instrument and related issues

Following Narayan (2005, p. 4), empowerment is defined as “increasing poor people’s freedom of choice and action to shape their own lives”. The focus, therefore, is on the opportunity structure and agency of poor people.

It is argued here that the potential of surveys – of householders and other stakeholders – to assess some easily quantifiable indicators through structured questionnaires is considerable, and often not emphasized sufficiently in impact assessment methodologies. A few illustrations suffice. Given a broad characterization of target groups (landless households, smallholders, women belonging to low-caste households such as scheduled castes or tribes (SC/ST) in India), the proportions participating in a microfinance scheme could be calculated from a carefully conducted household survey. Thus questions of targeting by ethnicity, location and gender, and those relating to quantifiable benefits in terms of diversification of livelihoods, income gains, improvement in nutritional status and acquisition of assets, can be addressed satisfactorily through this instrument. Moreover, contrary to a common assumption, even the reasons underlying exclusion of some groups – lack of awareness among potential beneficiaries, elaborate and time-consuming procedures, social resistance – can be identified through a carefully designed set of questions.

Household surveys do, however, have some limitations in capturing “dynamics, processes and relations” (Bardhan, 1989). Given IFAD’s focus on empowering the poorest people and women, in which they are viewed not as recipients of assistance but as agents of change, conventional household surveys must be supplemented by ethnographic/participatory methods to obtain deeper and richer insights into the dynamic processes of change. A specific merit of such methods is their ability to capture “tell-tale straws in the wind in fluid transitional situations: changes that are still marginal and statistically insignificant but in the larger dynamic context serve, to the perceptive observer, as significant pointers towards substantial changes on the horizon” (Bardhan, 1989, p. 6).

In the context of the Mewat Area Development Project in India, there are two striking illustrations (Gaiha, 2001). One relates to overcoming male resistance to self-help groups (SHGs) and another to dynamic group network externalities (i.e. successful groups inducing the formation of other SHGs in the same or neighbouring villages over time). A more detailed analysis is presented in Gaiha and Nandhi (2005). Although a few insights were obtained through a household survey, these were somewhat sketchy. It was only through a more focused participatory approach that deeper insights into the constraints and time lags involved in these externalities were obtained. Other potential merits relate to flexibility in reshaping investigative strategy midstream and in probing an unanticipated or new phenomenon in depth (Bardhan, 1989). Thus the complementarities between these two approaches/procedures are substantial.³

Integration of these two approaches is, however, far from straightforward. Briefly, the difficulties stem from the minuscule and fragmentary coverage of ethnographic/participatory studies, differences in conceptual categories and their focus on largely qualitative indicators.⁴ First, as a general observation, it is noted that this is not viewed as an 'either or choice'.⁵ Both must be used judiciously to complement one another. Although there is no consensus on which should be used first or whether they should be used simultaneously – especially because there is a two-way complementarity between them – it is arguable that the ethnographic/participatory methods should largely be confined to the more qualitative, dynamic processes of change.

Second, as participatory assessments are typically confined to a few villages, and often do not conform to a properly specified sample design, generalizations from their findings or their integration with those based on household surveys are problematic. Two specific suggestions may help resolve this difficulty. One is purposive selection of villages with a random selection of households (Walker and Ryan, 1990). Another is selection of villages from specific clusters of villages in terms of a contextually appropriate characteristic.

On the issue of differences in conceptual categories, two observations may be helpful. One is that, while context matters, there may be broad agreement on some conceptual categories. Consider, for example, women's empowerment. If it overlaps with women's autonomy – for example, the ability to influence decisions related to household allocation of resources and other manifestations linked to participation in community life – a few specific indicators could be identified. In two reviews of microfinance in Maharashtra, for example, there were unmistakable signs of women's empowerment associated with their moderate but sustained economic betterment (Gaiha, 2000; Gaiha and Nandhi, 2005). This was reflected in ownership and/or management of newly acquired assets, disposition of income earned, active participation in the meetings of SHGs and other local institutions, including vocal demands for enlarging the quota for women in village *panchayats* (elected village councils). A core set of indicators could be devised without much difficulty, with a few contextual ones added, to capture the dynamics of empowerment.

A third concern in combining household surveys with participatory assessments is the integration of quantifiable indicators of well-being with qualitative ones. If well-being is viewed as a multidimensional concept, it is not unlikely that income and other quantifiable indicators of it change in one direction, while other, more qualitative indicators such as female autonomy remain unchanged. So the two procedures may point to some divergence in outcomes, but not necessarily to conflicting assessments if different dimensions of well-being are involved. The evidence used may seem conflicting in a view of relational traits of social processes that overlooks, for example, the pervasiveness of some social and family norms of behaviour (for example, men's resistance to the

- 3 There are cases in which many alternative causal paths may lead to the same outcome, and participatory/qualitative approaches may be better equipped to handle them (Bardhan and Ray, 2006). Note that not all qualitative methods are participatory, nor all participatory approaches qualitative.
- 4 In addition, some difficulties may be common to both. One is that under certain conditions household responses may be strategic, designed to extract larger gains from a given scheme. Equally, some impoverished groups may handle cognitive dissonance by adjusting their beliefs to their circumstances and internalizing their constraints (Bardhan, 1989).
- 5 There are, of course, important methodological and epistemological dichotomies that hinder the combining of these two approaches. They relate to autonomy versus embeddedness of individuals, outcomes versus processes and parsimony versus complexity. For an elaboration of these dichotomies in the context of common pool resources, see Bardhan and Ray (2006).

involvement of Meo women in outside activities in the Mewat Area Development Project in India). Finally, as noted in Gaiha (2002) and Gaiha and Nandhi (2005), aggregation of different dimensions is problematic, but not completely ruled out, because a few simple but useful procedures exist (for example, Borda rank scores).⁶

An emerging concern is assessment of impact in terms of the first Millennium Development Goal of halving the head-count ratio of the poorest people by 2015. This raises the question of whether the assessment should be based on local, national or dollar-a-day cut-off points. Comparability across countries favours the use of a uniform cut-off point such as a dollar a day. But a range of poverty cut-off points – including both local and internationally comparable ones – would be even better, given the imprecision of income estimates (Gaiha and Nandhi, 2005). Additionally, other supplementary criteria could be used (land ownership, literacy level, occupation, ethnic/caste affiliation, housing) and/or rapid rural appraisal (RRA) through wealth ranking, subject to budget and time constraints. For an innovative application along these lines, see Lanjouw and Stern (1991).

The focus may be on the dynamics of the empowerment of groups, rather than individuals. In the former case, inferences could be drawn from independent cross-sections. Whether agricultural labourers have benefited from microcredit or whether women have gained from self-help groups, for example, could be ascertained from such data. For various purposes, it may be unnecessary to go beyond such groups. However, if there is heterogeneity within groups and the outcomes vary depending on an individual's circumstances and motivation, there is a case for focusing more on individuals. In that case, panel data would be required. As discussed elsewhere, panel data could be constructed or obtained in different ways, depending on time and budgetary constraints and the degree of precision required (Gaiha, 2003).

Sample design

The steps involved, drawn from recent reviews, are listed below. The sample design may have to be adapted to suit different contexts, and thus the procedural details given below are essentially illustrative.

First, a cluster of villages in which an IFAD project is proposed must be identified. A small sample (from five to eight) may be chosen from this cluster. Ideally, at least one of these villages must have a sizable proportion of a deprived or socially excluded community (such as the SC/ST households in India). A purposive selection of villages may be worthwhile for two reasons. One is that IFAD projects are often confined to a small cluster of villages. Given this constraint, the focus on socially excluded and/or persistently poor people requires that they are well represented in the sample.⁷ The next

6 Consider an alternative procedure followed in Gaiha and Nandhi (2005). Separate and aggregate indices, with elaboration of key elements of empowerment, could be constructed from the responses of households and other stakeholders. With checks for consistency, some useful insights are likely. This is not to overlook or oversimplify the aggregation issue, but to emphasize that even partial and incomplete orderings are illuminating. As emphatically observed by Sen (2002, p. 96), "... demanding too much precision in such comparisons, overlooking the fact that even partial comparisons can serve to enlighten the reasoned basis of welfare economics, social ethics, and responsible politics," may result in the loss of useful information.

