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**NRSP Impact Assessment Case Studies:
the Peri-Urban Interface in Kumasi, Ghana
and Hubli-Dharwad, India**

Kate Wellard, Chris Barnett, Owuraku Sakyi-Dawson and Parvin Sultana



December 2005

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Acronyms and Abbreviations

AEA	Agricultural Extension Agent
BAIF	BAIF Development Research Foundation
BAK	Bosomtwi Atwima Kwanwoma District
BCR	Benefit to Cost Ratio
BPF	Best Practices Foundation
BYN	Baofe Ye Na project
CEDEP	Centre for the Development of People
CLF	Community-level facilitator
DDO	District Development Officer
DFID	Department for International Development, UK
FGD	Focus Group Discussion
HD	Hubli-Dharwad, India
HH	Household
IDS	India Development Services
IGAs	Income Generating Activities
IPM	Integrated Pest Management
IRR	Internal Rate of Return
KMA	Kumasi Metropolitan Assembly
KNUST	Kwame Nkurumah University of Science and Technology
KPUI	Kumasi Peri-urban Interface, Ghana
KUMINFO	Kumasi Geographic Information System
LEDC	Less Economically Developed Countries
MDG	Millennium Development Goals
MOFA	Ministry of Food and Agriculture, Ghana
MOVE	Market Oriented Value Enhancement
NGO	Non-governmental Organisation
NPV	Net Present Value
NR	Natural Resource
NRM	Natural Resource Management
NRSP	Natural Resources Systems Programme
PAPP	Participatory Action Plan Project
PUI	Peri-urban interface
Rs	Rupees, India
SHG(s)	Self-help group(s) (<i>sangha</i>)
SL	Sustainable Livelihoods (approach)
UAS	University of Agricultural Sciences
WADI	Agri-horti-forestry

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Executive Summary

Worldwide concerns over the effect of expanding cities on the surrounding rural areas, particularly the natural resource base and livelihoods depending on these, led to the initiation of studies on the peri-urban interface (PUI) by the UK Department for International Development (DFID)'s Natural Resources Systems Programme (NRSP).

This report assesses the current (2005) and potential (to 2015) developmental impacts based on two case studies of projects in NRSP's PUI Uptake Promotion node Suite 1. It considers impacts on livelihoods, poverty and economic impacts with a pro-poor emphasis to assess equity of impact. Two pairs of projects implemented between 2001 and 2005 are covered by this impact assessment: in Hubli-Dharwad, India, Natural Resource Management (NRM) Action Plan Development (R7959) and Enhancing Livelihoods and NR Management in Peri-urban Villages near Hubli-Dharwad (R8084); and in Kumasi, Ghana: Implementation Plans for Natural Resource Management strategies (R7995) and Bafo Ye Na: Who Can Help the Peri-urban Poor? (R8090). The earlier projects (R7959 and R7995) developed participatory processes for formulating plans of action for implementing NRM strategies. The later projects (R8084 and R8090) have implemented these plans of action in pilot communities. In Ghana, the projects are being implemented by a community-based NGO (CEDEP) and research partners. Innovative community-oriented development planning has been developed and livelihoods activities initiated with groups in 12 communities. In India, the projects are being implemented by two NGOs (IDS and BAIF) with experience in NRM, and a research partner. They have facilitated the formation of self-help groups or *sangha* with poor groups, and supported both individual livelihoods and community NRM through the development of both new technologies and approaches in 6 communities.

The study used a sustainable livelihoods approach to inform examination of assets, institutions, livelihoods strategies, technologies, livelihoods outcomes and vulnerability context. The fieldwork was carried out over a two-month period using household surveys, focus group discussions and key informant interviews. In addition, stakeholder consultations were used to elicit further information on pathways and likely impact in 2015.

Key findings and conclusions are:

- **The overall impact on poverty of project beneficiaries has been positive.** In India returns from income-generating activities are more likely to have been realised and incomes have increased; similarly for individual trader beneficiaries in Ghana. In both countries beneficiaries perceive their overall well-being to have increased with improvement in livelihoods assets. These positive findings are confirmed by a reduction in the number of households being ranked as poor in both countries. Impact on poverty within households is starting to be felt with increased incomes being spent on children's education, for example. **However, the outlook for reducing poverty on a larger scale may be limited** without further (modest) support to ensure continuing focus on pro-

poor groups and to retain project innovations. If this is secured (in Ghana particularly) much larger reductions are expected to be achieved.

- **Women's status has improved, though the existence of a significant proportion of poorly off women remains a major challenge.** Impact on women's status has been positive in both countries, with improvements in both well-being and incomes. However, 50 percent of women were still poorly off in Kumasi by the end of the project. Establishment of women's *sangha* in Hubli-Dharwad has been a highly positive development and women are now moving into traditionally male economic activities (trading). Election of women to leadership posts, such as CLFs in Ghana and Gram Panchayat in India, is a significant step.
- **The establishment of strong groups is important to projects' successes.** Findings on cohesion of groups suggest that where a strong culture of mutually rewarding joint activities, including savings, have been fostered, groups appear to be strong and viable (in India, particularly IDS). Where groups have been formed only on the basis of similar interest in a particular livelihood activity, without previous experience of joint working, there is a fatal lack of cohesion (Ghana). Here, problems are exacerbated by heavy labour demands and long payback periods. An alternative approach would be savings groups providing loans for individual livelihoods activities. However, further support is required for group leaders and CLFs before the groups can be self-sustaining. Groups' constitutional arrangements, including election of new leaders, are yet to be resolved.
- **Marketing is a key component to the realisation of returns, but hampering profitability especially in Ghana.** Development of planning skills appears to have contributed significantly and positively to project members' confidence and ability to undertake income-generating activities. Training in marketing skills has also been a key component of the India project, contributing to early realisation of returns. There have been some marketing inputs into the Ghana project, but marketing was apparently not (adequately) covered in groups' alternative livelihoods training and lack of markets is currently hampering profitability. Whilst some groups have taken the initiative and formed a Co-operative society for joint marketing, this appears more likely to benefit the majority non-poor members initially.
- **Uptake promotion has been targeted more at government officials in Ghana and at development projects in India.** Identification of target institutions and uptake pathways has been a key concern of both projects at the end of this series of NRSP PUI projects. Linkages with government organisations have actively been sought by the Ghana project partners, through regular interactions such as District stakeholder workshops, with signs of up-take in at least one District. Relations have been built on a combination of formal and informal relations. In India, officialdom is highly complex and awareness of the problems of peri-urban areas is low. Project activities did not include linkages

with government. The exception is the World Bank-funded Sujala project which, as a result of project partners' involvement, has adopted PUI project activities on a larger scale, within Hubli-Dharwad. Both projects have been successful in improving relations between communities and local officials, thus improving social capital which may otherwise be weakened by the pressures and mobility within the peri-urban interface. In both cases, uptake has been targeted at District and State level, which appears realistic given the pilot nature of the project and the time and resources needed to build linkages.

- **Directly targeted activities are required to address the declining natural resource base.** Reducing the deteriorating trends of natural resource degradation was an overall objective of both projects. In Hubli-Dharwad the project has secured improvements in the local environment and natural resource base, including availability of wood products, soil fertility and water availability through individual and community activities (particularly BAIF areas). In Kumasi, natural resources were targeted only indirectly by the project and whilst there is some evidence of alternative livelihoods activities reducing dependence on the natural resource base, impact on the natural environment has been negligible and more directly targeted activities would be required to address identified problems of land shortages, logging, water shortages and adulteration, etc.
- **Relatively little additional support is required to make this a worthwhile economic investment.** The economic analysis of livelihood activities shows that the investment made in the project in both sites is only likely to be repaid if the project groups (Livelihoods groups and *sangha*) continue to receive some level of support from the project (low case scenario). However, with a relatively small further investment, numbers of households benefiting from the project could be considerably greater. In Ghana, this finding reflects the pilot nature of project R8090 activities being tested and the modalities of operation. The groups are considered by the project and members as not yet ready to be self-supporting and requiring a further (short) period of support from CEDEP focused on achieving sustainability. Establishment of further groups (expected to be carried out by MoFA) would require input from the NGO to ensure quality of participation and that the poorest benefit. In India, pilot and demonstration activities have been completed and savings and management practices established, and groups are considered to have reached a stage of being self-sustaining. However, for the establishment of new groups and promotion of pro-poor and environmentally sustainable activities, issues of further uptake again arise. Existing projects may introduce similar environmental technologies in BAIF/IDS target villages but may not reflect the pro-poor and independent and self-supporting characteristics of groups.
- **Application of NRSP PUI research is expected to contribute to meeting the Millennium Development Goals (MDGs) but it is difficult to attribute and quantify success.** In particular, it is expected to contribute to three Goals: (1) Poverty and Hunger, by improving household incomes, improving diversity of

income sources and increasing human capital (2) Gender Equality and empowerment of women, by improving women's livelihoods assets and status and (3) Environmental sustainability, through increased adoption of non-land-based livelihoods activities and, in Hubli-Dharwad, improved land and water management.

- **Future PUI research needs to take a more integrated approach throughout the research and pilot implementation process.** This implies stronger linkages between the testing, modification and demonstration of implementation plans, and other aspects of PUI research including data collection and monitoring systems. A number of findings and lessons from earlier NRSP PUI projects have informed the current ones, including, in Ghana: knowledge of resource use and availability within the peri-urban interface; and in India: potential strategies for environmental amelioration, including waste utilisation and land management. However, the 'research' orientation and content of the programme has been substantially reduced compared to earlier projects. Plan implementation has made only limited use of action research. There may be scope for involving the community in reviewing the research process and lesson learning.
- **A greater role of researchers in the implementation of community plans appears to have led to greater continuity in India.** The role of researchers in plan implementation has been somewhat different in the two countries. In Hubli-Dharwad, activities have been led by NGOs with strong backgrounds in natural resource and community activities, supported by a local research institution and a series of complementary inputs from the UK research collaborator. In Ghana, the implementing NGO is a community development organisation, which has strong expertise in social processes and institutional issues but limited research experience. Participation of several KNUST researchers from earlier NRSP projects as collaborators has brought continuity and knowledge of the PUI environment, institutions and processes and has enabled rapid adaptation of technologies. However, the Hubli-Dharwad approach, though higher cost, appears to have brought greater continuity and links with earlier NRSP PUI research.
- **Research communication outputs from the projects have been limited.** Recording of the process of community level environmental planning was an important part of plan development (projects R7959 and R7995) and video footage of the stakeholder workshops has been made but not edited and synthesised. In Ghana reports have been compiled on some aspects of the piloting process, such as the role of community level facilitators. However, a more in-depth documentation of the evolution from research to mainly development programme would be helpful to future pilot research/development projects.
- **Collection and use of environmental monitoring data has been limited.** In Kumasi the database established under R6880 does not appear to have been used by the project, and environmental monitoring trials have not been

maintained. In Hubli-Dharwad the project attempted to establish participatory environmental monitoring but success was limited, in part due to lack of local capacity. Participatory environmental monitoring was not given prominence under the projects, but could be used for data collection, identifying and measuring indicators of change and to reinforce ownership of the plans.

- **PUI livelihoods research may not be able to meet the needs of the poorest directly.** The current projects have had successes in improving the livelihood assets and well-being of poor groups who have been involved in the project. However, the poorest groups or destitute are unlikely to have the capacity to participate in livelihoods or other activities (including those affected by ill health, particularly with the spread of HIV and AIDS, or headed by elderly people or sole heads with numbers of dependents). Social protection programmes may be the only way of reaching the poorest groups.

1. Background and Scope of Study

Over the last few decades there has been significant urban drift in many developing countries. Africa and Asia, the least urbanised continents, are expected to be 54% urban by 2025 (UN 2001). The underlying reasons for urban expansion are to accommodate the influx of people who migrate from rural areas in search of jobs in the growing industry and business sectors, as well as physical urban development. The peri-urban interface (PUI) is created by urban development. As urban activities grow and spread, links and impacts upon rural activities in the countryside are created; rural environments and livelihoods of people are challenged. Expansion of urban settlement and pressure on natural resources creates new livelihood opportunities (from easier access to urban markets, services and jobs), whilst old ones are threatened. There is increasing worldwide concern about the effects of expanding cities upon the surrounding rural areas, arising from the conversion of land, urban pollutants, farm labour shortages and the loss of natural resource-based means of livelihood.

In response to worldwide concerns about the effect of expanding cities on the surrounding rural areas, particularly the natural resource base and livelihoods depending on these natural resources, the UK Department for International Development (DFID)'s Renewable Natural Resources Research Strategy (1995-2005) included the PUI as one of its target production systems. Within this strategy the Natural Resources Systems Programme (NRSP) initiated studies on the peri-urban interface in 1995.

This report assesses the current (2005) and potential (to 2015) developmental impacts of NRSP's research in the PUI using two case studies in its Uptake Promotion node: suite 1, one in Kumasi, Ghana and one in Hubli-Dharwad, India, (Terms of Reference, NRSP August 2004: see Appendix 1). The priority order for the assessment and measurement of NRSP's impact is: impacts on livelihoods, impacts on poverty, economic impacts with a pro-poor emphasis to assess equity of impact. Specific outputs addressed by this report are:

- A concise description of the **impact on the livelihoods** of the poor in the node suite projects' sites and, if relevant, more widely (nationally) (*Section 3 and 4*).
- Identification and measurement of impacts on poverty that have resulted by 2005 or are **likely to result by 2015** (the MDG timeframe) from the node suite projects in their target sites and more widely if relevant (*Sections 5*).
- Identification of NRSP research's contribution to, and implications for, meeting the **relevant MDGs** (*Section 6*).
- Estimation of the **efficiency of research resource use** from traditional cost-benefit analysis measures (NPV, IRR) whilst noting that data may not exist for some externalities (e.g. environmental benefits or improved governance) (*Section 7*).

1.1 Overview of research projects

NRSP research in the PUI has concentrated in three city-regions. The earliest of these - Kumasi in Ghana and Hubli-Dharwad in India – are rapidly changing peri-urban areas selected for piloting research on natural resource management in the PUI. A series of earlier research projects (including R7549, R7867 in India and R7549, R6799, R7854 in Ghana) was directed at understanding existing knowledge and production systems in PUI areas. The projects covered by this impact assessment (R7959 and R8084 in India and R7995 and R8090 in Ghana) have sought to identify opportunities for improving natural resources management and pro-poor livelihoods development in the dynamic peri-urban interface. They have focused on participatory action planning at the village level and pilot implementation of these plans, along with uptake promotion. The sets of plans for natural resource management are based on poor people's need and demand; these were categorised as land-based activities, non-land-based activities, and processing activities using products from both land- and non-land-based activities (R7995, R7959). The plans have been tested and piloted in specific villages in the two areas over a 2-3-year period 2002/3-2005 (R8090, R8084). Summaries of NRSP PUI projects in Kumasi and Hubli-Dharwad are given in Appendix 2.

1.2 Study areas: Kumasi and Hubli-Dharwad

Kumasi, Ghana

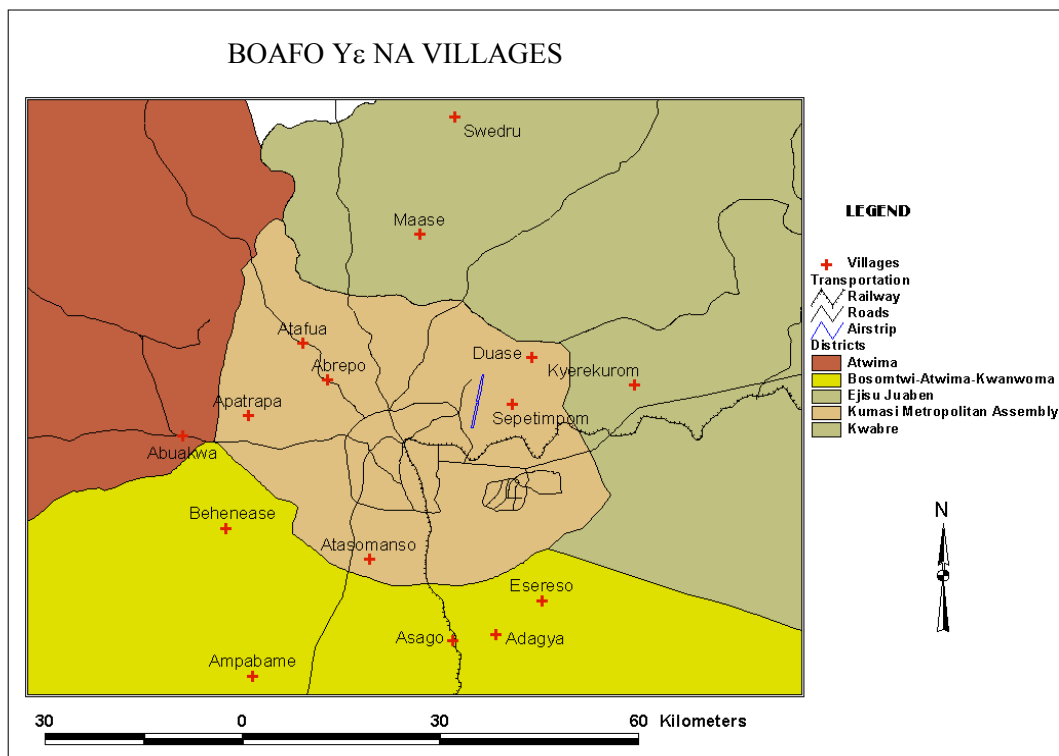
Kumasi is the second largest city in Ghana after the capital Accra, and centre of the Ashanti Kingdom. It is located in the tropical forest eco-zone about 300km north of Accra. It has been an important cocoa growing and trading centre since the 19th century. Urban Kumasi corresponds to the jurisdiction of the Kumasi Metropolitan Assembly (KMA) (Brook and Davila, 2000:5). Kumasi is considered the centre of Ghana because of its geographical position, its road connections and its markets. Its markets constitute the point of arrival and departure of goods produced locally and from neighbouring countries (Corubolo with Mattingly, 1999:1). The Kumasi peri-urban interface is characterised by aspects of both urban and rural livelihood systems. It is considered to stretch from 4km to 47 km from the urban centre. It is not stable since it keeps moving further and further from urban Kumasi. Currently four districts share the peri-urban interface, namely Bosomtwe Atwima Kwanwoma (BAK), Ejisu Juabeng, Kwabre and Kumasi Metropolitan Authority (KMA). Over 1.8 million (10%) of Ghana's population of nearly 19 million live in the urban and peri-urban Kumasi (Ghana Statistical Service 2000 Population Census 2002). The peri-urban area is subject to opportunities and threats arising from the proximity to the urban centre.