7 As emphasized by Sen (2000), social exclusion has both constitutive and instrumental dimensions. Socially excluded groups are deprived because they are excluded from the mainstream of community life (e.g. village festivals), but also because affiliation with a low-caste/tribal group often acts as a barrier to accessing credit, education and health facilities. Thus a vicious circle of poverty is perpetuated.

step is the selection of households. Even if the time and cost considerations do not permit a large sample, a small, stratified random sample of households would be worthwhile.⁸ Inferences about type 1 (exclusion of poor people) and type 2 errors (inclusion of non-poor people) would then have some validity.⁹

Alternatively, in a small sample, a mix of participants and non-participants could be chosen and the latter identified correctly to overcome the attribution problem (or to ensure that empowerment is not a result of factors other than project intervention). The control group comprises a comparator group of individuals that did not participate in the project, but possess characteristics similar to those of the participants – in the present context, it could be poor women that failed to participate in a self-help group.¹⁰ Defining the control group correctly may help assess what would have happened in the absence of the intervention.

Briefly, three issues arise: coverage of the intervention, integrity of the control, and contemporaneous events (Ezemenari, Rudqvist and Subbarao, 2000). If project coverage is extensive, there may be little scope for a control group, because groups may become contaminated or disappear altogether over time. If, for example, some members of a control group begin participating in the project in subsequent years or migrate to another village, this will compromise the integrity of the control. Finally, in determining project impact, the contribution of contemporaneous events must be assessed carefully (Duflo and Kremer, 2005; Ravallion, 2005; Deaton, 2005). If there is another intervention in the same villages that impinges on women's employment and economic betterment, such as rural public works, this must be accounted for in assessing the impact of the IFAD project in question.

There are various methods for identifying the control group. One is matching – in which a group is identified that possesses all the characteristics of the participants except that of participation.¹¹ With a view to ensuring that all members of the control group are highly poverty prone, the criteria employed determine whether they belong

8 Note that a small sampling fraction is not necessarily a disadvantage, as the efficiency of a sample scheme depends on a combination of the sample size and population variance – for example, in the case of a simple random sample, $V(\bar{y}) = \sigma^2/\eta$, where σ is the population standard deviation, \bar{y} the sample mean and η the sample size. As is evident, this expression does not involve the population size. In an extreme case where $\sigma = 0$, a sample size of $\eta = 1$ would give complete information about the population. This implies that if one can stratify the population (or draw a multistage sample), so that each stratum (or each last stage sample) is nearly homogeneous, then a small sample, even of size 1 or 2 from each stratum (or each last stage sample), should be sufficient (Rudra, 1989). Moreover, as argued persuasively by Bardhan (1989), when the focus of a study is on "dynamics, processes and relations", a small sample may yield richer insights, given the time and budgetary constraints.

9 Given the sample size, whether a large number of villages and a small number of respondents in each village are chosen, or, alternatively, a small number of villages and a large number of respondents from each, depends on inter-village and intra-village variation. The latter was preferred in the reviews that one author has conducted on the grounds that inter-village variation was large. This may, of course, vary with the context. For an interesting exchange on this issue, see Harriss (1989) and Rudra (1989).

10 The participants are sometimes referred to collectively as "the treatment group".

11 Several different methods exist for establishing controls. These include randomized, constructed, statistical, reflexive, generic and shadow controls. Briefly, in a randomized control, individuals are placed randomly into two groups – those that participated and those that did not; in a constructed control (the method used in IFAD reviews, e.g. Gaiha and Nandhi, 2005), a matching of non-participants with participants in terms of the characteristics of the latter is carried out; in a statistical control, participants and non-participants are compared after controlling statistically for other characteristics that differ between them; reflexive controls involve before and after comparison of outcomes for participants; generic controls involve comparison of outcomes with typical norms for participants; and shadow controls involve the judgment of experts, project administrators and/or participants about outcomes. For a clear exposition, see Ezemenari, Rudqvist and Subbarao (2000).

to either an agricultural labour household and/or the SC/ST category without assets (mainly land). These characteristics would, of course, differ contextually. No hard and fast rule can be given for the size of the control group.¹² Given the small sample size, one fifth to one third of the total participant sample size was found to be adequate (Gaiha and Nandhi, 2005).

Indicators

There is no dearth of studies that examine targeting accuracy in microfinance programmes, reduction in the transaction costs of borrowing by and lending to SHGs, microenterprise development and capacity-building in SHGs. Rather than providing a checklist of impact indicators, an attempt has been made to identify a few key indicators that impinge on aspects of social capital, empowerment of the poorest people (including women and indigenous peoples) and self-insurance. The indicators used are familiar and easy to construct, and little will be gained by repeating them here (Hulme and Mosley, 1996; Seibel and Dave, 2002). More importantly, our objective is to address some concerns that have assumed greater importance in IFAD's poverty-reduction strategy for the Asia and the Pacific region in recent years. As there are few detailed empirical reviews, an attempt is made to propose a selective list of indicators that could be adapted, refined and extended through systematic application. Many of the indicators proposed were used in Gaiha and Nandhi (2005).

Social capital

A major concern of recent microfinance literature is the cost of forming and sustaining SHGs (for example, Sinha, 1998). Often their formation is rapid, but the interface with a bank takes longer. Many SHGs disappear in the absence of NGO support. Why formation takes longer in some cases and durability of SHGs differs calls for a deeper understanding of the relationship between aspects of social capital and the channelling of credit through SHGs (Gaiha and Nandhi, 2005). Two forms of social capital may be distinguished: one is associational and the other normative or cognitive.

Associational capital manifests itself in the pervasiveness and density of informal and formal associations and networks (women's associations, producers' groups, cooperatives, village councils). Data not only on the number but on how they function would lead to a clearer understanding of their vital role. Whether their composition is homogeneous or differentiated by caste/religion/occupation/gender, for example, would be indicative of their pervasiveness. Frequency, nature of interaction among members and their specific concerns would throw light on their density and functioning.¹³

The normative aspects – specifically trust, reciprocity and, more broadly, a sense of affinity with the community – are undoubtedly harder to capture empirically.¹⁴ However, that should not rule out their ordinal measurement. In fact, some recent work points to interesting possibilities. See, for example, the rich collection of papers

12 The concern here is not so much what fraction of the poor participated, but the reasons for their exclusion.

13 In an innovative contribution, De Weerd (2005) experiments with different measures of household links, based on a dyadic approach. These measures help assess the 'degree of connection' or the 'strength of insurance link' between a pair of households/individuals. For details, see Annex A.

14 Using experimental data, Karlan (2005) shows that trustworthiness is an important component in determining the success of a group lending programme. Although the analysis stops short of confirming whether trustworthiness can be created, it does suggest that, if harnessed, lenders can help overcome failures of the poor in financial markets.

in Dasgupta and Serageldin (2000), Dasgupta (2001), Karlan (2005) and De Weerd (2005). The approach followed in Gaiha and Nandhi (2005) is not as ambitious but easy to replicate, as it relies largely on the responses of participants and non-participants in the SHG/bank linkage programme in Maharashtra. Given that the indicators are unavoidably 'fuzzy', a useful strategy would be to ensure consistent and meaningful responses by insisting on illustrative examples or by asking questions on related indicators. Ordinal responses would be appropriate, with two or three categories. A selective list of indicators is given in Annex B.

Empowerment

As noted earlier, the process of empowerment is initiated by moderate but sustained economic betterment. Given the poverty status of a female participant, the first issue is whether her access to loans from an SHG has resulted in a steady increase in income over time. The attribution of income to loans requires investigation of sources of income, assets(s) financed by loans, returns and their variability. To obtain insights into the process of empowerment, the second issue is whether the nature of decision-making in the domestic sphere has undergone a significant change.

Two aspects are particularly important. One is the selection of the asset – whether it was decided by a woman borrower or jointly or by her spouse or other male relatives. This is not as easy to ascertain as it may appear – women's responses may be tactful or culturally conditioned. In addition, interviews are rarely conducted without the male spouse being present, which perhaps makes it harder to receive frank responses.¹⁵ Cross-validation of changes in the household sphere poses its own difficult problems, as will be discussed in more detail. Other related issues are loan repayment obligations and whether defaults result in violence against women.¹⁶

Empowerment may also manifest itself in greater control over household resources – particularly over incomes accruing from assets acquired through loans. This may imply changes in household patterns of expenditure – for example, higher shares devoted to children's needs.¹⁷ There may be manifestations of empowerment in the broader social sphere as well. These include campaigns against social ills such as alcoholism, more active participation in local institutions (for example, village *panchayats* in India, rangeland management and monitoring committees in Mongolia and village development boards in Viet Nam), and political activism.

15 In a stimulating contribution, Kabeer (2001, p. 82) questions the view that joint decision-making is usually a tactful response to avoid offending the husband or the male household head. Many of the respondents in her sample were emphatic that "it was the ability to participate in making decisions about how loans were used and how the income from loans was to be used that mattered; the ability was valued whether exercised jointly or individually". However, the point about men's presence takes precedence. If female respondents are not free to express their views, it is difficult to assess what they value. For a sample of illustrative evidence, see Gaiha and Nandhi (2005).

16 Based on a detailed survey in the Tangail region of Bangladesh in 1994-95 and 1997, Rahman (1998) demonstrates that the regular repayment schedules of Grameen Bank loans are maintained through a process of loan recycling that considerably increases the debt liability on individual households and the tensions and frustrations among household members, producing a new form of dominance over women and increased violence in society. For a contrary view, see Gaiha and Nandhi (2005): of particular importance are two findings: (i) small amounts of loans are used for repayment of earlier debt obligations; and (ii) there is a reduction in domestic violence.

17 A larger contribution to household income from outside sources by women members brings them greater autonomy. But it also involves greater responsibility and longer hours of work. For some recent evidence, see Gaiha and Nandhi (2005).

A phenomenon of considerable interest in this context is dynamic group network externalities, which could take at least two distinct forms. One is formation of SHGs over time in the same or a neighbouring village, induced by the success of an earlier SHG. The other is that not only members of SHGs, but other women, as well, acquire the self-confidence to participate more vigorously in local institutions and in social and political campaigns.¹⁸ The Agricultural Diversification and Intensification Project in Bangladesh, for example, cites significant improvement in the strategic position of women: 90 per cent participate in decision-making and financial management at the household level, compared to just over one third of the women participating prior to the project (Liamzon, 2005).

In the Arhangai and Huvsgul Rural Poverty Alleviation Project in Mongolia – involving livestock production and distribution as a major component – women who participated in management of herds and processing of milk products gained increased awareness of their self-worth and a sense of accomplishment. The transmission mechanisms and lags may differ contextually, depending on, for example, men's attitudes, associational capital and caste/ethnic affiliation (Gaiha and Nandhi, 2005). Investigation of these factors requires data from households and others (NGOs, bank officials, members of village bodies).

While these processes are of sufficient importance in themselves, the constraints arising from the following conditions require careful probing:

- lack of awareness, precluding participation in SHGs;
- social barriers that tend to exclude some groups (for example SCs/STs in India, indigenous peoples in the Philippines);
- biases of implementing agency staff (such as bank officials) against women in general;
- illiteracy and inappropriate training; and
- likely overburdening of women as a result of additional responsibilities in managing income-enhancing assets.¹⁹

In addition to participating SHG members, members of the control group may throw valuable light on these constraints.

Risks, vulnerability and self-insurance

Vulnerability to a wide range of idiosyncratic and covariate shocks is particularly important – as are the welfare implications. A recent analysis, for example, shows that while 20 per cent of the people in Indonesia are poor, 30-50 per cent are vulnerable to poverty. There are also significant differences in vulnerability according to gender, level of education, urban/rural area, landholding status and occupation of the household head (Pritchett, Suryahadi and Sumarto, 2001).

The Pacific Islands are particularly vulnerable to climate change and accelerated sea-level rise because of a high ratio of shoreline to land area. Their vulnerabilities are exacerbated by a narrow economic base focused on primary production, limited ecological

18 In an important contribution, Duflo (2005, p. 10) cautions against uncritical reliance on manifestations of such dynamic externalities. She refers to the 'reflection problem': "outcomes of neighbours may be correlated because they face common (unobserved) shocks, rather than because they imitate each other". It is not self-evident, however, that this difficulty could be overcome only through a randomized experiment.

19 This concern is documented in Leach and Sitaram (2002), and Gaiha and Nandhi (2005).

carrying capacity and rapid rural/urban migration to centres situated on the coastal margin (Barnett, 2001). In China, speed of recovery from a transitory shock was lower for those with lower initial income. Although poor people eventually bounce back from short-lived shocks, their adjustment process is slower than that of the non-poor (Jalan and Ravallion, 2001). Another study of households in the semi-arid tract of south India, based on a panel survey by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), confirms that severe crop shocks in three consecutive years resulted in a higher proportion of 'always poor' and a sharply reduced proportion of 'never poor' (Gaiha and Imai, 2004).

In the context of microfinance, therefore, it is worthwhile to assess: (i) its role in income diversification, stabilization and consumption smoothing, and whether it promotes self-insurance through savings mobilization; and (ii) as noted earlier, whether greater bonding and reciprocity among members of SHGs imparts greater resilience to the community against both idiosyncratic and covariant risks.

As shown in Annex B, risks can be classified by level (micro, meso and macro) and by nature of event (natural/environmental, health, social, economic and political) (Table B.4). Note that this classification is not a rigid one; in terms of both causation and outcomes, there may be considerable overlap (for example, ethnic conflicts may be driven by economic factors such as control over natural resources). Nor should the level of risk be interpreted rigidly, as some events such as epidemics and riots spread rapidly from a group of villages to a much larger region. Moreover, identification of shocks is far from straightforward. Many exogenous events may have similar effects on household incomes: political instability, macroeconomic crises, social upheavals and ethnic conflicts.

This typology could be extended by taking into account the frequency and severity of shocks by level and type or source. This extension is an important one, as both greater frequency and severity of shocks make it harder for those affected to overcome poverty.

Responses to risks are classified as: (i) risk reducing, (ii) risk mitigating and (iii) risk coping, as shown in Annex B (Table B.5). Briefly, risk-reducing measures reduce the probability of a shock or negative fluctuation in income/output. Risk-mitigating measures aim to reduce the impact of a shock through anticipatory measures. Coping measures focus on responses at different levels to minimize the severity of a shock after it occurs. As in the earlier typology, this classification must be used with some caution because of overlapping categories. For example, income diversification at the household level could be interpreted as both a risk-reducing and risk-mitigating measure. Similarly, workfare could be viewed as both risk mitigating and risk coping.

Some overlap between sources of provision must also be borne in mind. A case in point is microfinance. The initiative could come from a public/external development agency, and microfinance institutions could then develop, over a period of time, to provide the package of services within a broad regulatory framework. Finally, nothing is implied about the workability and/or effectiveness of these measures, as they are context-specific. Whether smallholders sell bullocks when a crop fails, or borrow more frequently or simply participate more in public-works programmes depends largely on the context. For example, a recent study based on ICRISAT panel data for the semi-arid tract in south India confirms that sample households coped with severe production shocks by working longer hours in a public employment scheme, instead of borrowing or liquidating their assets (Kochar, 1999).