Earlier NRSP projects (1996 to 2000) aimed to generate information on the natural resource base, natural resources management (NRM) systems and social and institutional frameworks of Kumasi PUI (Appendix 2). Then, partly in response to requests from local communities and researchers to identify appropriate new livelihoods activities for Kumasi, NRSP commissioned the Centre for the Development of People (CEDEP), a national NGO working in community development and advocacy for marginalised and vulnerable groups, to facilitate the formulation of plans of action for implementing NRM strategies for KPUI (R7995). These plans, which were to benefit the poor, were developed through extended interaction with principal

stakeholders on the peri-urban interface, to enhance understanding of such planning processes. The three plans prepared under R7995 were: (1) Non-farm natural resource-based livelihood activities; (2) Farm-based livelihood activities; and (3) Processing of products from the first two. The plans were implemented under the 'Bafo Ye Na' project (R8090) in 12 communities within Kumasi PUI by CEDEP in collaboration with researchers from Kwame Nkurumah University of Science and Technology (KNUST) and Royal Holloway College, University of London. The two linked projects are the subject of the present impact assessment Ghana case study (Projects R7995 and R8090).

The Bafo Ye Na Project set up livelihoods groups; provided training in alternative livelihoods activities and gave small-scale loans to groups for livelihoods activities and to individuals for farming and trading on completion of a business plan. The participatory planning exercise was conducted with the whole community, after which people were invited to participate in the development activities. After being trained in a particular livelihoods activity, participants formed a group for the purpose of securing a loan or inputs. In some cases, for example where set-up capital was large (such as mushroom growing which required shed construction), the group carried out the activity together. In other cases, such as snails and grasscutter rearing, individuals received loans, inputs and technical support through the group but managed the enterprise within their own household. The communities and livelihood activities training are shown in Appendix 3. Project innovations include the concepts of community level facilitators, participatory business plans, livelihoods networks and district stakeholder workshops.

Figure 1: Kumasi Peri-urban interface and Bafo Ye Na Communities



Hubli-Dharwad, India

Hubli-Dharwad is a twin city about 425 km northwest of Bangalore city on the main highway to Pune. The total population of this twin city is around 786,000 (Biswas, 2001). It is located in a predominantly agricultural area. Main crops are rice, grain legumes to the west and sorghum, chilli and cotton to the east. The rainfall varies from 1000mm to 650mm from west to east and 700mm to 800mm from north to south of Maharashtra. Besides agricultural activities dairy enterprises are flourishing in the area.

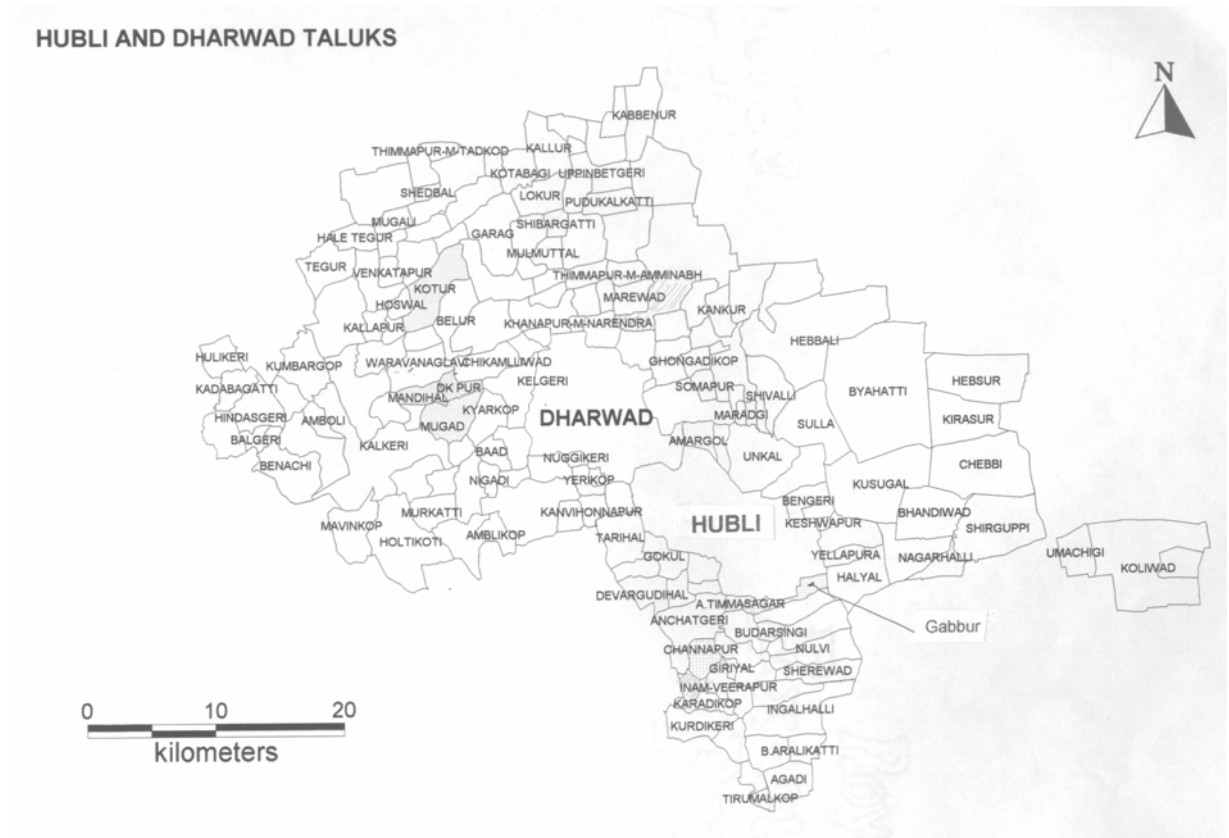
A series of research projects funded by NRSP have been implemented in Hubli-Dharwad (see Appendix 2). In 2001 a shift from research to action research was initiated through Project R7959 – “*Natural resources management participatory action plan project (PAPP) development for Hubli-Dharwad PUI*”. The main objectives of the project were to develop action plans in Hubli-Dharwad through a participatory planning process led by NGOs, to enhance and sustain the natural resource base and to enhance the livelihoods of the poor¹. Under PAPP, three NGOs (India Development Service (IDS), BAIF Development Research Foundation (BAIF) and Best Practices Foundation) working with the University of Agricultural Sciences (UAS) facilitated the development of three action plans².

This was followed by NRSP Project R8084 “*Enhancing livelihoods and natural resources management in peri-urban villages near Hubli-Dharwad*”. The project worked with six villages, four in Dharwad and two in Hubli to implement the action plans prepared in the previous project (R7959). Having drawn lessons from the action planning process, two NGOs, IDS and BAIF concentrated efforts on supporting the mobilization of poor groups into new *sangha* (self-help groups supported by the NGO partner). Over the first year of the planning process about 25 new *sangha* emerged across the six villages, including networks of *sangha* of the poor and women in Kotur. The new and existing *sangha* have all played a crucial role in the re-planning, negotiation and initial stages of implementation of the final action plans. The planning and implementation processes were each tailored by the NGOs according to their own prior experience and philosophy. IDS works in rural areas with poor people promoting awareness-raising, self-sufficiency and self-reliance through development projects. BAIF promotes gainful self-employment among rural people focusing on natural resources, namely sustainable use and management of natural resources using appropriate technologies. UAS was involved in almost all of the research projects, providing technical support and facilitating communication between the NGOs, target institutions and the UK research team. Coverage of villages by project partners is given in Appendix 4.

¹ The ‘*Gap filling*’ project (R7867) was also important as it fed into the action plans, with information on farming systems, livelihoods of the poor, land sales, market for agriculture products, and small scale dairy enterprises.

² The process of action plan development varied between villages, with different NGOs working in them. A key point is that where *sangha* were represented in the workshop working groups, there has been improved representation in the plans and increased ownership by communities.

Figure 2: Hubli-Dharwad Peri-Urban Interface and project communities



2. Methodology

This section describes the overriding approach to this study and the techniques used to assess impact. It begins with an overview of the conceptual framework and describes how the livelihoods approach was applied. This is developed further in the Study framework (see Appendix 5), which outlines the main questions, variables and methods of data collection and analysis. In all, three main techniques of data collection were used for the study: household surveys, focus group discussions and key informant interviews. In addition, a stakeholder workshop was used to elicit further information on pathways and likely impact in 2015.

2.1 Livelihoods approach

As described in the Inception Report of this study (ITAD, 2005), a sustainable livelihoods approach (SL) was employed to assess the impact of agricultural research on poverty, adapting the approach used by IFPRI (Meinzel-Dick et al., 2003). The SL framework was initially employed by the study to inform which relationships to examine, particularly assets, institutions, livelihoods strategies, technologies, livelihoods outcomes and vulnerability context. These are summarised in the Study framework (Appendix 5).

An important characteristic of the projects under study is the pilot nature of livelihoods and community activities being undertaken and the short time period since the start of plan implementation (2-3 years maximum). The impact assessment has therefore focused on measurement of change in capitals as a proxy for change in outcomes to 2005.

The SL framework has enabled the study to take account of the multiple dimensions of poverty and the diverse causal pathways among agricultural research, dissemination, production and poverty (DFID, 2001). In addition to impact on measurable livelihood outcomes (changes in income levels, particularly of poor groups) the study has examined impact on vulnerability (including diversity of income sources, shortening investment periods, reducing risks and impact on food security of the household), impact on women's well-being and status (perceptions of self and changes in social capital) and impact on environment and natural resource flows. However, given the unavailability of up-to-date environmental monitoring data under the projects¹ and the lack of independent data on the project areas, perceptions of impact on the environment and natural resources have been drawn from project beneficiaries, other community members and local key informants.

The terms of reference for the study have required the creation of a dynamic approach to the basic SL framework to project livelihood outcomes to 2015 and impact on poverty, women and the environment (MDGs 1, 3 and 7). NRSP's Conceptual Impact

¹ Outcomes of earlier NRSP-supported KPUI projects such as KUMINFO do not appear to be systematically informing the current project (the reasons for this were outside the scope of the current study).

Model (NRSP, n.d.) defines generic stakeholder domains that specify beneficiaries/stakeholders with whom the programme can achieve either development impact or make progress towards developmental impact through research uptake. Drawing on these models, we have identified specific agents of change in the project areas, traced processes of on-going and potential scaling-up and scaling-out, and determined factors likely to affect these processes, positively and negatively. Using findings from key stakeholder consultations, we have drawn up pathways to district/state level showing low and high potential impact scenarios to 2015.

2.2 Data collection methods

Household survey

Household surveys were identified as an appropriate means for collecting a core set of data on changes in livelihoods assets and outcomes, including livelihood diversification. The focus was more on *what* has changed, with key informant interviews and focus group discussions concentrating more on the reason why. This technique assumes that the project beneficiaries are best placed to identify how the project has impacted on their own livelihoods. Where respondents were asked about the extent or nature of change, these questions have been 'quantified' using a 5-point scale¹ to provide a common basis for analysis. The household survey questionnaires are given in Appendices 6 and 7 for Kumasi and Hubli-Dharwad respectively.

It is important to note that the project interventions in Kumasi (Ghana) and Hubli-Dharwad (India) have important differences in terms of who was involved within the villages. In Hubli-Dharwad the project was implemented by two local NGOs, BAIF and IDS, and one research organisation, operating in six communities, and aiming at 100 percent inclusion of community members in *sangha* and other development groups. In Kumasi, one NGO, CEDEP and researchers from a research organisation, KNUST, aimed to involve interested poor households within 12 communities in alternative livelihoods through the creation of livelihoods groups (as well as other income-generating activities). Involvement of UK-based researchers (from the University of North Wales, Bangor) has also been more direct and intensive in Hubli-Dharwad than in Kumasi.

Overall, household coverage in Kumasi has been much less intensive than the coverage of Hubli-Dharwad. Implementation of plans and livelihoods activities has been more extensive and rapid in Hubli-Dharwad, with returns being realised by households; whilst in Kumasi, activities being piloted were at a relatively early stage with limited returns to date. Thus, in HDPI the household questionnaire covered economic information on project and non-project activities to provide data on incomes before and after the project. However, findings should be interpreted with caution since no baseline data was available and the survey relied on recalled information. In Kumasi, consultations with the project and communities revealed that income from project activities had not yet come on stream, and so income data was not collected. Given the

¹ For several questions a different point scale is used and explained as they occur in Section 4 below.

differences between countries in terms of project activities, status and local conditions, a broadly similar household survey was used with local adaptations, and countries are reported separately. However, general results (non-statistical comparisons) are discussed at the end of each chapter.

The general sampling strategy was based on the overall objectives of the study, which required that impact be assessed and measured in the two PUI case study areas showing impact on poor and non-poor groups ('pro-poor' emphasis) as well as progress towards appropriate MDGs (including MDG 3 on gender equality and empowerment of women). A further criterion is delineation of 'with and without' scenarios. These determined our overall sample categories: poor/non-poor, female/male, and project and non-project households.

The first stage of sampling was selection of villages within each of the case study areas. This was necessary in Kumasi PUI where the total number of communities under the project, twelve, was considered too large to survey. Given the differences in flows and interactions and their intensity across the PUI, villages were selected randomly within two groupings by distance from the centre of Kumasi: near to the city (<10 km) and further from the city (>10 km). Thus two of the four communities sampled are in the former category and two in the latter. In Hubli-Dharwad, where a total of six communities have been involved in the project with two NGOs (four with IDS and two with BAIF), it was decided to include all the project communities in the sample.

The second stage of sampling was grouping of households by wealth status. In Kumasi, this was done following a wealth ranking exercise carried out by the researchers at the start of the present study. This categorised households into two groups, poor and non-poor, using well understood concepts common to study areas: food secure and food insecure. For Kumasi the definition adopted for food insecure was households consuming less than 2 meals per day for more than 2 months of the year. By using an absolute criterion in this way, it avoided the problem of wealth ranking classifications that are relative to the wealth within the community – so the 'poor' in one village may be poorer or less poor than the 'poor' in another village¹. The wealth status groupings refer to the households' situation before the project started (2001).

In India, wealth-ranking exercises carried out under the R8084 project identified five categories of household: the bottom two were designated as poor and have been targeted by the NGO partners for forming self-help groups (SHG). Accordingly, the current study used existing SHG member lists of identified poor households and drew random samples of male and female members. In addition, the NGOs implementing the project hold lists of other (non-poor) beneficiaries who do not belong to SHGs but have been involved in activities under the project, for example those related to agriculture. These combined lists were used to draw the non-poor sample of households.

¹ Data on income levels in the project area (before the project) were unavailable so use of absolute measures of poverty (e.g. less than \$1/day) were not possible.

The third sampling stage was on the basis of gender. For Kumasi, where data on households (whether project member/non-project, gender of head of household, poverty status) was collected by the current study as part of the sampling process, the split was by sex of head of household. One member of each household was approached for interview, the project member in the case of project households. Unfortunately it was not possible to interview male and female members of the household separately (although this was done in the focus group discussions), given resource and time constraints of the research teams and respondents. Responses are attributable to the respondent and other household members where present as indicated. In Hubli-Dharwad, where a number of project activities were targeted at women (e.g. female *sangha*) the split is by male/female project members. The main respondent was the person (man or woman) sampled from the NGO list, who answered the project-related and household level questions, but in addition there were some gender specific questions which were asked of the appropriate person separately. For example, if the respondent was a female SHG member, then during the same visit her husband was separately asked those questions specific to men/male activities not covered by the main respondent.

In India, IDS has worked in four villages primarily with SHGs for income generating activities with some support for better natural resource management. BAIF has also worked with SHGs in two villages but concentrated on natural resource management through WADI¹ with less support for other income generating activities. In addition the IDS villages are larger – total of 2,582 households compared with 337 households in the two BAIF supported villages. The HDPUI sample survey was therefore stratified by NGO village to give an adequate representation of approaches.

Numbers and categories of households sampled are given in Tables 1 and 2. Seventy-eight households were interviewed in Kumasi and eighty in Hubli-Dharwad. Data from household interviews have been analysed by poor/non-poor and male/female-headed households.