A related issue is that, while some responses at different levels may be mutually reinforcing (for example, income diversification, microfinance and agricultural research and extension), some may undermine the role of others (social security may adversely affect precautionary savings, social assistance may erode informal networks of support, workfare may discourage job search and income diversification). For a more detailed exposition, see Gaiha and Thapa (2006). Some specific issues are: are credit and insurance substitutes? Do covariate shocks substantially reduce the potential of self-insurance through the liquidation of assets (when asset prices fall in a drought, both farm and non-farm incomes are also badly hit)? Does risk in the absence of insurance induce households to invest in activities/assets of low profitability and thus perpetuate their poverty? Are mandatory savings an instrument for obtaining credit or motivated by precautionary reasons? For an admirably clear and comprehensive survey of empirical evidence, see Dercon (2005).

Some of the indicators proposed in this paper address one of the six impact domains of IFAD's *Methodological Framework for Evaluation*, i.e. social capital and people's empowerment (IFAD, 2003). Key questions relating to impacts in this area include: Did gender equity or women's conditions change? Do rural people feel empowered vis-à-vis local and national public authorities and development partners? Do they play a more effective role in decision-making? Are there other manifestations of changes in social capital (for instance, a more equitable access to assets)? Similarly, IFAD's Results and Impact Management System (IFAD, 2004) has two activity clusters for impact monitoring (rural financial services and institutional development) that conform to some of the indicators proposed. In addition, the indicators included in the system framework – such as number of active savers, value of savings mobilized, number of active borrowers, number of groups with women leaders – could be elaborated/extended in the context of impact assessment along the lines emphasized here.

Questionnaire design and related issues

As may be noted in Annex B (Tables B.1 and B.2), some indicators require quantitative data while others involve mostly qualitative data. This raises a question as to whether interviews would be unstructured or structured or a mix of the two. Collection of quantitative data is usually associated with structured interviews and a precise sequence of questions. The same set of questions is administered to all respondents and they are generally closed or 'fixed alternative', i.e. the responses are specific alternatives (based on Ezemari, Rudqvist and Subbarao, 2000). At the other extreme are unstructured interviews that use open-ended questions and a flexible design.

But there may be differences in the degree of open-endedness and flexibility.²⁰ As indicated in Annex B, structured interviews could be combined with a component of

20 Three approaches may be distinguished. One is an informal, conversational interview in a completely interactive mode. Its advantage is a high degree of flexibility and sensitiveness to the specific circumstances of the respondent. A limitation, however, is that it may yield less systematic data, which may be harder to analyse or interpret. A second approach is the interview guide, in which a set of issues/questions is identified beforehand and guidelines specify a broad framework within which some issues are to be probed in greater depth. The mode is conversational and situational. Thus more systematic data are obtained. However, to the extent that the guidelines restrict flexibility and interactive probing, some issues may not be addressed at all, simply because they were not anticipated. The third is the standardized open-ended interview, in which the same set of questions worded carefully is administered to all respondents in a specific sequence. While ensuring comparability of responses, this approach also does not allow flexibility in pursuing issues that were not anticipated. For a more detailed exposition, see Ezemari, Rudqvist and Subbarao (2000).

open-ended and interactive questions. There are closed questions designed to elicit quantitative data (household income, assets, loans, returns, interest rates). These are supplemented by others that identify specific issues relating to empowerment, which may require on-the-spot improvisation in framing questions and some degree of flexibility in pursuing related issues in an interactive mode (questions relating to women's autonomy in acquiring assets, acts of reciprocity, financial discipline, autonomy in household decision-making, nature and frequency of domestic violence, burden of domestic responsibility) (Gaiha and Nandhi, 2005).

Whether qualitative data collection should precede or follow quantitative data collection or whether the two can be carried out simultaneously has been debated extensively (for example, Kanbur, 2001). More specifically, an unstructured interview could lead to better understanding of the concerns of respondents and result later in a more focused and structured interview. Alternatively, through a structured interview, quantitative data could be collected on some variables of interest, and causality could be investigated through a flexible and interactive questionnaire. So, in either case, quantitative and qualitative data could be combined for a deeper understanding of, for example, the dynamics of empowerment.

Any generalization asserting the superiority of one approach over the other is risky. In recent IFAD reviews in which we have been involved, simultaneous collection of quantitative and qualitative data was feasible and useful for two reasons. One is that an analytical framework was formulated in consultation with IFAD staff and its validation carried out through the reviews. The other is that, before finalizing the questionnaires, we undertook short field visits and, in light of what was observed, both the analytical framework and the questionnaires were substantially modified. Thus, in a way, the fieldwork involved two stages, and the experience gained in the first stage helped formulate specific hypotheses and relevant questions with greater confidence and clarity in the second.

For the review of the Mewat Area Development Project, for instance, extensive discussions were held with IFAD staff, prior to designing the study, on the project components to be included. Some of the components had to be dropped after field visits and discussions with Mewat Development Agency officials, but, perhaps more importantly, a few glaring omissions came to light (one example was lack of community involvement in watershed development). As a result, the revised questionnaires had a sharper focus and helped collect rich, qualitative data on the lack of community involvement.

Similarly, during some preliminary fieldwork in India, one member of the team could not help comparing the SHGs in a few Mewat villages to those in the Pune district in Maharashtra. The former took longer to form, and their members appeared less assertive and less involved in larger community issues such as village hygiene. Apart from illiteracy, what continued to affect their functioning was male resistance, not just within the household but also outside. The qualitative component of the questionnaire was accordingly adapted for a more detailed investigation along these lines. Under these conditions, therefore, simultaneous collection of quantitative and qualitative data was desirable. If the interviewers are sufficiently skilled and well-acquainted with the objectives of the study, this would be a cost-effective option as well.

Although there is usually an overlap between qualitative and participatory approaches, it should be noted that not all qualitative methods are participatory, nor

all participatory approaches qualitative. The latter, for example, may also be combined with quantitative methods (Ezemenari, Rudqvist and Subbarao, 2000). A feature of participatory approaches is that they involve all stakeholders in determining the objectives of impact assessment, in monitoring the progress of the project and in designing corrections.²¹ Their perceptions of what constitutes empowerment and the underlying dynamics may thus have an important role in designing impact assessment and its validation through feedback.

A few caveats must not be overlooked, however. One is that individuals are better able to evaluate small changes in their well-being directly related to their current status (Bliss, 1993). A second is that, even if they are able to assess larger changes, they may be reluctant to express their views publicly – especially if they belong to groups that have remained socially excluded for long periods.²² This is particularly so in the context of male/female equations within a household. Prevailing norms may discourage women from speaking negatively about their husbands or from asserting greater independence or autonomy in household decision-making.²³

A third difficulty is reconciling perceptions of different stakeholders – participants and non-participants, NGOs, representatives of local bodies and implementing agencies. It is, of course, debatable whether definitive inferences can be drawn about changes in the status of women within the domestic sphere, but cross-validation of changes in their social status may not be so difficult (Gaiha, 2002; Gaiha and Nandhi, 2005). While some of these difficulties are common to both participatory and standard household surveys, the distortions may be smaller in the former, as they involve better rapport and greater trust between investigator and respondent.

Methods

As an exhaustive discussion of statistical and econometric methods would take us far afield, a brief and selective exposition of the methods used in recent IFAD reviews is given. In general, the methods/techniques used depend on the sample design and on the nature and quality of the data collected (for an excellent exposition, see Deaton, 1997). Some descriptive statistics (such as the mean, median, range and coefficient of variation) are unavoidable in assessing the targeting accuracy of an intervention. Determining whether various demographic and other household characteristics (such as caste affiliation or educational attainments) differ between participants and non-participants in an IFAD intervention may require the testing of specific hypotheses through non-parametric tests (such as the χ^2 test).

The attribution of income gains to participation in a microfinance scheme – with controls for human and physical capital, age, gender, caste and village characteristics – would, of course, require the use of more rigorous and sophisticated econometric techniques. Specifically, in the context of SHGs, a two-step procedure would be

21 See, for example, the studies by Berg (2000), Quizon and Polestico (2001) and IFAD (2000). For a review of participatory impact assessment methodologies used in recent Asia and the Pacific project case studies, see Saigal (2002) and the comments in Gaiha (2002).

22 On the other hand, under certain conditions the responses may be strategic, designed to extract larger gains from a given scheme (Bardhan, 1989).

23 Impoverished groups often tend to handle cognitive dissonance by adjusting their beliefs to their circumstances and internalizing their constraints (Bardhan, 1989).

appropriate (the Heckman selection model or its variants). First, with the help of a probit (in which the dependent variable takes the value 1 for a participant and 0 for a non-participant), the probability of participation is computed. In the next step, an earnings/savings function is estimated for the sub-sample of participants, controlling for various household characteristics of participating households. Extensions of this procedure include assessment of the effect of membership in SHGs on various indices of empowerment.

While this may appear much too complicated, it is worth emphasizing that we first need a clearer understanding of the factors that induce participation of specific groups of households (for example, better informed and wealthier households). Only after the determinants of participation have been identified is it feasible to assess the income/savings/empowerment resulting from membership in an SHG. It is seldom done, but it is unavoidable in a credible and meaningful impact assessment (for applications, see Gaiha and Nandhi, 2005).

Periodicity of reviews and related issues

If a baseline/preintervention survey exists and the records of households, individuals and other stakeholders interviewed (such as members of village councils, bank officials, NGOs, etc.) are preserved, it would be worth interviewing the same or a subset of these respondents a few years later. In order to synchronize impact assessment with the project cycle, an intermediate assessment could be carried out three to four years after the beginning of a project. Considering that a project span is seven to eight years, this would allow mid-course corrections.

A follow-up might be a post-completion assessment that serves as the basis of lessons for other interventions. But there are some prerequisites for the workability of this proposal.

If the baseline survey uses different conceptual categories or has a focus on the needs of the target groups and their empowerment that does not blend easily with that the one proposed here, the more expensive version of a panel survey with a new baseline and a later resurvey would perhaps be unavoidable.

Another important consideration is that an attrition rate of 10-15 per cent of the original sample over time could impair its representativeness – especially if it is a small sample. Options would be to choose a slightly larger sample or to replace the ‘missing’ households with similar ones. The latter is frequently done in panel surveys (as in the ICRISAT village studies).

A third prerequisite is the integrity of controls: whether contemporaneous events (such as another intervention that has a similar outcome) weaken the contrast between participating and non-participating households – or, for that matter, between participating and non-participating villages. In that case, and if feasible, statistical controls would be necessary.

A fourth is the use of local researchers/investigators, who are familiar with local languages/dialects, institutions, the village economy and social stratification. This is a critical requirement, as the use of ‘outsiders’ is not likely to be cost-effective.

Selection of beneficiaries and non-beneficiaries from the target group is far from straightforward, given data limitations. If multiple criteria of poverty are considered in identifying the target group, an independent wealth-ranking exercise may be prohibitively expensive in terms of time and effort. The census data, on the other hand,

may not be sufficiently detailed or simply outdated, depending on the timing of the survey. Thus a cost-effective option would be to exploit repositories of local knowledge (*panchayat* members, school teachers, NGOs) in identifying a provisional list of households that fulfil key criteria (including low-caste affiliation, landlessness, illiteracy, widowhood). For the review of the Maharashtra Rural Credit Project, there was a team of local researchers and investigators. As a result, the fieldwork was quick and efficient. The Mewat review, in contrast, was slow and far more expensive, as we were forced to rely on a few 'outsiders' (Gaiha, 2001). Moreover, interviews and interpretation of responses require considerable familiarity with the local milieu.²⁴

Finally, if there is a misappropriation or diversion of resources – either as a result of political pressures or due to a nexus between officials and politicians or some other form of collusion – its investigation can be a tedious and frustrating experience in the absence of access to local networks of information (Gaiha, 2002b). In Mewat, for example, a novel wasteland management scheme for a predominantly Meo village was diverted to a predominantly Jat village through the influence of a Jat member of the Legislative Assembly. So there are few options other than those of nurturing access to local networks and skilful piecing together of bits of information or follow-up of “tell-tale straws in the wind” to understand the nature and extent of misappropriation.

24 In a well-argued piece, Harriss (1989) gives striking illustrations of the usefulness of local knowledge in establishing basic facts about an agrarian economy, drawing upon his extensive fieldwork in North Arcot (in the State of Tamil Nadu, India). One illustration will suffice. Wages at harvest time may be paid in the form of bunches of paddy on the stalk or a number of local volumetric measures (the local measure varies in different villages). An additional complication is standardization of wages in terms of litres in recent years. Lack of familiarity with these variations can result in substantial errors of measurement. The implication is that collection of even quantitative data requires considerable familiarity with local units or procedures of measurement.

III. Cross-validation or triangulation

A standard practice in household surveys is to build in consistency checks. However, this may not work well in the context of the dynamics of empowerment and the underlying processes and relations, because the conceptual categories and related variables may not be precise and may contain subjective elements. Thus the need for cross-validation is greater and the task much more challenging. This is not to suggest that systematic and rigorous cross-validation is ruled out, but to suggest that little would be gained by following simplistic approaches.

Various procedures involving data, investigator, method and theory triangulations are recommended (for a clear exposition, see Ezemenari, Rudqvist and Subarao, 2000). Data triangulation involves validation through a variety of sources of data. In the context of the proposed methodology, it would involve interviewing participants and non-participants in a microfinance intervention and representatives of NGOs, village development councils, *panchayats* and official implementing agencies (including bank officials) (see, for example, Gaiha and Nandhi, 2005). Investigator triangulation would involve cross-checking through the use of different investigators. Sub-samples of households, for example, may be interviewed by different investigators. Method triangulation consists of using various methods, such as interviews, observations, questionnaires, case studies and other secondary sources.²⁵ Theory triangulation requires interpretation of a single data set from different perspectives. Their usefulness, of course, varies contextually. Some elaboration in the light of earlier reviews may be helpful.²⁶

In IFAD reviews, we have relied on data triangulation for assessing empowerment of women in the social sphere through SHGs. Probing questions were put not only to household members of participants, but also to NGOs, *panchayat* members, bank officials, other officials involved in rural development and a few knowledgeable community members such as school teachers (Gaiha and Nandhi, 2005). While all of them are repositories of local knowledge, extraction of information or frank responses was far from straightforward. There were inconsistent or superficial responses or self-serving rhetoric that rendered cross-validation difficult.²⁷ However, access to local networks through field staff and the 'leads' provided made the task easier.

25 Different analytical methods are used as well. For the use of a combination of methods and data sources, see Gaiha and Nandhi (2005).

26 We refer here to reviews of the Maharashtra Rural Credit Project and the Mewat Area Development Project in Haryana (Gaiha, 2000, 2001; Gaiha and Nandhi, 2005).

27 During the course of the fieldwork in Mewat, it was quite frustrating to engage *panchayat* members in a serious dialogue because of infighting and rampant factionalism. Not infrequently, the views were contradictory and designed to mislead. The experience in Pune district, however, was different, as the *panchayats* were more active and closely involved in rural development activities.

Another option would be to arrange an informal exchange of views among stakeholders. While it would be naive to expect startling revelations – NGOs, for example, would be loath to contradict officials, and the latter would generally be reluctant to make controversial statements – a few interesting leads and/or some corroborative evidence cannot be ruled out. As far as changes in the male/female equation within a household are concerned, outsiders are obviously at a disadvantage. As noted earlier, women may typically be reluctant to reveal much, either because of cultural conditioning or fear of physical violence. An option is to interview small groups of women at a time, as group interaction may be conducive to more revealing responses.²⁸

We have not experimented with investigator triangulation, apart from one instance in which a small subset of stakeholders was interviewed both before and after fieldwork by the team of investigators. Clearly there is much potential in this form of cross-validation (see, for example, Isham, Narayan and Pritchett, 1995).

Another form of cross-validation with which we have experimented is method triangulation – especially in the Mewat and microfinance reviews (Gaiha, 2001; Gaiha and Nandhi, 2005). There was a wealth of material on the Meos – their origin, the pattern and evolution of their economic activities, status of women, and cultural and other beliefs – as well as reviews of specific components of the project that were useful in cross-checking some findings of the fieldwork and interpreting them.