Table 1. Households sampled in study survey, Hubli-Dharwad

Households sampled		IDS villages	BIAF villages	Total
Poor households (SHG members)	Male	10	10	20
	Female	10	10	20
Non-poor beneficiaries	Male	10	10	20
	Female	10	10	20
Total		40	40	80

Table 2. Households sampled in study survey, Kumasi

Households sampled	Male-headed	Female-headed	Total
Poor households (SHG members)	20	20	40
Non-poor households (SHG members)	20	20	40
Total	40	40	80

¹ An agro-horticulture-forestry system that includes planting drought resistant fruit plants as the main crops; fuel, fodder and medicinal herbs on bunds and borders as windbreaks; and local food crops in the inter-space (see also Section 3.2).

Focus group discussions

Focus group discussions (FGDs) were carried out with each of male/female, poor/non-poor and project/non-project participants in the villages under study. Usually 10-15 people were invited and subsequently participated in the focus group discussions, but in a few cases in India up to 20 people were involved, whilst in Ghana there were several smaller groups of around six participants.

In Ghana, FGDs were held with eight categories of stakeholders, with four FGD in each category (one from each of the communities selected for the household survey), making 32 in total (Table 3). The basis for the selection of the groups was as follows:

- The poor Focus Groups (for men and women separately) were identified by Community Level Facilitators, volunteers working with the project and elected by and residing in the communities. The same criterion was used as in selecting poor households: food insecure with the household consuming less than 2 meals a day for more than 2 months of the year.
- Non-poor households were those considered to be food secure by the above criteria.
- Non-project households were drawn from the same 4 communities but were those that had not been part of project activities. They acted as a 'control', with similar physical capital (infrastructure available to the community) but with no formal interaction with project activities. This approach was considered appropriate in Kumasi where the number of beneficiaries in each community was very low.

Table 3. Distribution of Focus Group Discussions (Kumasi)

HOUSEHOLDS		Project	Non-project
Poor	Male	4	4
	Female	4	4
Non-poor	Male	4	4
	Female	4	4

FGDs were used to investigate issues such as social capital and natural resource management in further detail, to compare findings from project members and non-project members and to identify changes resulting from project activities (see FGD checklist at Appendix 8).

In India, FGDs were used to compare project and control villages to see if changes in the project villages are different from changes in the control villages (see FGD checklist at Appendix 9). FGDs were a key component of the study and covered eight categories of stakeholder combinations with four FGD in each category making 32 in total (Table 4).

Table 4. Distribution of Focus Group Discussions (Hubli-Dharwad)

VILLAGE CLUSTERS			
		Project	Non-project
Poor	Male	4	4
	Female	4	4
Non-poor natural resource owners	Male	4	4
	Female	4	4

- In the project villages the *poor FGDs* (men and women) came from representative SHGs, with participants identified by the project staff from their records to ensure that a range of social backgrounds and organisations, including caste was covered, as well as a range of typical income generating enterprises to understand the costs and benefits and impacts of those enterprises.
- The *non-poor natural resource owners* FGDs included those involved in agro-forestry and water management.
- An important role of the FGDs was to enable comparison with *control (non-project) villages*. Five control villages were covered, matched to the project villages in terms of environment and distance from the urban area (Table 5). There were already self-help groups in some non-project villages – these may be NGO or government or self-initiated. Therefore the same four categories of participants were covered in FGD in project and control villages.

Table 5. Villages covered by FGD in Hubli-Dharwad PUI

NGO	Project	Control
BAIF	Channapur; Gabbur	Chalamotti; Didnal
IDS	Daddikamal; Kotur; Mandihal; Mugad	Delur; Kyarkoppa; Navlagi

In both Kumasi and Hubli-Dharwad, gender issues were discussed in the female and male groups separately including: women’s role in the projects (leadership and participation), impact of the project on women’s well-being and status and on social capital. This strengthens the findings from the household survey and has enabled further analysis of the impact project on women in these areas¹.

Key informant interviews

Key informants representing three types of stakeholder were purposively selected for interviews: (i) target institutions, (ii) project partner staff, and (iii) local participants.

In Kumasi, key individuals from the following *target institutions* were interviewed:

¹ For other areas covered in the report, impact on females refers to female-headed households in Kumasi and female *sangha* members (and other female project participants) in Hubli-Dharwad, unless otherwise stated.

- District government (Chief Executives, Planning and Agricultural Officers from 2 Districts)
- Local government leaders (Unit Committees)
- Traditional Authorities (Chiefs, Queen mothers and elders)
- Financial institutions (rural banks)
- NGO staff (CEDEP)
- Research collaborators (KNUST)
- Project resource people (trainers and local experts)

NGO staff in the implementing organisation, including the implementing unit and CEDEP management, were interviewed for their perceptions of the project, its sustainability and linkages with activities in the rest of the organisation. *Research collaborators* (KNUST) were interviewed at the beginning of the study to guide topics for investigation, including key project outputs and uptake pathways, and again at the end to assess specific issues of strengths and weaknesses and sustainability.

In addition to the Focus Group Discussions with project (and non-project) members, interviews were held with *Community Level Facilitators* (CLFs) in each of the four communities under study. They contributed their perceptions of the activities and operation of the project at local level and valuable insights into its progress and potential opportunities and threats. Other key informants were interviewed for their views on project impact and sustainability and to ascertain the likelihood of future support.

In Hubli-Dharwad, the following *target institutions* were interviewed:

- Local NGOs that are not directly involved in the project
- Sujala partner NGOs
- Gram Panchayat
- District government (livestock officer and education commissioner: the latter was formerly involved in the project)
- Some information from the experience sharing workshops conducted by BPF in the project area and in Bangalore
- NGO staff (IDS, BAIF)
- Research collaborators (UAS)

Key staff of the partner NGOs and University (i.e. *partner organisations*) were interviewed on their assessment of the project process, outputs and outcomes and its strengths and weaknesses.

Interviews were also held with *local participants*. The focus of these interviews was to understand further the returns from specialist income generating activities introduced by the project such as soap making and natural resource management initiatives, to understand the impacts and benefits to MOVE (Market-Oriented Value Enhancement) to understand the organisational and institutional links better, and to assess the extent to which women members of *sangha* are empowered. The following were interviewed:

- Groups of women processing milk and group of men selling milk
- Village forestry *sangha*
- Village development committee
- Maha (apex) *sangha* of Gabbur village
- *Sangha* members of Gram Panchayat

Data quality and management

The teams followed practices designed to ensure as far as possible an accurate, complete, consistent and reliable set of computerized data that reflected the responses in the household interviews and FGDs.

In Ghana, the country study leader worked with two experienced and trained post-graduate researchers (research assistants). This team was responsible for carrying out the all data collection and processing. The household interview questionnaire and focus group discussion were first piloted and then revised by the country team after detailed discussion on interpretation, clarifications etc. The team was thoroughly briefed by the country study leader before going into the field and the first set of interviews was focus group discussions carried out by the two research assistants jointly with the country leader. Thereafter, given the experience of the researchers and their fluency in local languages and limitations on time and resources, interviews and FGDs were carried out by the researchers concurrently. Questionnaires were checked at night and gaps and inconsistencies identified. Household interviews and focus group discussions were conducted in each of the four sampled villages in turn, enabling focussed attention on a particular area for a period of one to two weeks. This ensured that the team was available to meet interviewees and discussion groups at a variety of times. It also meant that follow-up could be made with households in case of missing data.

In India, the research team for the household survey was much larger, with ten interviewers. Therefore in order to ensure consistency, two days were taken to brief and train the interviewers. Plus, at the beginning, the two researchers and country study leader checked closely on their work in the field, and the researchers continued this process throughout the survey. Every two days all of the completed survey forms were checked by the country study leader, and if any inconsistencies or gaps were identified the interviewer was sent back accompanied by one of the researchers to the same household to clarify the points. Despite this, a few gaps and inconsistencies could occur in the interview forms. So, as an additional safeguard the actual random sample in each category included an extra household so that if an interview could not be completed (for example, the householder was not available), or a problem was missed in initial checking, that interview could be replaced with the back-up interview. All of the FGDs were carried out by the country study leader and two researchers jointly, resulting in a consistent process, the information entered on the recording sheets.

All data was entered by an experienced computer operator in each country using an entry system designed in MSACCESS that included specifications of valid ranges. Consistency checks using frequencies were used to identify outliers and missing data

and the original questionnaires were used to resolve these as far as possible. Analysis was conducted using SPSS.

Note on attribution

As with all impact assessments, the current study faces the challenge of determining which of the changes that have occurred, and to what extent, are the result of project activities. Thus, whilst findings may show improvements in a particular livelihoods capital compared to the situation before the project started or to communities or households not directly engaged in the project (controls), there is a need to establish causality. Two approaches have been taken. First, was the incorporation of follow-up questions in both the household questionnaire and focus group discussions on attribution in general, and the project specifically. Thus, for example, in Kumasi: 'Have there been any changes in your household's use and sources of natural resources since the start of the project? (in Water for Livestock etc...) How important has the project been in these changes?' (Appendix 6). Second, was the use of focus group discussions and key informant interviews to explore findings from household interviews and to triangulate results. Background information on population changes, land holdings etc. and other projects in the area was collected. Thus, we aimed to build up a picture of the communities' interaction with the project and its likely impact.

2.3 Assessing livelihood outcomes, 2015

The projection of livelihood outcomes to 2015 is fraught with a number of challenges and key assumptions. In Kumasi, a stakeholder workshop was used to better understand and discuss many of these assumptions, and identify likely scenarios of impact. In Hubli-Dharwad, similar information was obtained using key informant interviews with target institutions and partner organisations. Three main elements were identified and used as part of the estimation, namely:

1. *The change in assets and livelihood outcomes*: an assessment of the benefits in terms of high and low impact scenarios, based on the household surveys of impact.
2. *The number of (poor) people*: A measure of who benefits, and how many people, using population projections of peri-urban areas.
3. *The uptake pathways (2005-2015)*: An assessment of which agencies (NGOs, district government, etc) are likely to continue and replicate the work or benefit from the research in some way, and to what extent.

Stakeholder impact assessment workshops

As discussed above, a key characteristic of this assessment has been identification of pathways by which impact might be expanded to 2015, and the likelihood of this actually taking place. To explore these, a one-day mini-stakeholder workshop was convened by the impact assessment team in Kumasi, bringing together representatives of different target institutions, including local traditional leaders (chiefs), local project representatives (community-level facilitators, CLFs), District administrators, Ministry of Food and Agriculture District officers, Rural Bank managers, local research partners

and NGO project staff. Outputs of the workshop are summarised in Appendix 11 and form the basis of the impact projections.

In India, interviews with target institutions were undertaken using their own programmes and plans for the PUI region and especially livelihood related and natural resource management activities up to 2015. These were used to discuss and assess their knowledge of project approaches and methods, their views on the advantages and disadvantages of these approaches and methods; and to get their estimates of the probability and scale of potential uptake to 2015 in terms of areas, numbers of households, and types of interventions. Partner organisations were also asked to estimate the potential uptake to 2015 and to explain what uptake promotion activities there might be in that period. Cost data by year and by different components and activities were obtained.

In India, government allocates resources from the centre for development work, and has no plans at present for projects or programs that would specifically take up PUI approaches. They said that if the PUI project has a package then the State government could propose it for funding, but that will take time, and project partners feel they do not yet have a package they could promote for funding and uptake that would meet government requirements. Also the NGOs are project-based in their activities and depend on government funds. Of the partner NGOs, BAIF is already promoting WADI but this is not an uptake from the project as it had developed the approach earlier. IDS will take up participatory monitoring and evaluation from the PUI project in its other work, but the benefits from this are not easily quantified.

Therefore it was not possible for the key informants to estimate high and low impact scenarios for Hubli-Dharwad. Partner NGOs were able to estimate likely take up and expansion in their ongoing villages, and key informants identified ongoing programs and a project that were already adopting elements of the project approach. New government projects that might respond to a package if it is developed and promoted are unlikely to bring any significant benefits by 2015.

2.4 Economic analysis

A final part of this study is the assessment of the economic impact of the projects. In other words, have the suite of projects has been a good investment? The economic analysis is assessed at two levels:

1. Estimated economic benefits to date (2005) on households from project activities in project villages in Hubli-Dharwad and Kumasi (extrapolating from the study villages)
2. Estimated potential benefits from uptake of the project outputs in Karnataka state, India, and Kumasi/Accra peri-urban interface, Ghana, by 2015

In assessing economic impact, benefits are compared against the costs of the PUI suite of projects (including earlier research projects as well as pilot activities 'where knowledge from these has contributed to current projects,' Study ToR).

3. Impact on livelihood assets, 2005

This section examines the impact to date on the livelihoods of the project beneficiaries. It is structured around the five livelihood assets as identified by the study framework with indicators as defined in the study matrix: human, social, financial, natural and physical capital.

3.1 Impact on livelihoods, Kumasi

Introduction

The majority of the population within Kumasi PUI are poor, dependent on small-scale (mainly subsistence) agriculture (particularly women) and part-time work in construction (men) or trading (women) (Kasanga, 1999). These activities provide low remuneration; are intermittent, with 17 percent of people reporting their main activity as unemployment; and, in the case of land-based activities, increasingly unsustainable with decreasing land sizes and landlessness due to land sales and population increase in the peri-urban interface. Few of the poor have the skills, capital or networks to enable them into more remunerative activities such as small businesses. These and other issues were considered in the NRM Implementation Planning Project (R7995) for implementation under the Bafo Ye Na project (R8090).

Human capital

Activities under the Bafo Ye Na project have been directed at two aspects of human capital: new or alternative livelihood skills that are specific to an activity, and entrepreneurial skills, including planning. Both are considered as impacts of the project: entrepreneurial skills consisting of specific innovations such as participatory business planning; alternative livelihood skills comprising technologies being piloted by the communities and adapted to local conditions (e.g. use of readily available inputs for feed) by the groups (with some collaboration with researchers or resource people), and neither available to the community before the project. In assessing changes in these sets of skills, two aspects were examined: a rating of competency, indicating whether the respondent considers they have reached a level of being able to use the skills effectively; and usefulness – whether they have used or expect to be able to use the skills in future. Findings from the household survey reveal that the majority of households record improvements in both sets of skills, regardless of their wealth status (Table 6)¹. Male-headed households appear more likely to have reported increased competency in livelihood skills than female-headed households². This appears to be related to the performance of the alternative livelihood activities. Under the Bafo Ye Na project alternative livestock activities have been carried out by groups, many of which at the time of the assessment were beset by problems of group organisation, lack of time and other difficulties (see below). It appears that the (predominantly female) members of groups which suffered from inadequate initial training (such as the Alata soap groups) reported more modest improvements (65 percent).

¹ Note that the table includes responses from livelihood group members only: those receiving individual loans for trading and farming were not part of the livelihoods training.

² Differences were not tested statistically due to small sample size.

Table 6. Changes in human capital of project households (%)

	% acquiring competence in livelihood skills	% perceiving livelihoods skills to be useful	% acquiring competence in planning skills	% perceiving planning skills to be useful	Sample size
Poor	79	67	83	63	24
Non-poor	81	75	69	69	16
Male	91	70	74	65	23
Female	65	71	82	65	17
Total	78	65	70	60	40

Source: HH survey, KPUI, Ghana

Notes: Figures are based on those undertaking livelihood activities only.

Training in both livelihoods and planning skills was given directly to project group members. There has also been interest in the new livelihood activities from other community members, both family and non-family members, and by people from outside the community. The extent to which this has resulted in the transfer of skills and knowledge and whether these have been used was investigated (Table 7).

Table 7 shows that 35 non-project members within sampled project communities (2% of their population) plus 30 people from neighbouring communities were perceived to have reached a level of competency in one of the alternative livelihoods activities as a result of interaction with project members (visiting their enterprises, discussions, observations etc.). Projecting this to all project communities implies that 364 non-project members have gained competency in livelihoods skills. A similar exercise was carried out for planning or entrepreneurial skills. Here the numbers of non-project households directly benefiting are much smaller, confined mainly to family and friends. The numbers of people who were perceived to have found the skills useful (i.e. able or planning to put them into practice) are smaller: this is unsurprising given the range of other inputs required and factors faced by the households.

Table 7. Changes in human capital as a result of the project to 2005

	Project members	Non-project households			Estimated no. non-project HH benefiting from transfer of skills in KPUI n=9940	Total no. HH who have improved skills as a result of project n=9940
	No. who have improved skills	No. receiving skills transferred in sampled communities n=1755	No. receiving skills transferred outside project communities n=1828	% benefiting from transfer of skills		
Livelihood skills: competent	107	35 (2.0%)	30	3.9	364	475
Livelihood skills: useful	90	16 (0.9%)	18	2.0	198	288
Planning skills: competent	97	19 (1.1%)	0	1.1	109	286
Planning skills: useful	83	9 (0.5%)	0	0.5	49	132

Source: HH survey

Note: Estimated no. non-project HH benefiting from transfer of skills is derived from current rates of transfer adjusted for drop-out. This provides data for our assumptions of the low case projection in uptake to 2015.

Social capital

Changes in social capital resulting from the Bafo Ye Na project were studied in terms of social cohesion, cooperation, empathy and unity (cognitive social capital), as assessed by the communities and households; and in terms of institutional links and organizational sustainability of SHGs (structural social capital).