Theory triangulation has potential as well, but in some cases it may not be conclusive. Consider, for example, the Beckerian and bargaining models of household decision-making. In either case, independent/outside income sources for women are associated with greater autonomy and a more equitable allocation of resources by gender within the household. In the Beckerian model, these outcomes are the result of the more productive role of women, while in the bargaining model, they are attributable to the greater bargaining power of women (Gaiha, 1993). So the process linking economic betterment through microfinance to the empowerment of women in the domestic sphere cannot be easily isolated by considering alternative theoretical perspectives.

In summary, while recognizing the need for cross-validation that is contextually appropriate, it must be emphasized that the skill, sensitivity and training of investigators, and their ability to establish rapport quickly with various stakeholders – especially women – would yield rich dividends in terms of accuracy of impact assessment. Thus building the capacity of local investigators to effect systematic and thorough assessments of women's empowerment is of the utmost importance.

28 We owe this suggestion to Pranab Bardhan.

IV. Ex ante and ex post assessments

Much of this exposition is based on our reading of the rich and illuminating literature on impact assessment (including Feinstein and Picciotto, 2001; Pitman, Feinstein and Ingram, 2005) and several recent ex post assessments of IFAD-funded projects (some carried out by ourselves). While there is considerable common ground between ex ante and ex post assessments, it is important to remember that they serve different purposes. We have tried to distil some key relationships and outcomes from ex post assessments that could be the basis of an ex ante assessment given certain assumptions. A key assumption, of course, is that the basic methodology is replicable in a different context with the appropriate adaptation of selected indicators. First, let us draw attention to some similarities:

- The regional/local economic profile could be constructed along the lines suggested earlier, focusing on access to formal and informal sources of credit for poor people – especially women – and the constraints encountered by them.
- The sample design should reflect IFAD's targeting concerns, with appropriate sampling fractions for women from different strata such as castes or occupational groups.
- The sample size would, of course, be conditional on time and budgetary constraints. What is worth emphasizing, however, in the light of ex post assessments reviewed, is that even a small sample, guided by the key concerns of IFAD's interventions in microfinance, would be useful in assessing their potential for empowerment, provided that it is appropriately designed.

Now let us turn to some of the modifications:

- Questionnaires along the lines discussed earlier could be used, with slight modifications, to canvass responses from various stakeholders. A separate questionnaire for the control group is not required. Questions in the household questionnaire would focus on household characteristics, access to loans from different sources, interest rates paid, awareness of the SHG/bank linkage programme and interest in participation, reasons for taking out new loans and whether inability to save is caused by liquidity constraints. Additional questions on affiliation with social networks and cognitive aspects of social capital would be helpful – along the lines suggested in Annex B. A core set of indicators of empowerment could be reproduced to throw light on household decision-making and spheres of women's participation (degree of women's autonomy, ownership of assets, employment status of women, their participation in local institutions). The modification would be a shift of focus from actual empowerment to potential for empowerment. A subset of indicators of risk, vulnerability and insurance would help assess the vulnerability to various shocks. These might relate to sources of risk, risk mitigation and coping

measures used, and access to formal and informal insurance (including self-insurance). An additional set of questions – regarding the potential of microfinance to reduce vulnerability to various shocks through income diversification and regular savings – could be constructed from the indicators in Annex B with slight modifications.

- Other stakeholders could be interviewed (representatives of banks, microfinance institutions, NGOs and village councils, and district and provincial officials), primarily to cross-validate the potential for empowerment of women through microfinance.
- Finally, a mix of qualitative and quantitative data could be analysed, using some of the statistical techniques employed in Gaiha and Nandhi (2005), with a view to definitive conclusions for an *ex ante* assessment.

V. Rapid rural appraisal, wealth ranking and household surveys

In the preceding exposition, a strong case is made not only for combining quantitative and qualitative data, but also for combining different data sources and a mix of statistical and non-statistical methods. This may seem an overambitious, expensive and highly skill-intensive methodology. Two observations are pertinent here. One is that the framework, data requirements, indicators and analytical techniques and methods proposed must be adapted in the light of budgetary and time constraints. The more important issue, however, is whether this methodology is superior to the rapid-rural-appraisal approach and the use of tools such as focus-group discussions, mapping, sorting and wealth ranking. The last is the most frequently applied. Typically, a small number of knowledgeable community members categorize village households in wealth ranks using a set of agreed-upon criteria.

A recent assessment of the validity of wealth ranking as a basis for determining the socio-economic status of a sample of households in Bangladesh is instructive. The results confirm that socio-economic variables differ significantly between wealth groups. Household food expenditure, assets, income, value of the house and land ownership decrease sharply with a decline in wealth rank.²⁹ This imparts empirical validity to the wealth classification. Moreover, the degree of consistency across regions is high. Similar findings are reported for India, where wealth ranking corresponds to household survey results on socio-economic status.

However, while RRA wealth rankings are useful in ranking households, they are not detailed enough for assessing impact. More-specific comparisons in terms of the poverty head-count index in Bangladesh, for example, vary a great deal. While wealth ranking shows that 49 per cent of the sample households are extremely poor, the corresponding estimate of the Bangladesh Institute of Development Studies is barely 25 per cent (Adams *et al.*, 1997). Given that IFAD's microfinance and other interventions are now required to assess their impact on poverty in terms of locally appropriate and internationally comparable criteria (such as a dollar a day), wealth ranking and other less expensive tools are likely to be inadequate. More importantly, measurement of empowerment and self-insurance through savings and income diversification would unavoidably involve canvassing data from different sources – especially households – through a carefully designed questionnaire.

29 Note that, while food expenditure as a fraction of household expenditure declines with income/expenditure (as in Engel's law), overall food expenditure rises but less than proportionately to income/expenditure. There is conclusive evidence that individuals have a strong preference for variety, flavour and packaging when income rises. See, for example, Jha *et al.* (2006).

VI. Concluding observations

A broad framework has been developed for ex ante and ex post assessment of the impact of microfinance projects as a basis for IFAD interventions in the Asia and the Pacific region. While the strengths of this framework lie in its applicability in diverse conditions and the broadening of the focus of impact assessment, it would benefit from imaginative and creative application. Specifically, the indicators that have been proposed for examining the interrelationships between different forms of social capital and microfinance, between microfinance and empowerment of the poorest people – especially women – and between microfinance and the reduction of vulnerability through self-insurance must be tailored for each specific context and application. Cross-validation through a mix of quantitative and qualitative data and methods is vital for a robust assessment. Even small samples – carefully designed and analysed – would yield rich and valuable insights into the potential of microfinance for empowerment and economic security.

Annex A

A note on dyadic data

A data set is compiled of all possible unique combinations of a pair of households in a village. For each pair, a measure of 'degree of connection' or the 'strength of the insurance link' is constructed. Note that for a village of 100 households, there are $\binom{100}{2} = 4\,950$ unique combinations of two households (also called dyads). The question asked in De Weerd (2005, p. 199) was: "Can you give a list of people inside or outside your village, who you can personally rely on for help and/or that can rely on you for help in cash, kind, or labour?"

The analysis carried out was confined to network members in the village. Unilaterally mentioned links were assumed to be weaker than bilaterally mentioned links. Four different measures of 'degree of connection' were employed, as summarized in Table A.1.