Changes in co-operation, empathy and unity among the community members were examined, comparing respondents' perceptions of their own situation before the project started (2001) and now (2005). For co-operation (proportion of people who would co-operate/work together on an activity affecting the livelihoods of all people in the area) there has been an increase for all categories, with the mode changed from 'some would work together' before the project to 'many would work together' now for all groups (Table 8). For empathy – 'how much people in the village care about interests of others' – increases have occurred for all household groups (Table 9). For unity – 'if there is someone in the village who can help you with a livelihood problem through social obligations' – improvements have occurred with modes changed from 'never' before the project to 'not often' after the project (Table 10). Follow-up questions confirmed that respondents perceive these improvements to have occurred as a result of the project.

Table 8. Impact of project on co-operation in sampled communities in KPUI

	1 – nobody would work together	2 – few would work together	3 – some would work together	4 – many would work together	5 – all would work together	Sample size (n=78)
Before project						
Poor	0	12	18	16	5	51
Non-poor	1	5	7	9	5	27
Male	1	8	10	12	7	38
Female	0	9	15	13	3	40
After project						
Poor	0	6	15	23	7	51
Non-poor	0	3	6	11	7	27
Male	0	2	10	18	8	38
Female	0	7	11	16	6	40

Source: Household survey KPUI, Ghana

Note: Shows respondents' perceptions on whether people would co-operate/work together on an activity affecting the livelihoods of all people in the area.

Table 9. Impact of project on empathy in sampled communities in KPUI

	How much people in the village care about the interests of others					Sample size (n=78)
	1 – don't care at all	2 – don't care much	3 – quite caring	4 – very caring	5 – extremely caring	
Before project						
Poor	5	12	13	12	9	51
Non-poor	5	5	5	10	2	27
Male	5	8	9	13	3	38
Female	5	9	9	9	8	40
After project						
Poor	5	7	11	18	10	51
Non-poor	4	5	8	9	1	27
Male	5	3	12	15	3	38
Female	4	9	7	12	8	40

Source: Household survey KPUI, Ghana.

Table 10. Impact of project on unity in sampled communities in KPUI

	Is there always someone in the village who can help you with a livelihood problem, through social obligations?					Sample size (n=78)
	1 – never	2 – not often	3 – often	4 – very often	5 – always	
Before project						
Poor	22	5	6	8	10	51
Non-poor	10	6	4	4	3	27
Male	13	7	5	6	7	38
Female	19	4	5	6	6	40
After project						
Poor	11	14	8	8	10	51
Non-poor	6	8	7	4	2	27
Male	6	13	7	6	6	38
Female	11	9	8	6	6	40

Source: Household survey KPUI, Ghana.

A further aspect of social capital was investigated through Focus Group Discussions: the impact of the project on links and relations with authorities. Community members were asked to indicate the intensity of attitudes of local government and elected representatives towards the communities before the BYN project and now. The local government and elected representatives considered are the Village Development Committee/Unit Committees, the District Assembly and the government officials higher than the district level. On a scale of 1 to 5,¹ and based on the modal ratings from the 4 sampled communities, Table 11 shows perceptions of attitudes of officials towards the community before the project and in 2005 for both project and non-project households.

¹ Where 1 is highly negative, 2 is moderately negative, 3 is neither positive nor negative, 4 is moderately positive and 5 is highly positive.

Table 11. Perceptions of attitudes of local government and elected representatives towards the community (modal scores)

Type of official	Village Development/ Unit Committee	District Assembly	Government Officials	Sample size (n=24)
PROJECT HH				
Before project				
Poor	4	3	1	
Non-poor	3	2	1	
Male	3	2	1	
Female	5	3	1	
After project				
Poor	5	1	1	
Non-poor	4	1	1	
Male	4	1	1	
Female	5	1	1	
NON-PROJECT HH				
Before project				
Poor	2	3	1	
Non-poor	4	1	1	
Male	3	1	1	
Female	4	1	1	
After project				
Poor	2	1	1	
Non-poor	4	1	1	
Male	2	1	1	
Female	4	1	1	

Source: Focus Group Discussions KPUI, Ghana

Note: Shows perceptions towards community activities before and after the project.

1 is highly negative, 2 is moderately negative, 3 is neither positive nor negative, 4 is moderately positive and 5 is highly positive.

The BYN project households' perceptions are that attitudes of especially the village / Unit Committees towards the communities have improved: moving from ambivalence or moderately negative to moderately positive across the entire social groups in the communities, both BYN beneficiaries and non-beneficiaries. They are seen as the liaison between the communities and the District Assemblies, lobbying for social amenities and services and co-ordinating the activities of the communities. On the other hand, the community members' perception of attitudes at the higher levels official such as those from the District Assembly and other government officials' levels is still rather negative and in many instances worsened. Whatever the case, the BYN group participants have more positive perceptions of the officials than non-project households. The negative attitude towards the officials of DAs and the government officials appears to stem from a general ineffectiveness of the District Assemblies with regards to provision of infrastructure such as all weather road network and water and sanitation facilities¹.

¹ A potentially positive aspect to this negative attitude (which includes dissatisfaction) would be if dissatisfaction encourages taking action to push for reform.

Whilst there is a negative attitude towards the District Assemblies and the other government officials by the community members, the BYN project has become a useful mechanism for improving links with people outside their communities. Neighbouring communities have become interested in the alternative activities and have visited the BYN communities to learn about these. An example is Okyerekrom where other communities have come to learn about mushroom farming and Alata soap making. The extent of interest is evident in people from other communities engaging members of the BYN project communities in discussions on their livelihood activities at every opportunity in communal places and activities such as markets and on public (commercial) transport.

Viability of groups

The viability of groups has been considered at two levels: financial and institutional. Financial viability of the groups beyond the life of the project is dependent on repayment rates by group members. So far these have been low. Our economic analysis of various alternative livelihoods activities (Section 8.1) shows that all activities are projected to be profitable from the second year of full production, though some have low net returns. However, a number of factors have meant that the actual situation observed on the ground is very different from this optimal scenario.

First, livelihood activities are at a relatively early stage (most have completed only one or two production cycles). This is relevant for livestock activities (snails, grass cutters and rabbits) which show negative returns for the first year, but it also applies to those activities which made an abortive start due to poor training and inputs. The pilot nature of the alternative livelihoods activities under the project meant that their viability had not been tested prior to adoption by the groups. Funds were provided from the project for start-up activities with the intention that these would be repaid and form a revolving fund. In one or two exceptional cases, the project has provided extra funds where activities failed in the first cycle but most groups do expect to rely on their own start-up funds. No mechanisms for assessing viability of the alternative livelihoods activities are apparent in project design.

Marketing is another aspect apparently not well covered in the original action plan¹. Already groups are having difficulty finding buyers for grass cutters and mushrooms and have reduced prices virtually to cost to attract buyers. Snail-rearers are experiencing an unforeseen difficulty - the need for a market to sell young or day-old snails. However, many groups are showing considerable initiative in seeking out buyers. The flagship group is Abrepor Rabbits and Grass cutters group who have recognised the need for guaranteed supplies and quality for the market and, with other groups in their livelihoods network have registered as the Bafo Ye Na Rabbits and Grasscutters Producers Co-operative.

Labour inputs are a major issue for many of the groups. The alternative livelihoods activities are mainly labour intensive requiring high labour inputs particularly during the investment phase (for example mushroom cultivation) or daily/twice daily inputs

¹ A marketing expert was consulted once the livelihoods activities were underway.

during production (collection of feed and feeding). Most have a lengthy gestation period – 1-2 years before returns are realised for snails, 6 months for rabbits, 9 months for grass cutters and 3 months for mushrooms. All groups have had difficulties in supplying the required labour inputs without the prospect of immediate returns. Poorest households are the worst affected, having the most acute need for immediate income, but few households have been able to afford time out from other economic activities, including farming and labouring. As a result the burden of labour has tended to fall on the group member at whose property the alternative livestock activity is located, or on the less poor living nearby. Other activities such as Alata soap-making have intensive labour inputs but a short production cycle and potentially more appeal to poor groups, once the techniques are mastered. The long-term nature of the investment and labour inputs required are some of the reasons given as to why 50 percent of the poorest, particularly women (64 percent) have opted, fairly successfully, for trading activities.

Table 12. Distribution of economic activities initiated by poverty group and sex for all project members in 4 selected communities (%)

	Grass-cutter rearing	Rabbit keeping	Snail farming	Mush-room farming	Alata soap making	Farming	Trading	Total (N)
Poor	9 (9.3)	2 (2.1)	7 (7.2)	14 (14.4)	7 (7.2)	8 (8.2)	48 (49.5)	97
Non-poor	8 (13.8)	4 (6.9)	8 (13.8)	5 (8.6)	4 (6.9)	8 (15.5)	20 (34.5)	58
Male	14 (26.9)	40 (7.7)	10 (19.2)	9 (17.3)	3 (5.8)	10 (19.2)	2 (3.8)	52
Female	3 (2.9)	2 (1.9)	5 (4.9)	10 (9.7)	10 (9.7)	7 (6.8)	66 (64.1)	103
All	17 (11.0)	6 (3.9)	15 (9.7)	19 (12.3)	13 (8.4)	17 (11.0)	68 (43.9)	155

Source: Household survey KPUI, Ghana

Note: A household may have more than one activity.

These factors have resulted in a weak financial situation of most groups with virtually no repayment of loans for livelihood activities to date. Repayment levels by individual borrowers for trading activities, which have a shorter pay-back period, have been much higher (information from CLFs, CEDEP staff and selected project households).

Institutional issues affecting group viability include cohesion of the group, participation in decision-making, leadership and transparency in decision-making. The alternative livelihoods groups were initiated by the project and based around a common interest in trying out the activity. Thus there was no history of co-operation by the group members and most groups are socially and economically diverse. Given the technical and economic difficulties of the new livelihood activities, it is unsurprising that disputes have arisen and several groups were virtually defunct at the time of the assessment, in some cases the activities had been taken over by an individual member. These have been exacerbated in some cases by lack of financial experience and systems of accountability. CLFs have felt powerless to handle these situations and have asked for training in conflict resolution. Other factors cited for the reasons why groups have not been successful are: lack of cohesion, apathy within the group, lack of time and expertise to carry out project activities. In addition, groups

engaged in joint production activities (such as mushroom growing) faced increased problems of managing tasks, responsibilities and returns compared to groups of individual producers with pooled credit and inputs (e.g. grasscutter breeding stock).

Two contrasting case studies of groups in Asaago, a community around 8km from the centre of Kumasi are given below.

Box 1: Successful Group: Rabbit Group

One group which is not only intact but very successful is the rabbit group of the Asaago project area (made up of fifty percent females and fifty percent males). A number of factors have contributed to the success of this group, including cooperation and understanding in undertaking all husbandry practices such as feeding and watering as well as cleaning of pens. Also, there is transparency in the purchase and utilization of inputs. This has increased the level of trust which is lacking in most groups.

The group started with a breeding stock of four animals (one male and three females). Currently they have a total sixteen animals with about three female animals being pregnant and ten ready for sale. Expected returns are ₵600,000 after selling one at ₵60,000. Although they could have sold one animal between ₵80,000 and ₵100,000, they decided on the current ₵60,000 in order to attract customers.

Box 2: Case study of low impact group: Mushroom in Asaago

The Asaago mushroom group had broken down at the time of the impact assessment. The group started well with a convener, secretary and treasurer. All members took part in the production process. The production process starts with preparing and mixing compost materials, then bagging of the compost. The bags are sterilized in boiling water for about half an hour and allowed to cool for two days. The sterilized bags are filled with the spawns of the oyster mushroom. After mushroom is allowed to grow and harvested. The mushroom group in Asaago was organized such that each member would take some of the harvested crops for sale and account to the treasurer. On their first attempt, the group members sold up to ₵ 300,000 (US\$ 33.33). With the promise of increasing sales the members collected more products for sale. The group then began to have problems and finally collapsed. The members of the group had different explanations for the collapse of the group:

The Convener: According to the convener of the group, the young ladies in the group did not respect his authority and hence he had lost interest in the group. He also said that, when he attempted to get the group to sit down for all to account for monies used and obtained from sale, they refused and almost insulted him.

The Treasurer: According to the story of the treasurer, after selling the available stocks, most of the members refused to return the money. Yet they wanted to come for extra money to purchase inputs for production. She even suspected that the member in whose house the mushrooms were being produced wanted to take over the enterprise.

Only Remaining Member: According to the member in whose house production was being held, the group had collapsed because the treasurer refused to account for monies obtained and also refused to release extra cash for inputs. She also acknowledged that, after selling the second round of the first stock, most of the members had kept the money for themselves. She indicated that there was a period when no member came around to assist the production. The out come has been that, one of the members in whose house the production was organized, sought extra funds and has started producing with support of family labour.

CLFs: According to the CLFs a number of attempts made by the CLF to get the group members to account failed and regroup them but since they did not have key conflict management skills, they could not do much.

Financial capital

Changes in financial capital of project and non-project members were investigated through household interviews and FGDs on savings and credit levels and access to, and sources of, borrowing.

According to the survey, overall savings rates (formal and informal) have increased slightly from 50 percent of households before the project to 58 percent of project households (Table 13). Savings of the poor have increased by 22 percent whilst women have benefited particularly with an increase of 56 percent. These rates show a significant increase in the financial capital of the target group. They reflect findings on income increases as a result of the project, particularly from trading activities. However, savings are apparently becoming more informal, with all wealth and gender groups having members who used to save in formal financial institutions such as commercial and development banks now saving with informal agents or systems such as Susu Collectors as shown by the changes in places on savings. Possible reasons are the recent changes in the regulatory and supervisory requirements of banks in Ghana, which have emphasised efficiency in the banks and made the small-scale sector less attractive. At the same time the government has been promoting the informal financial sector as an institutional alternative for retailing financial services to micro enterprises. Information on debt levels was not collected due to the sensitive nature of the information, problems of verification and attribution. However, ad hoc evidence suggests that traders have used some of their increased income for debt reduction (see case study of female trader Box 5).

Table 13. Distribution of heads of households' saving in formal and informal financial intermediaries before the project (2001) and now (2005)

Type of savings	Before project		Now		% change in overall saving All financial institutions	No. HH sampled
	Formal (%)	Informal (%)	Formal (%)	Informal (%)		
Poor	35.0	15.0	11.1	50.0	22.2	20
Non-poor	31.3	18.8	12.5	31.3	-12.6	16
Male	46.7	13.3	26.7	20.0	-22.1	15
Female	23.8	19.0	9.5	57.1	55.6	21
Total	33.3	16.7	16.7	41.7	16.0	36

Source: Household survey KPUI, Ghana

Improving beneficiaries' financial capital through savings was not part of the original project design. Interviews with representatives of rural banks and project staff and FGD show that creation of savings groups to improve livelihood sustainability and as a basis for further group loans was generally initiated during the last year of the project. Rural banks have contacted all of the surveyed communities and people have been invited to register themselves as savings groups. Different rural banks generally work in different communities and districts following a local no-poaching agreement. Practices vary between banks. Each has an average of three field staff who visit the communities to explain savings practices and procedures: between 4-6 visits are made over a period of around 6 months. CEDEP staff have visited most rural banks to

introduce the livelihood groups and explore possibilities of them becoming formal groups. The extent to which rural banks have assessed and perceived benefits of working with existing groups has also varied. All have realised the advantages of having CLFs as facilitators and entry points in the community; the extent to which groups themselves are seen as cohesive and potentially credit-worthy varies partly according to the experience of the groups themselves. Potentially CLFs and project groups could reduce set-up costs, time and risks of lending for rural banks, eventually seeing a reduction in the currently high interest rates (30 percent). However even groups which have worked together successfully are not yet ready to start saving as a group, though some of the members are forming sub-groups. Others which suffered from technical and co-operation difficulties in the pilot phase and are not willing to embark on further group activities, though they may be willing to save together for individual loans.

Tables 14 and 15 below show the increase in ownership of productive assets as a result of the project. These increases appear to be across the board with no significant differences recorded between social groups. A further finding is that although income from the livelihoods activities has been low to date, the majority of group members perceive their individual household or joint ownership of productive assets to have increased. No improvements in productive assets over the period were recorded by non-project households (from focus group discussions).

Table 14. Additions to productive assets resulting from the project (counts)

	Sample size	Buildings/ sheds	Equipment/ tools	Breeding stock
Poor	51	18	12	18
Non-poor	27	10	9	10
Male	38	17	10	17
Female	40	11	11	11
Total	78	28	21	28

Source: Household survey KPUI, Ghana

Note: Total assets may not equal sample size due to multiple holdings or zero holdings of some assets. Figures are based on sampled households.

Table 15. Perceived ownership (expected fate) of productive assets (counts)

	Sample size	Individual	Household	Several households	Project
Poor	51	22	9	18	9
Non-poor	27	15	0	9	7
Male	38	25	3	18	12
Female	40	12	6	9	4
Total	78	37	9	27	16

Source: Household survey KPUI, Ghana

Note: Total assets may not equal sample size due to multiple holdings or zero holdings of some assets

Natural capital

Impact on natural capital as a result of the project has been examined both in terms of both the use of natural resources by the household and perceptions of changes in households' use and sources of natural resources since the start of the project. Changes

in natural resource by-products as a result of the project were also discussed, but found to be negligible to date.

The proportion of project households using land-based (natural) resources for their main economic activity (Table 16) has declined slightly since the start of the project from around one-third to one-quarter, with a corresponding increase in the use of non-natural resource. A similar decline in reliance on the natural resource base for the most important activity has been observed across all social groups. Overall the poor are more likely to use natural resources in their main economic activity than the non-poor. Table 17 shows that the proportion of households engaging in more than one economic activity has increased since the beginning of the project and that the increase is in both land and non-land based activities. Again there appears to be a similar increase across poor, non-poor, male- and female-headed households. Changes in land and non-land based sources for non-project households have apparently been negligible over the period (from focus group discussions). Thus, a tentative conclusion is that households engaging in project livelihood and non-livelihood activities have a slightly reduced reliance on land-based resources for their economic activities. This is most likely to be the case for traders and producers of Alata soap, for example. Even where land-based activities are being taken up (such as small stock rearing and mushroom growing) these are less demanding on natural resources than traditional economic activities in the project area (farming, firewood and charcoal production, sand mining).

Table 16. Proportions (%) of households whose most important economic activity is income derived from land based and non-land based sources

	Before project		After project		Sample size
	Land-based	Non-land-based	Land-based	Non-land based	
Poor	49	51	41	59	51
Non-poor	26	74	19	81	27
Male	45	55	37	63	38
Female	38	62	30	70	40
All	41	59	33	67	78

Source: Household survey KPUI, Ghana

Table 17. Proportions (%) of households whose second most important economic activity is income derived from land based and non-land based sources

	Before project		After project		Sample size
	Land-based	Non-land-based	Land-based	Non-land based	
Poor	33	33	39	41	51
Non-poor	11	33	19	37	27
Male	21	55	26	53	38
Female	30	13	38	28	40
All	26	33	32	40	78

Source: Household survey KPUI, Ghana

Note: Totals do not equal total sample size since not all households engage in a 2nd economic activity

Findings from Focus Group Discussions show a perceived general deterioration in availability of natural resources in the study area including water, wood products, soil fertility, drainage, sand and stones and grazing areas. Quality of water supplies and sanitation have reportedly increased, reflecting the establishment of boreholes (with water charges) in the Kumasi peri-urban area. However these findings are not impacts of the project but rather form the background to project interventions, reflecting the overall pattern in resource availability in the area. Natural resources were not directly targeted by the project in Kumasi, rather they were addressed indirectly through the three Implementation Plans which aimed to gradually reduce dependency on, or exploitation of, the natural resource base. For this reason, significant short-term improvements (or reductions in deterioration) in use and sources of natural resources since the start of the project were not expected. Rather, the nature of the Plans (particularly non-land based and processing/trading) was intended to reduce reliance on natural resources and improve use of by-products in the longer-term.

Some of the livelihoods activities make use of waste/by-products in production, such as sawdust from sawmills in mushroom composting. However, given the number and size of 'sawdust' mountains around Kumasi, mushrooms cultivation would need to be carried out on a very large scale to make an impact on this form of environmental degradation. Rather, use of by-products demonstrate innovation in production methods and cost-saving.

Physical capital

Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. In particular, the following components of infrastructure are usually essential for sustainable livelihoods: affordable transport; secure shelter and buildings; adequate water supply and sanitation; clean, affordable energy; and increased purchasing power for services to improve access to information (e.g. books, computers, phones).

This was not targeted by the project in Ghana and no impact was observed.

3.2 Impact on livelihoods, Hubli-Dharwad

This section describes the main impacts on the livelihoods of the project beneficiaries in Hubli-Dharwad, India. The analysis is structured around the five livelihood assets of the SL approach and, given the relatively short time period since project completion, concentrating on the main proxy indicators of impact (especially on human, social and financial capital). The evidence is primarily gathered from household surveys, supplemented with additional information from key informant interviews and focus group discussions.

In addition to the analysis of poor/non-poor and female/male, this section disaggregates the data by the households supported by the two NGOs (BAIF and IDS). This is seen as an important element of the analysis, as BAIF and IDS undertook two different approaches that may affect the nature and extent of impact. BAIF focused on improving land and water use through its agri-horti-forestry or WADI¹/agroforestry approach, and through related activities such as livestock and vermi-culture. BAIF placed less emphasis on Self Help Groups (SHGs) and general income generating activities. IDS concentrated on income generating activities and SHGs, and while it has also provided livestock, it has not emphasised improvements in natural resource management such as agroforestry. As such, households with poor access to natural resources (especially ownership of land) are not expected to benefit as much in the BAIF villages compared with similar households in IDS villages. Likewise, non-poor (natural resource owning²) households in BAIF villages ought to benefit more than in IDS villages.

Human capital

It was generally observed that due to nearness of the villages to the city, men, especially poor men, tend to commute to the city in search of jobs. Being unskilled most of the men end up with work that demands physical labour. Women were mostly working as labourers on larger farms, while older people generally stayed back in the villages and continued labouring. The PUI project has provided training and exposure visits to these people to build their capacity to earn their livelihoods in the village through new productive approaches (such as soap powder making, candle making, tailoring, livestock rearing, etc) as well as ways to help conserve their natural resources. About 27% of the total respondents in BAIF villages and 10% from IDS villages received training in agro-forestry/WADI and/or exposure visits to gain practical knowledge.

For example, more than 50% of the respondent households from Channapur village depend on agriculture for their livelihoods, but with too little or no rain for 3 consecutive years, most of them started going to Hubli for other sources of income. Many farms were abandoned or used for only single crop cultivation depending on rain. After exposure visits, many households were made aware of growing less water-

¹ The 'Wadi' system, based on a model initiated in Gujarat, includes planting of barren land with drought resistant fruit plants as the main crops; fuel, fodder and medicinal herbs on bunds and borders as windbreaks; and local food crops in the inter-space.

² "NR owning" households are non-poor. They may or may not belong to a SHG.

demanding alternate crops along with forest and fruit trees. While cash crops can provide immediate returns, fruit trees start to yield after 5 years, and timber trees after 10 years.

The training topics for livelihood improvements and income generating activities included: soap powder making, candle making, tailoring, poultry, livestock rearing and care, *agarbati* making (incense stick), balm making (herbal medicine), bread making, dairy, *papad* making, pickle making, bee-keeping, photo framing, tyre repairing, as well as some other activities. Training on natural resources included WADI/agro-forestry/horticulture, crop variety demonstrations, water and soil conservation, cultivation of medicinal plants, forest management, plus water and land management.

These income-generating activities (IGAs) were promoted through self-help groups or *sangha*. Each *sangha* executive member received training in SHG concept and formation, leadership training, record keeping and accounts keeping. Thirty women from 3 different *sangha* were provided with MOVE (Market Oriented Value Enhancement) intensive training and survey. They established their own strategy for marketing soap powder and *agarbati*. *Agarbati* has already shown a good market and the group approach for *agarbati* is still valid. However not many women are interested in marketing soap powder as they did not get an income from it and they have to take care of the family. Although they sold a good amount as a business starter, none of them received any cash as the *sangha* retained the income. For scaling-up the business they had to invest from their own pocket/savings. It was understood by the evaluation team that soap making would be taken over by well-to-do families either individually or in a small group. About 20 women have already given up. Some of the existing members are working as trainers for the World Bank Sujala project in the adjacent villages without realising that in return for earning Rs 50/day as trainers they are creating their own rivals in the business arena. In Channapur women are making balm for selling although the income is not so great. One of the main problems is developing marketing skills and linkages. The project partner NGOs were not however keen on making linkages for the women as they want the women to become more self-confident and self-reliant (see Box 3).

Box 3: Self-confident and self-reliant woman SHG member, Mandihal

From the project I learned how to stitch women's clothing. Everyday I make at least one dress, so I earn Rs. 80 every day. Before I worked as an agricultural labourer and earned only Rs. 20 per day. Now I am self-reliant and not dependent on others for work.

All of the SHG members received some kind of training and some SHG participants benefited from several trainings. The majority of poor participants in the BAIF villages rated training as very useful, but overall there was no difference in rating between poor and non-poor (see Table 18). The higher rating for BAIF may be due to the approach and targeting undertaken by the NGO: BAIF mostly works on natural resource management (agriculture and livestock) and mostly work with households with more land resources.

Table 18. Training experience and assessment

Respondent category	Av. number of trainings etc received/household	Av. score for usefulness/ household ¹	% HH scoring any event 4 or 5	% HH with no training	Sample size
Poor	2.3	3.8	70	0	40
Non-poor	2.3	3.8	53	25	40
Male	1.9	3.9	65	15	40
Female	2.4	3.7	58	10	40
IDS	2.0	3.5	53	15	40
BAIF	2.4	4.0	70	10	40
All	2.2	3.8	61	12.5	40

Source: Household interview survey, HD, India

Participants reported that the main gain from training has been the building up of savings, general knowledge and awareness, and developing IGAs that increase their incomes. On average, over 50% of participants reported these types of gain (see Table 19). Financial gains were achieved by almost all BAIF participants, but only half of the IDS participants gained financially from the project.

Table 19. Different types of benefits reported from training % (n=40)

Gains/benefit	BAIF	IDS
IGA	98	55
Financial gain	98	50
Awareness (e.g. NR management, environment)	90	58
Knowledge (technical or specific)	68	33
Own savings	50	63
Personality	10	15
Credit	10	13
Productivity of land	10	5
Capital for future	10	5
Can keep accounts	5	5
Business idea	-	8
Nursery established	-	5

Source: Household interview survey, HD, India

When asked whether project beneficiaries believe they will continue to use the skills they gained from the project, there were mixed responses. More than 60% of all the participants expected that their IGA will continue, and they have the same expectation for their SHGs (see Table 20). In both IDS and BAIF villages half of the non-poor female participants doubted the sustainability of use of the skills they had gained, for example in IGAs.

¹ Scores were rated from 1 to 5, with 5 being 'very useful'.

Table 20. Respondents' opinions of the likelihood of skills obtained being sustained (%)

	Very likely	Likely	Maybe /don't know	Very unlikely	No skill gained	n
Poor	35	30	18	13	5	40
Non-poor	25	35	10	5	25	40
Male	28	40	13	3	18	40
Female	33	25	15	15	13	40
IDS	25	35	15	8	18	40
BAIF	35	30	13	10	13	40
All	30	33	14	9	15	40

Source: Household interview survey, HD, India.

Note: **Bold** indicates modal class.

Social capital

The study assessed changes in cognitive and structural social capital in terms of self-assessments of social cohesion, cooperation, empathy and unity (cognitive); and in terms of institutional links and organizational sustainability of SHGs (structural).

All of the 261 individual participants in the 32 FGDs were interviewed individually as part of the FGD to record their opinion on changes in social cohesion in their village since 2001, using a scale from -5 to +5 (worst possible fall to best possible increase). Project villages and participants reported greater increases in social cohesion than did control (non-project) villages, but no mean changes below zero were recorded (see Table 21 below). The results of analysis, using a general linear model, are shown in Annex 1. The type of location (NGO-environment), whether it was a project or control village, and the category of respondent were all significant factors associated with the reported changes in social cohesion: social cohesion increased more in project villages, but also increased more for NR owners than for poor SHG members, and more in the IDS villages (where SHG were the focus) than BAIF villages where working with individual farmers was relatively more important.

Table 21. Mean change in social cohesion, 2001 - 2005 (scale of -5 to +5)

FGD type		IDS		BAIF	
		Project	Non-project	Project	Non-Project
Poor male	Mean	3.9	1.8	3.4	1.2
	N	35	23	24	32
Poor female	Mean	4.0	2.2	3.5	2.9
	N	35	31	53	28
Non poor male	Mean	4.2	1.8	3.4	1.6
	N	43	23	45	27
Non-poor female	Mean	3.8	2.2	3.4	2.3
	N	27	31	32	33
Total	Mean	4	2.0	3.4	2
	N	70	54	77	60
	(Std. Dev.)	(0.98)	(0.84)	(1.04)	(1.1)

Source: Individual participants in FGD recorded separately, HD, India.

Similarly in the household sample survey the tendency to cooperate was rated by the respondents. This revealed a greater increase in the likelihood of cooperation in the project villages compared to non-project villages¹. This was similar for poor and non-poor and men and women. The sample household survey scores for empathy and unity overall also increased significantly since the project started. Thus overall social capital has increased in the project villages according to the respondents, indicating an important positive effect of the project activities in terms of attitudes and beliefs.

The *sangha* (SHG) records reveal a substantial accumulation of savings since 2001. Male *sangha* have roughly doubled the level of savings of the female *sangha*, but even the latter averaged over Rs 6,000 per SHG (group capital) and almost Rs 20,000 (individual savings, for an average of about 13 members). In terms of the two NGO approaches, BAIF male SHGs have almost three times the amount saved of the other SHGs (Table 22). SHG participants of IDS were able to borrow only slightly more than they had saved, whereas the average loan of BAIF SHG members is more than twice their savings (Table 23).

Table 22. Total *sangha* savings (Rs) as of January 2005

		IDS			BAIF			Total		
		Mean	N	(Std. Dev.)	Mean	N	(Std. Dev.)	Mean	N	(Std. Dev.)
Male	Cumulative <i>sangha</i> savings	7,296	9	(-4,757)	22,355	7	(-8,175)	13,497	16	(-9,806)
	All personal savings	29,687	9	(-23,846)	56,605	7	(-16,606)	40,771	16	(-24,693)
Female	Cumulative <i>sangha</i> savings	5,718	22	(-5,182)	7,100	7	(-8,981)	6,051	29	(-6,147)
	All personal savings	19,373	22	(-6,085)	20,039	7	(-20,029)	19,534	29	(-10,669)

Source: Sangha records, HD India.

Table 23. Average amount of *sangha* savings and outstanding loans (Rs) per member
NGO

		IDS			BAIF			Total		
		Mean	N	(Std. Dev.)	Mean	N	(Std. Dev.)	Mean	N	(Std. Dev.)
Male	Savings	1768	157	(-645)	4361	98	(-1845)	2836	255	(-1800)
	Loans	2466	157	(-1234)	10429	98	(-11706)	6238	255	(-8852)
Female	Savings	1583	282	(-524)	1274	79	(-1108)	1508	361	(-698)
	Loans	2219	282	(-1068)	3302	79	(-5448)	2480	361	(-2727)

Source: Sangha records, HD India.

¹ T-test results: t=8.73, p<0.001

According to the respondents in the household survey, the SHG has largely replaced other sources of credit and help. Most women reported depending on moneylenders before, but none use them now, dependence on relatives has also fallen which has improved relations with their relatives.

Households that are in the project villages and SHG reported receiving help from more organisations than in the control villages (see Table 24). This perhaps indicates better networking by the project SHGs, which should improve access to services from those organisations and may strengthen resilience. Moreover the participants in the project villages covered by the FGDs reported a substantial change in attitude of local government officials and *gram panchayat* - which are now favourable towards the project activities (Table 24). Some of the newly elected *gram panchayat* members are SHG members too, showing that these (poor) SHG members are now well respected and accepted as local leaders by the rest of the community. There was no significant difference reported by the FGD participants in attitude between members or officials of IDS and BAIF villages (Table 25).

Table 24. Number of organizations reported to be receiving/planning to get help

		Project	Non-Project
IDS	Received help	10	7
	Planned to get help	5	5
BAIF	Received help	10	7
	Planned to get help	7	4

Source: FGD in HD India (8 FGDs in each of four categories).

Table 25. Frequency of scores given by FGDs for official attitudes to project related activities

	N	Frequency of attitude scores						Average
		-3	-2	-1	+1	+2	+3	Frequency
<i>Gram panchayat</i> before	16	7	4	5	0	0	0	-2.1
<i>Gram panchayat</i> now	16	0	0	0	0	9	7	+2.45
Government officials before	16	9	6	1	0	0	0	-2.5
Government officials now	16	0	0	0	9	6	1	+1.5

Source: FGD in project villages only (16 FGD), HD India.

Note: Scale was -3 (highly negative) to +3 (highly positive), assessed for 2001 and 2005.

When asked about their responses about the *sangha*, the members said that the *sangha* are the platform for them to meet, discuss problems and seek each others' cooperation. "Now we are a single family" said Zubaidah a *sangha* member (Box 4). It was also revealed from the discussions that the poor SHG members did not have a habit of saving but were interested to save and know the benefits of saving.

Box 4 Case study of women's empowerment

Zubaidah, a Muslim Bangle vendor, walks from village to village selling different coloured and designed bangles. She is a mother of 5 children. Her dream is to raise her children properly, giving them a proper education. Although she was selling bangles in her village and also in other villages, she was very much under her husband's control.

When Dilshad, her next door neighbour, formed a *sangha* (a group) for saving/credit activities, she also joined. But her husband did not agree to let her go to the meetings. She hid the fact and was attending meetings while her husband was not at home. Things did not go well when one day he came home early and found her in the *sangha* meeting. She was badly beaten by her husband. She stopped attending meetings but continued to subscribe her savings. One day he needed money and was desperately looking for a loan from a moneylender who charges Rs.10 per month for Rs.100. He eventually got a loan from the *sangha* through his wife at a minimal rate. He was ashamed to ask his wife but she understood the situation and borrowed money for her husband. She became a very active member of the project. Due to the nature of her job she was known to people and could successfully implemented the MOVE approach for selling soap powder, which the *sangha* members are producing. Soon she became very popular for her attitude towards the Muslim community.

For the last 20 years, nobody has been elected as a *Gram Panchayat* member from her community. Her *sangha* members asked her to stand for the position, but she was hesitant as she is illiterate and has so many responsibilities (*sangha* activities, household work and her bangle selling business). Other women said they would help and they asked the community leaders to ask her to stand. Men asked her husband to stand but he said he cannot squeeze anyone's hand as well as his wife does and it was better that she stand. Finally the community nominated her, the whole village decided to elect her, and she is now a *Gram Panchayat* member.