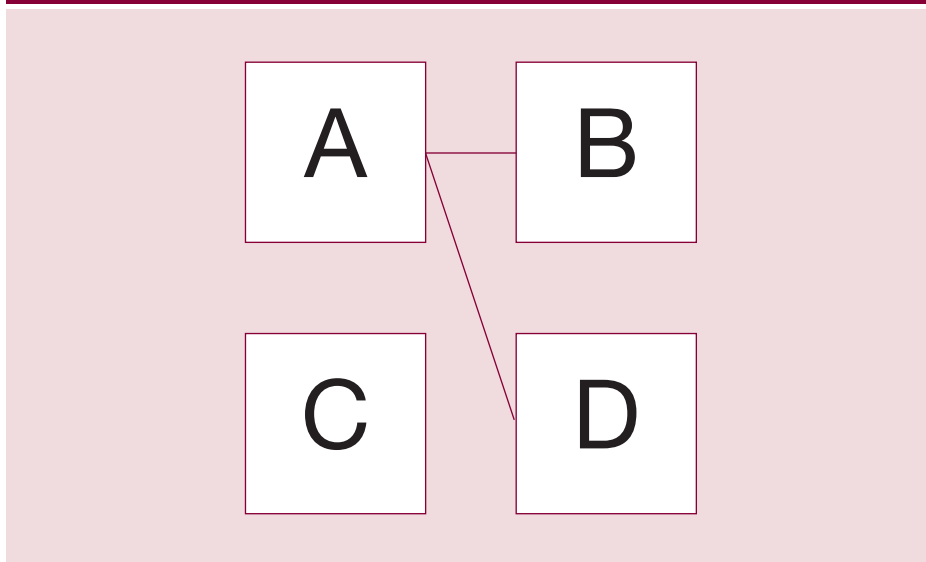
First, we have a measure of total number of links. For example, if two members of household A mention someone from B and one member of household B mentions a member of A, then the total number of links is 3. The second measure also counts the number of links, but on the assumption that one household can send one link to (and receive one link from) the remaining 99 households. This takes the value 1 if several members of household A send a link to household B. It takes the value 2 if both households send a link to each other (or the links are reciprocal). The third is a dummy variable specification in which 0 is assigned when there is no link between a pair of households and 1 if there is one or more links between them. Finally, the geodesic distance between two households is the minimum number of steps one has to take to go from one household to the other on the network graph (Figure 1). A has a link with B and D; C is not linked to anyone. The geodesic distance is one between A and B and between A and D. It is two between B and D and infinity between C and any other household. The justification for this measure lies in the belief that one benefits not only directly from one's own network but also from the array of networks lying behind that of each network member. There are, of course, costs attached to each node that is crossed in the network.

Table A1: Dyadic measures of connectedness

Measure	Definition	Range
Total number of links reported by individuals	The number of times a member of household A mentions a member of household B + the number of times a member of household B mentions a member of household A	0 1 2 3 4 5
Number of household level links	0 if there is no link between the households 1 if there is a unilateral link 2 if there is a reciprocal link	0 1 2
Dummy	0 if there is no link between the households 1 if there is at least one link	0 1
Geodesic distance	Shortest distance between the households on the network graph	1 2 3 4 5

Source: De Weerd (2005)

Figure 1: Geodesic distance



Annex B

Indicators of risk, vulnerability and insurance

Table B1: Household and community/village characteristics

Respondent	Indicator	Remarks
Name	Profile (a) gender (b) age (c) occupation (d) education (e) assets (f) caste/tribe (g) religion (h) whether a participant in SHG	(a) Personal identification – whether man or woman; if woman, whether widow, and household size. (b) Age intervals of five years would be appropriate, as these would obviate the need for smoothing of age data. (c) Classification could be based on the single largest source of household income. In Gaiha and Nandhi (2005), classification was based on the single largest source of income. The occupational categories used comprised cultivator, agricultural labourer, non-agricultural labourer and others. (d) Three or four categories may suffice. These may comprise: illiterate, primary education, matriculation or higher level. This could be supplemented with similar data on participants/non-participants. (e) As collection of accurate data would require considerable resources and time, notional estimates will do. Observations on the quality of housing may, for example, include whether it uses electricity, whether household members have access to potable drinking water, and whether there is a toilet within the house. (f) Three or four categories that are contextually appropriate would do. In Gaiha and Nandhi (2005), classification of households into SC/ST, other deprived castes, upper castes and others was used.
Household head name	(a) gender (b) age (c) occupation (d) education (e) assets (f) caste/tribe (g) religion (h) whether a participant in SHG	As remarks made above are equally relevant for the household head, no further comment is necessary.
Village/district official/representative (a) name (b) designation (c) gender (d) period of residence	Village population Composition by caste/tribe/religion Infrastructure (e.g. distance from nearest market, bank, health clinic, school) Whether there is a functioning village council Whether village households have access to electricity, drinking water	It may be helpful to obtain an assessment of whether the village economy has undergone significant changes in the past three to five years (e.g. expansion of yields, non-farm activities and migration).

Table B2: Indicators of social capital¹

Respondent	Indicator	Remarks
Both participating and non-participating households, officials, village council representatives, bank officials and NGOs (as applicable)	Associational capital (a) name of network (b) who formed it (c) when it was formed (d) length of membership	Social capital is disaggregated into associational and normative/cognitive components. The former relates to both formal and informal networks, while the latter is linked to trust and reciprocity. Once a network affiliation is confirmed, questions could be asked about its legal status, formation and financing.
	Objectives/functions/activities	Whether it is a special interest group (e.g. water users' group); whether there is a clear understanding of the objectives; whether decisions are discussed; whether any group events are organized; and whether members' concerns are addressed.
	Rules, meetings, records	How are the rules, if any, formed; are these adhered to; are meetings held regularly and is venue fixed before meeting; are these well attended; and are decisions recorded?
	Composition	Are members mostly from the same caste/religious/occupational group, live within a radius of 1 km, whether visit the same church/temple/mosque; if members are heterogeneous, does that affect the functioning of the network; has the functioning improved over time and concerns broadened?
	Network density	Is the network large; if so, does that affect frequency and quality of interaction; are members able to recall names of other network members; are the concerns of other members shared equally; are the concerns financial, non-financial or both; do members meet only during a meeting or during a common festival or when there is a contingency (e.g. illness, accident)?
	Networks, SHGs and Inter-relationships	Does membership in a network make it easier to join an SHG; if so, does it imply easier acceptance into an SHG; does caste/ethnicity/religion make a difference; did the existence of a well-functioning SHG in the same village/or a neighbouring village influence the formation of SHG; did it involve a shorter waiting period or a quicker interface with a bank; do SHG members borrow from group members in side contracts?
	Normative social capital or norms of trust, reciprocity, affinity to community	Enquire whether different caste/ethnic groups mix frequently; whether social/religious events (e.g. festivals) involve the village community; whether different groups help others in the event of illness, injury, death, financial loss; whether social sanctions are applied against individuals guilty of acts of dishonesty, cheating, malfeasance, regardless of social and economic hierarchy.
	Building up of social capital	Have formal/informal networks expanded in recent years (e.g. has membership increased); if so, is it connected with growth of SHGs; are there other contributory factors; has expansion of literacy helped; does market expansion have any implications for associational/normative social capital?

¹ For details of indicators, see Gaiha and Nandhi (2005).

Table B3: Indicators of empowerment¹

Respondent	Indicator
Both participating and non-participating households, officials, village council representatives, bank officials and NGOs (as applicable).	<p>Empowerment in domestic sphere</p> <ul style="list-style-type: none"> (a) reasons for participation in IFAD microfinance project (b) SHG formation and functioning (c) sources of income (d) loans and their use (e) control over household resources (f) conflict resolution
	<p>Empowerment in social sphere</p> <ul style="list-style-type: none"> (a) participation in social campaigns (b) elections (c) other social activities
	<p>Constraints</p> <ul style="list-style-type: none"> (a) domestic <ul style="list-style-type: none"> (i) limited awareness (ii) male resistance (iii) risks, lack of experience and skills (iv) time allocation (b) external <ul style="list-style-type: none"> (i) caste/ethnic barriers (ii) inaccessibility of markets (iii) other barriers

¹ For details of indicators, see Gaiha and Nandhi (2005).

Remarks

- (a) Details to be recorded may include year of participation, reasons for participation and whether someone encouraged or facilitated participation.
- (b) Details to be recorded may include how the group was formed, composition in terms of caste, occupation, religion and geographic proximity, time required for interface with a bank, how entry and exit rules were framed and whether these are adhered to, and time and frequency of meetings.
- (c) Details to be recorded may include household income, 2-3 main sources of income and whether there is seasonal variation. Notional estimates will do.
- (d) Details to be recorded may include amount of loan, and whether it was used for consumption or investment in an existing or a new enterprise. In addition, a notional estimate could be obtained of how much revenue is generated net of costs and whether the returns vary seasonally or when there is a crop or a livestock or other shock.
- (e) This raises a number of issues relating to who selected the asset, whether in fact it is being used by the woman borrower, who decides how the income is spent, whether loan repayment obligations are a joint responsibility and pattern of household expenditure (in terms of three or four major categories including food, health, education and others).
- (f) How disagreements, if any, are resolved would require subtle probing. In particular, whether loan repayment difficulties are amicably resolved. It is unlikely that episodes of domestic violence would be reported, except perhaps when two or three women are interviewed together.

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- (a) Details may include whether the respondent participated in a campaign against a social ill (e.g. alcoholism) or to improve village sanitation and hygiene, and whether this involvement was in any way connected to the SHG to which she belongs. How this involvement was triggered and whether it is a one-off affair may require careful probing.
 - (b) Details to be recorded may include whether the respondent has contested any local election, the underlying reasons and whether there was any resistance from male household members and outsiders. Of particular interest is the issue of whether membership in an SHG has broadened awareness and imparted self-confidence to enter the political arena.
 - (c) This may include participation in local institutions (e.g. Gram sabha or village assembly meetings, promoting SHGs and other special-interest groups).

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- (a) Domestic
 - (i) Details may include whether any household member was aware of the project in question and whether any attempt was made to secure more information.
 - (ii) Discreet enquiries would be required to obtain insights into the form and severity of male resistance and whether it weakened with a steady flow of income.
 - (iii) As the poorest people tend to be risk averse, have little entrepreneurial experience and few skills other than those required for eking out a subsistence living, it would be worthwhile to examine whether these constraints mattered and, in case they did, how they were overcome. A specific concern is whether the respondent received any training and how useful or appropriate it was in dispelling some of these apprehensions or constraints.
 - (iv) If the income-earning activity is entirely self-managed by the female borrower, a specific concern is whether it is burdensome in terms of additional time required. A notional estimate of what the additional time input is would be helpful. It may also be asked whether the choice of the activity was influenced by this consideration.
 - (b) External
 - (i) This is particularly important for socially excluded groups (e.g. SC/ST households in India, indigenous peoples in the Philippines), because NGOs, village bodies and bank officials often display biases against them. Respondents could be asked to provide a few examples and a judgement could be made accordingly.
 - (ii) Two specific concerns here relate to whether travelling alone to the nearest market was difficult due to limited transportation facilities, and whether the respondents experienced difficulties in market transactions simply because they were women (e.g. they were offered prices well below prevailing prices).
 - (iii) Whether the group experienced difficulties because of: limited interaction with NGOs/animators, disagreements over rules and frequent exit of members, limited savings mobilization and small size.
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Table B4: Typology of risks by level and source¹**Idiosyncratic**

Type of risk	Risks affecting individuals/households (micro)
Natural/ environmental	
Health	Illness, injury, death
Social	Crime, violence
Economic	Loss of income/livelihood
Political	

Source: World Bank (2000) and Department for International Development (DFID – 2004).

¹ This typology should be based on official records and interviews of officials, representatives of village institutions, NGOs and a small sample of households.

Table B5: Risk management measures¹

Objective	Informal mechanisms	
	Individual/household	Group-based
Reducing risk	Income diversification with low-variability, migration, precautionary savings	Building of infrastructure, watershed structure, safeguarding of common-pool resources
Mitigating risk		
(a) Diversification	Crop and plot diversification, income-source diversification, investment in human and physical capital	Producer and user groups, ROSCAs
(b) Insurance	Sharecropper tenancy, buffer stocks, long-term (informal) labour contracts, precautionary savings	Investment in social capital (networks, reciprocal gifts)
Coping with shocks	Borrowing from money-lender/employer, child labour, liquidation of assets, reduced food consumption, seasonal migration	Transfers from friends/relatives

Source: Adapted from World Bank (2000, 2001), Walker and Ryan (1990), Mathur and Gaiha (2003) and Gaiha and Imai (2004)

¹ This typology should be based on official records and interviews of officials, representatives of village institutions, NGOs and a small sample of households.

Covariate

Risks affecting groups of households/communities/villages (meso)

Rainfall, landslide, pollution, deforestation, salinization

Epidemic (e.g. malaria, HIV)

Terrorism, gangsterism, caste wars/violence

Unemployment, resettlement, crop loss, inflation

Riots, election-related violence

Risks affecting regions/nations (macro)

Earthquake, flood, cyclone, drought, pests, desertification, climatic extremes/shocks (e.g. changes in precipitation, run-off and variability leading to greater water stress)

Civil strife, war, social upheaval/ethnic conflict

Inflation, balance of payments crisis, debt crisis, policy shocks

Political instability, coup d'état, insurgency

Formal mechanisms

Market-based

Microfinance

Accident, disability, and other insurance

Borrowing from financial institutions

Publicly provided

Stable and sound macroeconomic policy, environmental protection, support infrastructure and easier market access, decentralization, proportional representation, rule of law, livelihood protection

Agricultural research and extension, trade liberalization, protection of property rights

Social security (including various forms of mandatory insurance), pension systems, protection of property rights

Workfare, social assistance (including social funds), food subsidy, cash transfer, rebuilding of livelihood support systems, price stabilization

Table B6: Indicators of vulnerability and self-insurance

Respondent	Indicator	Remarks
Both participating and non-participating households, officials, village council representatives, bank officials and NGOs (others as applicable)	Shocks: illness, accident, famine, floods, other disasters resulting in crop losses (e.g. pest infestation, landslides)	Classify the first two as idiosyncratic and the remaining as covariate and obtain details of their occurrence.
	Severity: acute illness, serious injury, severity of floods, earthquakes and droughts	Ask probing questions to ascertain the severity of shock. Scaling of severity may be worthwhile.
	Effects: loss of person-days of employment, cattle, lower yields, crop damage, loss of income	Precise estimates may not be feasible, but notional estimates need to be assessed carefully and cross-checked.
	Risk reduction, mitigation and coping measures: crop diversification, livelihood diversification, technological choices, inputs, workfare, liquidation of assets, grain reserves, borrowing	The emphasis will be on whether, for example, crop diversification was in anticipation of a deficient rainfall or a response to it, as neither could be ruled out. Also, careful attention must be given to how effective these measures were in avoiding losses. A range may be feasible. Enquire specifically whether an early warning system existed and whether the warning left time for reducing loss of income, assets and human lives; whether choice of crops/non-farm activities was confined to less risky but less profitable options; whether asset prices also fell (e.g. price of livestock); whether the old, disabled and children were affected more; and whether community networks were mobilized.
	Insurance: formal and informal	Questions could be asked on whether the respondent has access to formal insurance (e.g. life insurance, rainfall insurance)? If the answer is yes, related questions could be asked on insurance premiums, coverage and benefits. Informal insurance could take the form of (reciprocal) transfers from friends or relatives. Important to find out whether there is an element of reciprocity, as often such informal mechanisms contain elements of credit and insurance. Also, whether access to formal insurance erodes informal insurance mechanisms and whether insurance and credit are substitutes. Finally, whether membership in a network/SHG helps in accessing formal insurance (e.g. credit-life insurance, deposit-cum insurance).
Self-insurance: microfinance and diversification of income sources, mobilization of savings and strengthening of network support	Questions could be asked on whether access to microfinance has helped diversify income sources and, in that case, whether extra income earned is substantial; has membership in SHGs helped save more; reasons for saving (e.g. whether it is an instrument for obtaining credit or motivated by precautionary considerations); is there a strengthening of reciprocity through SHG membership; is the mutual help affected by social/ethnic divisions? A few examples/illustrations would add to the credibility of responses.	

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