Financial capital

The SHGs operate as savings groups, which are expected to help generate funds to be rotated as loans among members and to act as a reserve for times of need to reduce vulnerability. Success in increasing savings has been mixed. Poor SHG members have increased their savings relatively more than the non-poor and have caught up to some extent (Table 26). Average savings of male BAIF and female IDS SHG members increased by about 3 times in three years according to the household survey, but female BAIF members were hardly able to increase their savings. IDS participants had much lower savings than BAIF participants before the project and although they built up savings faster still have under a third of the savings of BAIF households.

Table 26. Average Savings (Rs) per participant /SHG member before the project (2001 and now (2005)

	Before project	Now	% change
Poor	305	2,278	647
Non-poor	4,229	9,547	126
Average	2,133	5,610	163
Male	2,376	6,564	176
Female	1,920	4,803	150
Average	2,133	5,610	163
IDS	694	2,413	248
BAIF	3,458	8,471	145
Average	2,133	5,610	163

Source: Household survey, HD, India

Note: Sample size: 40 per row

The savings data from the sample interview survey of 80 households are roughly consistent with the SHG records obtained through the NGOs and covering all SHG members in the study villages. These are summarised in the table below. SHG credit among BAIF SHG members was more than double their average level of savings, but was close to 50% more than their savings for IDS participants (Table 27). Men in the BAIF SHG had notably high levels of formal credit and so ought to have higher involvement in IGAs than was found.

Table 27. Savings and credit of SHG members in early 2005 (Rs.)

		NGO								
		IDS			BAIF			Total		
		Mean	N	(Std. Dev.)	Mean	N	(Std. Dev.)	Mean	N	(Std. Dev.)
Male	Savings	1,768	157	(-645)	4,361	98	(-1,845)	2,836	255	(-1,800)
HH	Credit	2,466	157	(-1,234)	10,429	98	(-11,706)	6,238	255	(-8,852)
Female	Savings	1,583	282	(-524)	1,274	79	(-1,108)	1,508	361	(-698)
HH	Credit	2,219	282	(-1,068)	3,302	79	(-5,448)	2,480	361	(-2,727)

Source: SHG records covering all SHG members in the six project villages, HD India.

Note: BAIF credit includes Moha Shanga (apex) support and bank credit.

Access to bank credit appears to have increased for non-poor households, especially in the IDS villages, and bank loans tend to be up to ten times larger than average SHG loans (Table 28). The SHGs appear to be effective in targeting poor households as more of these households took SHG loans and the loans were more than three times larger than the SHG loans to non-poor households. Moreover, SHG loans to men are double the amount on average loaned to women. Access to SHG and bank credit also appears to have ended reliance on moneylenders, although in 2001 only about 20% of all households reported borrowing from moneylenders.

Table 28. Level (Rs) and change (%) in household credit between 2001 and 2005

		a) FORMAL SOURCES			b) INFORMAL SOURCES			
		Period & Sources			Period & Sources			
		Now	Before		Now	Before		
		Bank	Bank	% change	SHG	Wholesaler	Moneylender	% change
Poor	Mean	21,167	5,000	323	8,228	10,000	13,917	31
	n	3	1		30	1	6	
Non-poor	Mean	21,500	33,750	-36.3	2,358		1,667	" +41.4
	n	15	4		19		3	
Male	Mean	27,038	28,000	-3.4	8,365		12,083	-30.8
	n	13	5		20		6	
Female	Mean	6,900	0	100	4146	10,000	5,333	165
	n	5	0		28	1	3	
IDS	Mean	31,200	35,000	-10.86	5343	10,000	3,700	314.7
	n	10	3		23	1	5	
BAIF	Mean	9,250	175,000	-94.71	6,420		17,500	-63.3
	n	8	2		25		4	
ALL		21,444	28,000	-23.41	5,904	10,000	9,833	61.7

Source: Household interview survey, HD, India

Notes: Mean averages of credit (in Rs) are for those households having the respective type of loan.

The few loans reported in 2001 were not used for IGAs, but were used for either farming or household maintenance related needs. Outstanding loans in early 2005 were reported to have been used for more purposes: family maintenance and agriculture remained important, but about 25% had been used for IGA and livestock related purposes, indicating some move towards productive investments.

Natural capital

The project aimed to develop and promote natural resource (NR) management strategies for peri-urban areas, and these were expected to benefit the poor. To this end, NR-related interventions were initiated in six villages, namely: Mugad, Mandihal, Daddikamalapur, Kotur, Gabbur and Channapur. Many interventions were designed to conserve natural resources but also to lead to significant positive changes in the livelihoods of the peri-urban poor. For example, agricultural interventions allowed farmers to cultivate lands that would otherwise lay fallow, increase their yields, and improve their livelihoods as well as maintaining their fields.

Farmers were helped to develop an integrated farming system to improve the carrying capacity of their land for livestock. Other prominent interventions were soil and water conservation measures like field bunds and percolation tanks, the introduction of improved hybrid perennial grasses and leguminous forages in the fields and, on appropriate spare lands like field and tank bunds, and integration of trees in agriculture to increase biomass availability for fodder, manure and fuel wood. The project also supported participants with different training and exposure visits and access to credit that has increased their income.

The cost-benefit ratio of each IGA (based on last year's figures) shows that all of the enterprises are profitable, but some such as vermi-culture and firewood selling give high returns to cash expenditure (Table 29). Some IGAs have just started to yield a benefit (e.g. goat and buffalo rearing) and some need to continue for a longer time before the participants will profit (e.g. WADI, horticulture). However, the FGDs reveal that the participants of each NR-based IGA (e.g. WADI) foresee the enterprise as being financially sustainable. Some of the IGAs need a more cautious market survey (value added products) and better marketing channels (e.g. chickens). Some IGAs have not gained popularity as at this moment they do not have a ready market (e.g. pickles). In most cases, the lifespan of the project was not sufficient for these types of activities. For example, most women still need additional support from NGO partners, especially in making business plans and producing branded products. Also, and despite the importance of demonstrating new crops and techniques, the effect of drought means that many NR activities need longer to show any impact.

Table 29. Returns from NR based IGAs (Rs/household/yr) in 2004

Activity	Total Income	Total Expenditure	Benefit to cost ratio
Vermi-culture	2,590	240	10.8
Fire wood selling	2,000	250	8.0
Leaf plate making	3,600	540	6.7
Tailoring	6,766	1,450	4.7
Livestock rearing	6,579	1,492	4.4
Poultry	1,781	428	4.2
Agriculture	23,064	8,546	2.7
Dairy	22,268	10,690	2.2
Papad making	300	170	1.8
Small trader	12,000	7,100	1.7
Horticulture	50,000	30,000	1.7
Vegetable vending	13,440	10,000	1.3
Total	17,253	7,110	2.4

Source: Household interview survey, HD, India

Notes: Expenditure is on recurrent costs, in general any capital costs were incurred before 2004 or were received as grants/loans. The extent that IGAs were at "full production" level was hard to determine.

The ranking of land-based income sources has not changed with the project: own land remains the first source of income for all categories of household except the poor (Table 30). However, the poor are now more dependent on the city as an income source (ranked third before the project started with village first, now ranked first with village third). Although common land (non-own land) contributes a very small proportion of household incomes, it has registered by far the largest increase in value as an income contribution – mainly as an income source for women, and more for the non-poor. Own land has registered the least rate of increase as an income source, although the absolute value of increase in income from own land is substantial for BAIF households. Overall dependence on non-land based income sources has tended to increase slightly, except for the poor and women.

Table 30. Average income (Rs/year) per household by source type

PERIOD AND SOURCES															
	Own Land			Common Land			Village Based Non-Land			City Based Non-Land			Total Income		
	Before	Now	% change	Before	Now	% change	Before	Now	% change	Before	Now	% change	Before	Now	% change
Poor	3,698	5,541	50	235	840	258	4,479	4,705	5	3,450	6,969	102	11,862	18,055	52
Non-poor	19,974	24,534	23	118	914	678	4,987	7,186	44	2,529	4,683	85	27,606	37,317	35
Male	16,540	19,722	19	235	375	60	5,686	7,065	24	3,188	6,420	101	25,648	33,582	31
Female	7,133	10,353	45	118	1,379	1073	3,780	4,826	28	2,791	5,233	88	13,820	21,791	58
IDS	8,272	9,916	20	185	883	377	6,298	7,443	18	1,521	4,589	202	16,276	22,831	40
BAIF	15,400	20,160	31	168	871	420	3,168	4,448	40	4,457	7,063	59	23,192	32,542	40
All	11,836	15,038	27	176	877	398	4,733	5,946	26	2,989	5,826	95	19,734	27,686	40

Table 31. Average income (Rs/year) per household by land and non-land sources

PERIOD AND SOURCES								
	Non-Land			Land			Non-Land	
	Before	Now	% change	Before	Now	% change	Before (%)	Now (%)
Poor	7,928	11,674	47	3,933	6,381	62	67	65
Non-poor	7,515	11,869	58	20,091	25,448	27	27	32
Male	8,873	13,485	52	16,775	20,097	20	35	40
Female	6,570	10,059	53	7,250	11,732	62	48	46
IDS	7,819	12,032	54	8,457	10,798	28	48	53
BAIF	7,625	11,511	51	15,568	21,031	35	33	35
ALL	7,722	11,772	53	12,012	15,915	33	39	43

Table 32. Average income (Rs/year) per household ranked by income source

	Before				Now			
	Own Land	Common Land	Village Based non-land	City Based non-land	Own Land	Common Land	Village Based non-land	City Based non-land
Poor	2	4	1	3	2	4	3	1
Non-poor	1	4	2	3	1	4	2	3
Male	1	4	2	3	1	4	2	3
Female	1	4	2	3	1	4	3	2
IDS	1	4	2	3	1	4	2	3
BAIF	1	4	3	2	1	4	3	2
ALL	1	4	2	3	1	4	2	3

Source: household interview survey, HD India. [Sample size in each cell 40 except for average which is 80]; Before = 2001, now = 2004

The role of NR-based activities has increased in all the households that used natural resources for their livelihoods previously. Some have adopted more than one type of IGA to reduce vulnerability, although the increase may not appear large. Because of the diversification of NR owners there was a significant increase in number of NR-based IGAs from 1.62 to 2.19 per household (whole sample survey, 78 households with data, t-test, $p < 0.001$) (see Table 33).

Table 33. Average number of NR based activities per household

NGO	Sex	Period	Poor SHG	Non-poor NR
IDS	Male	Before	1.5	1.6
		Now	1.8	2.3
	Female	Before	1.8	1.7
		Now	2	1.9
BAIF	Male	Before	1.7	1.6
		Now	2.3	2.1
	Female	Before	1.2	1.9
		Now	1.9	3.1

Source: Household interview survey, HD, India

It was evident from the survey that a number of household members in the non-poor sampled households in the BAIF area work in the government/private sector and even earn over Rs 60,000 per year. This explains the high percentages of income that is based on city sources including sales of produce to the city (Table 34). For the last 3 consecutive years farmers are constantly losing income from agriculture and have tended to take up alternate jobs in the city. Women also tend to sell their land and village based products in the city to make extra money. However they are not staying in the city, they commute everyday.

Table 34. Average household income from city-related sources

	Before	Now	Percentage increase
Poor	7030	12413	76.6
Non-poor	24200	31219	29
Male	22885	29879	30.6
Female	8345	13754	64.8
IDS	12981	18387	41.6
BAIF	18249	25246	38.4
ALL	15615	21816	39.7

Source: household interview survey, HD, India

Note this table considers the end sale point for household activities rather than the origin – for example dairying to sell milk in the city is recorded as city related here.

Besides selling milk, vegetables and other consumable items, poor people go to the city for manual labouring, such as earthwork, construction work and loading/ unloading work. Non-poor do not work as labourers, only the poor work in the city as labourers when they do not manage to earn something in the village, and their average incomes and dependence on the city have increased, especially for women and people from the BAIF villages (Table 35). In the FGDs people said that the city has both advantages and disadvantages. Some of the people (men) go to sell their products but then spend all the money to buy alcohol.

Table 35. Income from selling labour in cities (Rs/household/year)

	Before	Now	% change
Poor	4345	5833	34
n	9	15	
Non-poor	0	0	0
n	0	0	
Male	4000	3360	-16
n	3	5	
Female	4518	7070	56
n	6	10	
IDS	4730	5816	23
n	7	11	
BAIF	3000	5880	96
n	2	4	
ALL	4345	5833	34

Source: household interview survey, HD, India

Despite the increases in income from the city, natural resource based income has also increased since the initiation of the project (Table 36). The project has created awareness and a knowledge base that helped the people realize that NR based products can provide a better income and that it also helps to protect the environment. As one participant in the FGD in Channapur put it, *“City sources will be exhausted one day but natural resource based income will remain here for ever. If you tend nature, nature will give you everything. Now that we have realized this fact we are trying to recoup”*.

Table 36. Income from NR-based sources (Rs/household/year)

	Before	Now	% change
Poor	7189	9313	29.6
Non-poor	21975	25959	18.13
Male	20820	22944	10.2
Female	10466	14361	37.21
IDS	11776	13663	16.03
BAIF	20428	24112	18.03
ALL	15967	18963	18.77

Source: Household interview survey, HD, India.

Note: Includes all sample households; Sample size per cell is 40, except average which is 80. NR-based sources include on-farm and off-farm ones such as leaf-plate making.

The percentages of people who changed their occupation from non-NR to NR based is high among poor people in the BAIF site (Table 37). They realized that the new farming practices can provide food and income from their small piece of land. If they do not use their land they will lose it.

Table 37. Percent of households changing occupation from non-NR to NR sources

		NGO	
	Category	Sample	% changed
IDS	Poor SHG	20	0
	NR non-poor	20	0
BAIF	Poor SHG	20	60
	NR non-poor	20	10

Source: household interview survey, HD, India. [Changes are between 2001 and 2004-5]

Net return per hectare of land has not increased yet overall, but farmers are expecting higher returns within the next 5 years. For IDS villages the value of products has fallen since the project started, but for BAIF villages income per ha of land has remained about the same (Table 38). This indicates that WADI/agroforestry has helped to overcome the drought problem, and suggests that under non-drought conditions the WADI/agroforestry system will generate higher returns overall per hectare. The tree-based income from WADI will start giving a return after 5 years. The return they are getting now is from crops only.

Table 38. Net return Rs/ha/year of cropped land

Period		IDS	BAIF
Before project	Total return	11,598	11,361
Now	Total return	8,199	12,918
Before project	Net return	7,581	8,107
Now	Net return	5,340	7,904

Source: Household interview survey, HD, India

Farmers reduced using chemical fertilizer and thus are saving both the environment and reducing their costs of production. The percent use of organic fertilizer by value increased (Table 39). Poor farmers in the BAIF villages are using vermi-compost and organic manure instead of chemical fertilizer: some sell compost. They also adopted integrated pest management (IPM): all positive signs of environmental management.

Table 39. Percentage value of fertilizer from organic sources used on farm

		Now	Before Project
IDS	Poor SHG	50	43
	Non Poor	24	17
	Total	33	26
BAIF	Poor SHG	52	15
	Non Poor	16	10
	Total	21	11

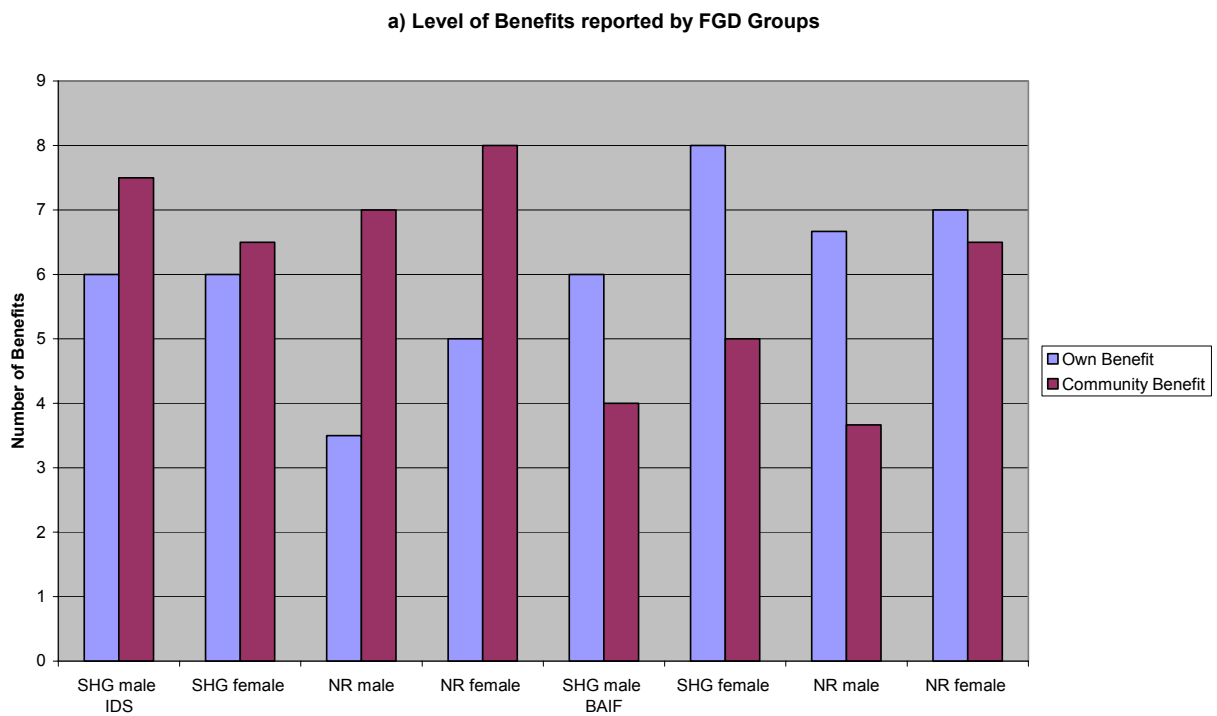
Source: Household interview survey, HD, India. [Organic sources include 'on farm' sources. Values are at local market rates.

Poor farmers utilise most of the cultivable lands, but the non-poor still retain some non-cultivated land. They reported that they are now leasing land out to reduce production costs especially cost of labour and fertilizer.

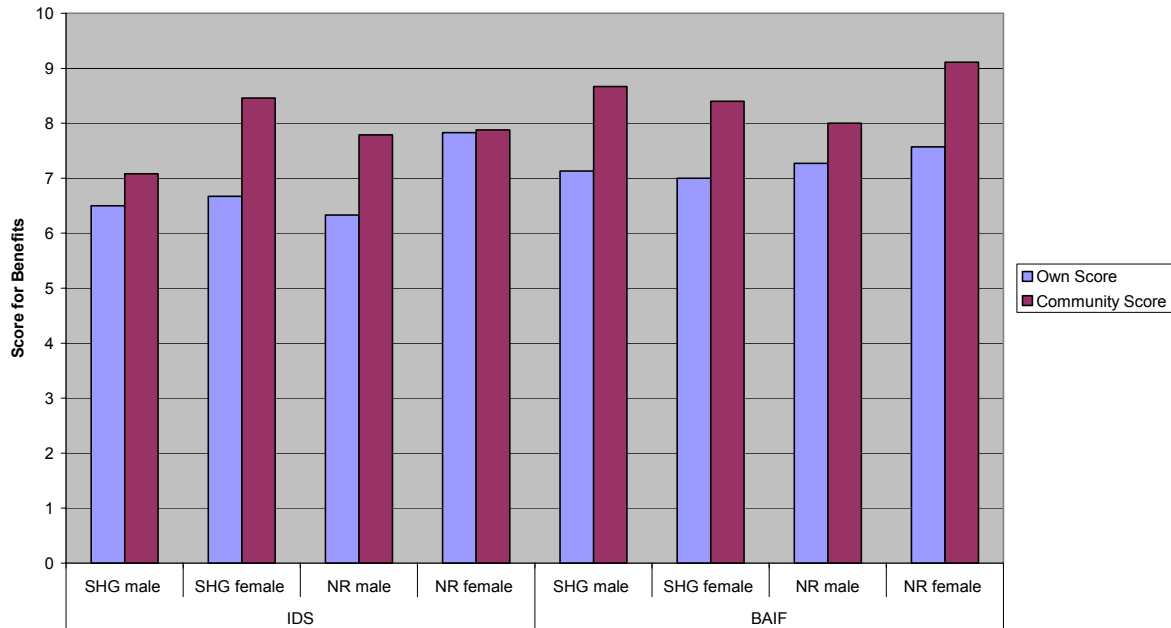
The number of crop varieties grown has increased due to integrated farming practices, Front Line Demonstration and WADI. Cultivation of cash crops, such as cotton and sugarcane has increased. New varieties of crops were introduced by the project (e.g. TNAU-63 variety of millet). Although farmers claimed that acreage under these crops is increasing, it is hard to make any comments at this point.

In the FGDs it was clear that in the IDS villages the community benefits are seen as being more than the personal (own) benefits (Fig. 3). In these villages people spontaneously worked to enhance common natural resources, such as tank rehabilitation. In the BAIF villages own benefits are more than community benefits. Although personal benefit always adds to community benefit there was no significant difference between these two NGO approaches in creating both gains. Non-poor women in IDS villages gave the same score for both types of benefits.

Figure 3. Level of project benefits reported by FGD groups



b) Level of Benefits reported by FGD Groups



Note: Own = household's own benefits; Community = wider community benefit. FGDs reported the number of benefits experienced and expected, and scored the degree of contribution from sustainable natural resources/project activities (1-10 scale).

Although the number of trees owned per household changed substantially, the number of households having trees in IDS villages hardly changed (Tables 40 and 41). In the BAIF villages WADI approach was adopted by only 15% of the total households and the survey also showed very large changes in the number of trees owned by households in the BAIF villages, compared with modest increases in the IDS villages. The reasons for slow adoption beyond the demonstration farmers are that most farmers are still recovering from the last 3 years of drought, and they do not want to take risk without seeing the benefits from the demonstration households. The most important impact of WADI is not only the number of trees and better environment (such as water and soil conservation) in the area but also that it gives an incentive for people to spend more time in their fields managing their land and growing crops in addition to the trees. This approach is expected to succeed, on the proviso that the expected returns from the tree crops are achieved in the near future.

Table 40. Changes in number of fruit/timber trees owned per household, 2001-2005

		IDS		BAIF	
		Before	Now	Before	Now
Poor SHG member	n	6	6	3	6
	Mean	23.7	93.3	4.7	264.2
Non-poor project beneficiary	n	12	14	7	10
	Mean	120.2	127.9	6.3	98.6

Table 41. Changes in % of households owning trees

NGO	Poor SHG member		Non-poor project beneficiary	
	Increase in no households owning trees (%)	No. times more trees	Increase in no. households owning trees (%)	No. times more trees
IDS	0	4.0	10	1.2
BAIF	15	113.1	15	22.4

Physical capital

The most significant impact of the project on physical capital in project villages were repair of tanks, de-silting tank, soil conservation, repair of channel and check dams. In Kotur village, one of the tanks, Gurunath tank, was repaired and a 2-km long channel, which feeds two important tanks (Uppagatti and Dasanakatti) was re-excavated. The silted up channel resulted in greater run-off into adjacent paddy fields leading to soil erosion, silting up the above two tanks and leaving some areas dry due to uneven distribution. Villagers contributed most of the inputs and the NGO supported it. The impact that this channel restoration made was that farmers all along the channel (in about 86.5 acres) harvested good yields in *kharif* and *rabi* in spite of low and ill distributed rainfall. Prior to restoration of the channel farmers usually grew one single crop in a good rainfall year during *kharif* (monsoon season). Thus agricultural production is more secure now than earlier. Another significant change was that poor women now get employment for longer improving their livelihood which was hitherto threatened. Farmers owning lands beside or along the channel have pledged to maintain it.

Daddikamalapur is a small village where a small water tank is a major source of water for all the activities of the village and is the only source of drinking water for animals. Due to continuous drought for 3-4 years the tank had nearly dried up. The women SHGs (Durgadevi, Tulaja Bhavani and Sri Krishna) in the village took a lead in restoration. Women participated by way of contributing money, helping masons in construction of culverts (facilitating flow of channel water into the tank) and the curing work. This helped to store more water in the tank.

Mugad tank, covering 97.0 acres, is 110 years old. People of the village believed it never dried up completely since its construction but in 2003, the tank dried up. Due to the huge area, the responsible minor irrigation department was unable to afford the high cost of excavating it. However, due to involvement of project steering committee and local political leaders part of the tank was de-silted. Local farmers also helped to lift the silt to their lands.

3.3 Summary of common themes

This section summarises key points from the case studies in Kumasi, Ghana and Hubli-Dharwad, India. Each livelihood asset is discussed in turn, followed by a brief synthesis of common themes.

Human capital:

Key findings from Kumasi:

- All households record improvements in skills, regardless of their wealth-status.
- Male-headed households are significantly more likely to have increased their competency in livelihood skills than female-headed households

Key findings from Hubli-Dharwad:

- All poor participants attended 2 or more training courses on average
- Although BAIF participants rated training as less useful than the IDS participants, almost all BAIF participants reported financial gains due to training but only half IDS participants gained financially
- A majority of participants (65% of poor and 60% of non-poor) expect to use their new skills in the future.

Overall

There appears to have been a positive impact on people's livelihood skills, though with little difference between the poor and non-poor households. In Kumasi, the main differences have instead occurred between male and female-headed households; something that appears to relate to the performance of alternative livelihood skills (e.g. Alata soap), especially in groups predominantly made up of women. In Hubli-Dharwad, the differential impact was more related to the approach taken by the two implementing NGOs; IDS took a more group based approach, while BAIF was more individually orientated – with the latter leading to greater financial gains.

Social capital:

Key findings from Kumasi:

- The perceptions of households under the BYN project are that attitudes, especially of the Village/Unit Committees have improved. They are seen as the liaison between the communities and the District Assemblies, lobbying for social amenities and services and coordinating activities within the communities.
- Attitudes to higher level officials, such as from the District Assembly and other government officials, remains rather negative and in some cases worsened.
- Overall, the BYN project has become a useful mechanism for improving links with people outside their communities.

Viability of groups in Kumasi:

- Repayments rates by group members has so far been low; with no mechanisms for assessing viability of alternative livelihood activities, and marketing not well covered in the original action plans developed by target communities.
- Labour inputs are also a major issue for many groups, with many alternative livelihood activities requiring high labour inputs – with the poorest households

worst affected. Livelihoods activities implemented by groups are proving more problematic than individual enterprises.

- Given the technical, organisational and economic difficulties of new livelihood activities, it is unsurprising that disputes have arisen and several groups have become virtually defunct. However, overall, project members perceive improvement in social cohesion, cooperation and unity.

Key findings from Hubli-Dharwad:

- Social cohesion increased more in project villages, but also increased more for NR owners than for poor SHG members, and more in the IDS villages (where SHG were the focus) than BAIF villages where working with individual farmers was relatively more important.
- Cooperation, empathy and unity reportedly increased significantly for participants of the project since it started
- SHGs have more than doubled their cumulated savings since the project started
- Local government officials and *gram panchayat* are now favourable towards the project activities.

Overall

Impact on social capital appears to be positive, evidenced by improvements in cooperation, empathy and unity. In Kumasi, attitudes to Village/Unit Committees have improved – particularly with regards to their liaison, lobbying and coordination roles within the communities. However, the financial and institutional viability of groups in Kumasi is beset with difficulties and the high intensity of labour inputs is a major concern, especially with the poorest households being worst affected. In Hubli-Dharwad the non-poor are more likely to have benefited from the project, as are those in villages supported by IDS which focused on group activities. Local officials are now perceived to be favourable to project activities.

Financial capital:

Key findings from Kumasi:

- Overall savings rates have increased slightly since before the project, with women having benefited particularly.
- Savings are also becoming more informal across all wealth and gender groups (and moving away from formal financial institutions like commercial and development banks).
- There have also been increases in the ownership of productive assets (buildings, sheds, equipment, breeding stock) – something that has occurred across the board as a result of project capital.

Key findings from Hubli-Dharwad:

- Poor SHG members increased their savings from a very low level at a faster rate than non-poor households
- SHG loans largely replaced other sources such as moneylenders
- The incidence of taking loans increased substantially and SHG provide credit to poor and non-poor.

Overall

Impact on financial capital has been more pronounced in Hubli-Dharwad, with poor SHG members increasing their savings from a low level at a faster rate. Kumasi, has seen slight increases in savings, too, but a major impact has been the shift from formal to more informal ways of saving. Anecdotal evidence suggests some of this increase is being used for debt reduction. Similarly, in Hubli-Dharwad there has been a shift in saving patterns, with SHG loans replacing other sources such as moneylenders.

Natural capital:

Key findings from Kumasi:

- The proportion of project households using land-based (natural) resources for their main economic activity has declined slightly – with a corresponding increase in the use of non-natural resource inputs.
- Overall though, the poor are more likely to use natural resources in their main economic activity than the non-poor.

Key findings from Hubli-Dharwad:

- The number of natural resource based income generating activities practiced per participant household has increased significantly since the project started
- Most of the income of poor SHG members comes from non-city related sources, except for men in IDS villages, and the dependence on city related work has fallen; but the non-poor remain highly dependent on the city for work or markets.
- In BAIF villages poor SHG members have been switching to natural resource based activities, influenced by the adoption of WADI/agroforestry (for example they are the main adopters of organic farming)
- So far WADI/agroforestry appears to have maintained incomes from agriculture when in IDS villages crop incomes fell due to widespread drought.
- Only about 30% of poor and 60% of non-poor households own trees, but the number of trees per tree owning household increased hugely in the BAIF villages with the introduction of WADI/agroforestry, and also increased for the poor in IDS villages with free saplings provided by UAS.

Overall

Impacts on natural capital show a contrast between Kumasi and Hubli-Dharwad. In Kumasi, there has been some shift towards using non-natural resources, whereas in Hubli-Dharwad, the shift has been towards increased natural resource-based income. However, in both cases the poor are more dependent on the natural resource base, especially for their main economic activity.

Physical capital:

Physical capital development was not a principal activity of the projects.

- In Ghana, the project did not target physical capital – as defined by the sustainable livelihoods approach.
- In India, reconstruction of water tanks has given benefits to several participating communities.

4. Impact on livelihood outcomes, 2005

This section considers the extent to which people have been able to convert their strengths (assets or capital endowments) into positive livelihood outcomes. Poverty analyses have shown that people's ability to escape from poverty is critically dependent upon their access to assets, and that different assets are required to achieve different livelihood outcomes. The previous section assessed the changes across the five livelihood assets, while this section considers the eventual outcome of these changes. Four main livelihood outcomes are covered: (i) the impact on poverty; (ii) the impact on vulnerability; (iii) the impact on women's status; and (iv) the impact on the natural resource base. These are first discussed separately in relation to Kumasi and Hubli-Dharwad respectively, and then common themes are explored.

4.1 Livelihood outcomes, Kumasi

Given the pilot nature of the project, impact on livelihood outcomes, particularly incomes is limited to date. Nevertheless, changes have been observed for certain groups, particularly those engaged in short pay-back enterprises such as market trading.

Impact on poverty

The poverty grouping exercise carried out at the beginning of the impact assessment reveals changes in wealth status of project group members in sampled villages since the start of the project (Table 42). This shows that there has been a significant decrease in the number of households being ranked as poor, with poor households falling by almost a quarter. Overall an estimated 60 households have been lifted out of poverty by the project. The breakdown by male- and female-headed households shows that in this sub-sample, the reduction in female-headed households has been even larger (29 percent), although the sample size was too small to test significance.

Table 42. Changes in wealth status of sampled households since the start of the project and estimated impact on all households in project villages to 2005

Wealth group	No. HH in sample at start of project (%)	No. HH in sample at end of project (%)	Change over project period (%)	No. HH at start of project (estimate)	No. HH at end of project (estimated)	Change over project period (%)
Poor	51 (65)	39 (50)	-12 (-24)	263 (65)	203 (50)	-60 (-23)
Non-poor	27 (35)	39 (50)	+12 (+44)	142 (35)	202 (50)	+60 (+42)
Total	78	78		405	405	
Poor male	23 (61)	19 (50)	-17	-	-	-
Non-poor male	15 (39)	19 (50)	+27	-	-	-
Total male headed HH	38	38				
Poor female	28 (70)	20 (50)	-29	-	-	-
Non-poor female	12 (30)	20 (50)	+67	-	-	-
Total female headed HH	40	40				

Source: HH survey

Note: 1st two columns are obtained from household survey sample frame (4 study villages). Last 2 columns are estimated from project and census data on populations in the 12 project villages. Breakdown into male- and female-headed households was not available for all project villages.

Impact on vulnerability

The impact of the project on food security in project villages is considered in Table 43. The number of households consuming less than 2 meals per day for more than 2 months per year has increased slightly over the project period, though not significantly. Possible reasons for this include: returns from alternative livelihood activities are yet to be felt; individual trading activities were not fully on stream during the last pre-harvest period; and external factors including poor harvests and high food prices over the past season. One finding is that female-headed households were slightly less likely to be food insecure than male-headed households both before and after the project. One possible factor behind this may be support received by the household through social obligations (see Social Capital above). A further factor, identified in other NRSP projects¹, might be the selection of project households which may (unintentionally) have excluded those with the least means to participate. Project staff in CEDEP, who have long experience of working with poor and disadvantaged groups, acknowledge that within peri-urban communities the so-called 'welfare poor', such as young single mothers and people with social problems, are difficult to reach with livelihood projects. By contrast Bafo Ye Na aimed to engage the 'productive poor' and improve their livelihood opportunities (CEDEP staff, pers. comm.).

¹ PD123 Review of Gender in NRSP projects (draft not available to this study) suggests that there is structural bias in the way projects operate in terms of gender.

Table 43. Change in number (and percent) of households with over 2 months of less than two meals per day (low food self-sufficiency)

	Low food self-sufficiency households before project (%)	Low food self-sufficiency households now (%)	Change (%)	Sample size (n)
Poor	30 (59)	31 (61)	-3.3	51
Non-poor	14 (52)	16 (59)	-14.3	27
Male	20 (52)	23 (60)	-15.0	38
Female	14 (35)	16 (40)	-14.3	40

Source: HH survey, KPUI, Ghana

Diversification of income sources is one way of reducing vulnerability for resource poor households. The survey shows that the number of income sources has increased for all groups by an average of 14 percent during the project period (Table 44). This is likely to increase further if livelihoods groups are able to realise potential incomes from their alternative activities over the next few months. Poor households have a slightly greater number of income sources (2.3) compared to the non-poor and male-headed households more than female-headed, reflecting the greater possibility of diversification within households and labour resources available to them.

Table 44. Proportion of income from main sources

	Total income sources before project	Average no. income sources per HH before project	Total income sources after project	Average no. income sources per HH after project	% change	Total HH (n)
Poor	103	2.0	117	2.3	14	51
Non-poor	43	1.6	50	1.9	16	27
Male	78	2.1	88	2.3	13	38
Female	68	1.7	79	2.0	16	40
Total	146	1.9	167	2.1	14	78

Source: HH survey

Impact on well-being

The well-being of participants in the Boafo Ye Na project has improved as a result of participation in the project according to our survey. Table 45 shows households' perceptions of their own well-being before and after the project ranked on a scale from 1 (extremely poor) to 5 (very well off). Numbers of 'extremely poor' and 'poorly off' households have fallen by around 30 percent whilst average households have increased by a similar proportion. Poor and female-headed households in particular appear to consider themselves better off now than before the project.

Table 45. Changes in well-being of project households

	1 – Extremely poor	2 –poorly off	3 –Average	4 – better off	5 – very well off	Sample size (n=78)
Before project						
Poor	4	26	17	4	0	51
Non-poor	2	10	11	4	0	27
Male-headed	4	14	16	4	0	38
Female-headed	2	22	12	4	0	40
Total	6	36	28	8	0	78
After project						
Poor	2	16	30	2	1	51
Non-poor	1	8	11	7	0	27
Male-headed	2	10	21	4	1	38
Female-headed	1	14	20	5	0	40
Total	3	24	41	9	1	78

Source: HH Survey

These findings can be compared against responses from non-project households reported during Focus Group Discussions (Table 46). This group of households living within the same villages but not participating in the project in either groups or as individual households experienced little change in well-being over the project period. The modal group remained poor.

Table 46. Changes in well-being of non-project households

	1 – Extremely poor	2 –poorly off	3 –Average	4 – better off	5 – very well off	Sample size (n=83)
Before project						
Poor	4	23	11	2	0	40
Non-poor	0	13	17	7	0	37
Male	3	25	2	7	0	37
Female	1	10	24	2	0	37
Total	4	36	28	9	0	77
After project						
Poor	6	23	10	1	0	40
Non-poor	0	14	23	5	1	43
Male	5	18	8	3	0	34
Female	1	19	20	3	1	44
Total	6	37	33	6	1	83

Source: FGDS

Note: Characteristics of a small number of non-project households not known.

Impact on women's status

Impact of the project on women has been considered both for women in female-headed households and women in male-headed households. This has been done in two principal ways: by looking at project outcomes and their impact on women; and by looking at the impact of project livelihoods activities in terms of labour requirements. Table 47 shows that whilst the majority of women (56 percent) were considered 'poorly off' or 'extremely poor' before the start of the project, the mode had become average by

the end of the project. Nevertheless, the well-being of women at the end of the project is perceived to be inadequate, with half of women involved in the project remaining 'poorly off' or 'extremely poor'.

Table 47. Changes in well-being of main woman in project households

	1 – Extremely poor	2 –poorly off	3 –Average	4 – better off	5 – very well off	Sample size (n=78)
Before project						
Poor	7	22	17	5	0	51
Non-poor	3	12	8	4	0	27
Male-headed	6	14	15	3	0	38
Female-headed	4	20	10	6	0	40
Total	10	34	25	9	0	78
After project						
Poor	3	21	25	2	0	51
Non-poor	2	10	9	6	0	27
Male	3	12	19	4	0	38
Female-headed	2	19	15	4	0	40
Total	5	31	34	8	0	78

Source: HH Survey

This is against the background of a slight worsening in the well being of non-participants in the project as shown in Table 48 based on the number of people giving a response during the Focus Group Discussions. Whilst the modal well-being of the main woman in the household was perceived to be 'average' in 2001, by the end of the project period the mode was poorly off.

Table 48. Changes in well-being of main woman in non –project households

	1 – Extremely poor	2 –poorly off	3 –Average	4 – better off	5 – very well off	Sample size (n=86)
Before project						
Poor	2	11	14	1	0	43
Non-poor	0	11	16	11	0	43
Male	2	13	12	7	0	42
Female	0	9	18	5	0	44
Total	2	22	30	12	0	86
After project						
Poor	2	23	4	1	0	43
Non-poor	0	7	18	11	1	43
Male	2	10	12	3	0	42
Female	0	18	10	9	1	44
Total	2	30	22	12	1	86

Source: FGDs

Note: Characteristics are not known for a small number of non-project households]

The impact of the project on women's labour appears to vary between activities. Difficulties of labour requirements for livelihoods activities described above are felt particularly acutely by women, especially female-headed households, where poverty levels are greatest and the need for immediate returns are the most urgent. Trading

appears to be a poor woman-friendly activity with reasonable returns, short payback period, and opportunities for managing time and labour independently of a group. Box 5 below gives a typical example of a woman trader and her perceived improved status, skills, social capital etc.

Box 5: Case Study of Poor Women Friendly Activity

Traders in the Boafo Ye Na are mostly women and are involved in the selling of cooked food, cereals, fruits, soap, clothes, second clothes, shoes, etc. For these women, the benefits of using the loan for trading are: high profits and quick returns. Those who were already in trading have expanded their businesses and others have diversified to include trading or changed livelihood activity(ies) to trading.

Akosua Fremaa is a 36 year-old woman who lives in lives in Abrepor - peri-urban Kumasi Metropolitan Assembly (KMA) and involved in selling of different types of fruits (oranges, banana, pineapples water melons and apples). Before she joined the Boafo Ye Na project she was trading in fruits and according to her because her working capital was low she could only buy so much and hence had very low profits. Since accessing a loan from the project, she has intensified her business by buying more stock and even adding on watermelons and apples which she did not used to sell. On her perception of her wealth status she indicated she was poor before joining the project but now she considers herself average as a result of her livelihood activity having improved. She cited the Boafo Ye Na project for being extremely important in the change of her wealth status. When asked about how participation in the project had enhanced her relationship with others, she explained that her relationship with her family especially her husband had improved because she no longer asked for money to pay her debts and even contributed to household income and children's school fees. Her husband now consults her in family issues and she contributes to family decision-making.

Women engaged in livelihoods activities who report an improvement in their well-being over the project period, attribute this to the project. Non-project members saw no improvement over the project period.

Impact on environment/natural resources

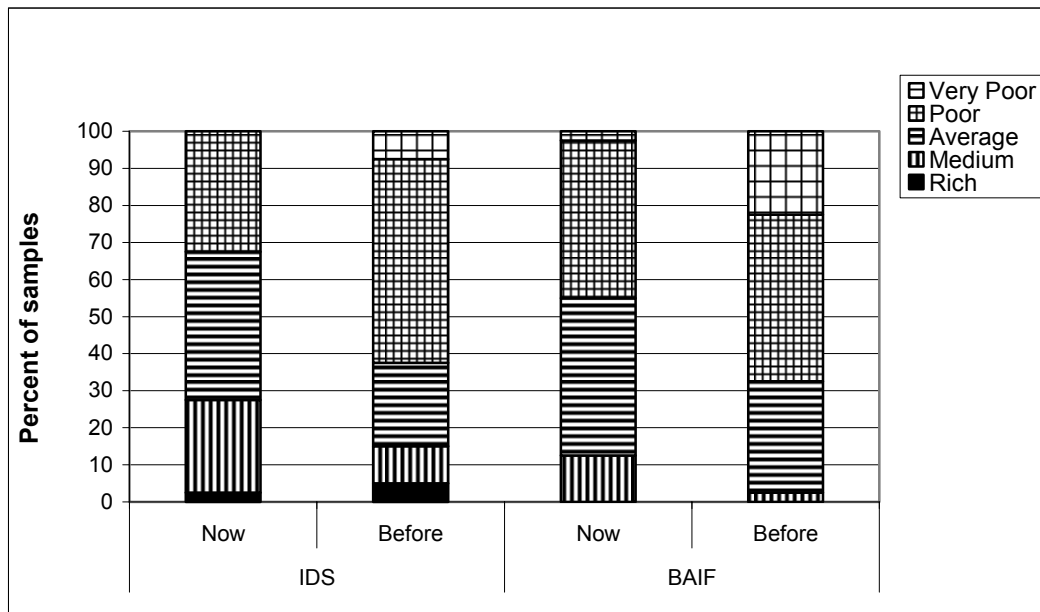
As discussed under section 4.1, the impact of the project on natural resources within the project area appears to be limited to date. Two of the three sets of Participatory Action Plans were directed specifically at reducing the reliance on the natural resource base - non-land based activities and trading and processing. The households involved in these activities are starting to see some reduction in their dependence on renewable natural resources, but numbers are small at present. Observations from household interviews and focus group discussions on changes in natural resources such as trees and tree products, water, soil fertility, grazing and stones and sand are that most indicators have worsened, or any improvements are outside the activities of the project.

4.2 Livelihood outcomes, Hubli-Dharwad

Impact on poverty

Overall the survey households reported a major reduction in their poverty; less than 5% of the households that said they were 'very poor' in 2001 consider themselves to be so now (see Figure 4). Not only have their incomes increased, but also their self respect - so that even in the same income level, poorer SHG participant households consider themselves less poor.

Figure 4: Changes in perceptions of poverty groupings



Household income has on average increased by 40%, but the poor SHG participants have been catching up, especially women, on the non-poor (Table 49), the average for poor participant households is now above the state poverty line (about Rs 12,400 per average size household per year) although a few households have not gained much. Non-poor households were much better off before the project, except for the women in IDS villages who had land but very little income before and have since benefited as much as poor SHG female members. There has been no difference on average in impact on incomes between IDS and BAIF villages. The figures are the actual incomes from each activity reported by each household and summed for each household, but not adjusted for inflation between the three years. The main components of changes have been some increase in income from off-farm natural resource sources attributable to project supported IGAs, increases in livestock incomes attributable to the project support, other on-farm gains that are also explained by 2004 being somewhat better in terms of rain than the pre-project year, and major increases in incomes from city related sources – these are mostly not related to project activities.

Table 49. Household income (Rs/year) in 2001 and 2004

Total income			
	Before	Now	% change
Poor	11,900	18,100	52.2
Non-poor	27,600	37,300	35.2
Male	25,600	33,600	30.9
Female	13,800	21,800	57.7
IDS	16,300	22,800	40.2
BAIF	23,200	32,500	40.3
All	19,700	27,700	40.3

Source: Household interview survey, HD, India.

Note: Income calculated from interview responses that broke down each occupation and income earning activity of the household. Sample size = 40 in each cell, except average = 80.

Also assessed through the household surveys were changes in household assets including the area of land owned, livestock numbers and value, and household items.

Land ownership

Land area owned per household has not changed among the poor male and female sample households in IDS villages (Table 50). Land purchase is not a target for the poor when their incomes increase, as most wanted to repay their former informal loans with the savings and credit received from the bank or SHGs. All of the poor women supported by BAIF were completely landless in 2001, but one has since bought some land to add to her homestead indicating a major change in economic and social status. Non-poor beneficiaries made little change in their landholdings, but the large landholdings of male farmers linked with the project in the IDS villages shows them not to be poor.

Table 50. Change in average land (acres) ownership 2001 to 2004-5

NGO					
		IDS		BAIF	
		Before	Now	Before	Now
Poor SHG member	Male	3.1	3.1	1.1	1.1
	Female	0.4	0.4	0	0.2
Non-poor project beneficiary	Male	17.9	16	5.5	7.5
	Female	2.4	2.7	6.5	6.3

Source: Household interview survey, HD, India [Sample size: 10 in each cell]

Livestock ownership and value

Livestock is one of the main assets in the PUI for both poor SHG members and non-poor NR owners. In some villages such as Gabbur almost every household is involved in producing milk to sell in the city. Although the project partner NGOs reported that by 2005, 277 SHG households had received livestock support through the project, in general there were no differences in livestock ownership between 2001 and 2005 as reported in the household survey for men. However, the total livestock owned by female SHG members increased. In general, women mostly have more poultry, but the female (BAIF supported) SHG members now average one large animal per household

compared with only one per two households before. Ninety percent of BAIF supported, female SHG members changed their livestock ownership between 2001 and 2005 (Table 51). The household survey did also question expected benefits from raising more livestock, although a good number of participants reportedly sold their larger animals by the time of the survey (due to drought and lack of fodder). Combining all households the main increases in livestock were for chickens and for buffaloes, the increase in buffalo numbers was statistically significant.

Table 51. Percent of households increasing their livestock numbers, 2001 to 2005

		NGO	
		IDS	BAIF
Poor SHG member	Male	20	50
	Female	20	90
Non-poor project beneficiary	Male	20	30
	Female	60	20

Source: Household interview survey, HD, India. [Sample size: 10 in each cell]

Note: No household reduced their livestock numbers

Household items

A modest number of households have invested in TVs or radios since the project started, but generally the poor could not afford these; around 20-25% of non-poor participants have purchased a TV between 2001 and 2005 (Table 52).

Table 52. Percentage change (increase) in households owning a Radio or TV, 2001 to 2005

		ASSETS	
		Radio	Television
IDS	Poor	5	5
	Non-poor	10	25
BAIF	Poor	15	15
	Non-poor	5	20

The number of vehicles (bicycle, auto and motorcycle) increased in 20% of all the households in BAIF villages between 2001 and 2005. In IDS villages very little change happened, perhaps due to more and better bus connections due to improved road condition.

Only male non-poor households in BAIF villages increased the number of agricultural equipment items (20% of these households), for all other households their ownership of these assets remained the same.

There was very little change in the number of cooking pots from the before project situation. The majority of households still use 'open fields' as toilets so the project has not changed sanitation. Piped water from the municipality and bore wells have improved domestic water quality. They now get safe drinking water and water for

domestic use easily. Before the women had to go far for water and this was taking a long time and women were losing their time that could have been used for income generating activities, also girls were staying at home rather than going to school in order to help their mothers. Although this is not a project impact, the people now also have more courage to stand up for their demands with the concerned authorities.

Impact on vulnerability

The project support to improve and diversify incomes from natural resources and from new income generating activities has increased the average number of income sources per household (see previous section).

Before the PUI project all poor IDS households and 90% of BAIF poor households could be regarded as food insecure (having to eat only 2 meals a day for at least 2 months a year). Since the project has started this has fallen to 70%(Table 53).

Table 53. Extent of food insecurity

NGO	Household category	Sample	Before (2001) (number)	Now (2004) (number)	% of category became food secure
IDS	Poor	20	20	14	30%
	Non-poor	20	7	6	5%
BAIF	Poor	20	18	14	20%
	Non-poor	20	10	5	25%
All	Poor	40	38	28	25%
	Non-poor	40	17	11	15%

Source: Household interview survey, HD, India. [Food insecurity is defined as, “the number of households eating 2 or less meals/ day for at least 2 months a year”].

Participation, empowerment and impact on women’s status

Participatory planning followed three stages in 2001 and 2002, but is generally not well remembered in the project villages. According to the FGD respondents:

- PAPP (Participatory Action Plan Programme) tended to be carried with people who were vocal and well connected.
- Only a few male respondents were present in the PAPP and no women respondents, but none of these men remember what was decided there.
- All *sangha* plans were prepared in participatory way and all members took part in the decision-making. They take decisions during the weekly meeting and record these in a resolution book. NGO or government officials have no intervention in the planning process. Since the *sangha* have either just men or women members, the women in female *sangha* participate fully in decisions.

Women first came forward to form *sangha* after house-to-house visits by NGO staff, but some of the husbands of the women SHG participants were suspicious about what the women would do. Later when men saw that these women were saving and had links to the banks they also started up *sangha*.

Membership of SHG (but not other support for resource owners) has increased the number of organisations that women belong to more than it did for men (Table 54), indicating that for some of the women they did not belong to SHG before the project and/or they have been elected to other organisations including *gram panchayat*.

Table 54. Number of organisations to which household members belong

		IDS		BAIF	
		Before	Now	Before	Now
Poor SHG member	Male	2.4	2.9	2.3	1.6
	Female	1	1.9	1	1.3
Non-poor project beneficiary	Male	1.3	2	1	1.4
	Female	1	1.2	1	1

Source: Household interview survey, HD, India. [Sample size: 10 in each cell].

Respondents were asked to rate their level and frequency of participation in project activities on 5-point scales. Overall, IDS poor SHG and non-poor participants meet weekly and reported strong participation; BAIF participants meet monthly and also report strong participation. Participants of the two NGOs had similar views that their gains since the project were mainly due to the PUI project and that this would be sustainable and likely to expand locally. IDS targeted only women, whereas BAIF targeted men and women equally (Table 55).

Table 55. Focus group assessment of the PUI project

Indicators	IDS		BAIF	
	Score	Meaning	Score	Meaning
Attribution	3.3	Mainly due to project	3.1	Mainly due to project
Relevance	2.4	Quite important	2.9	High priority
Sustainability	3.6	Certain to continue	3.5	Certain to continue
Poverty targeting	3.7	Poorer	3.5	Poorer
Women	4.6	Great majority	3.0	About half
Innovation	3.3	Mostly new	3.1	Mostly new
Local uptake	3.2	Likely	3.0	Likely

Source: Focus group discussions, HD India.

Notes: Scale of 1-4 with 4 the highest level, except for poverty targeting and women 1-5.

Impact on the natural resource base

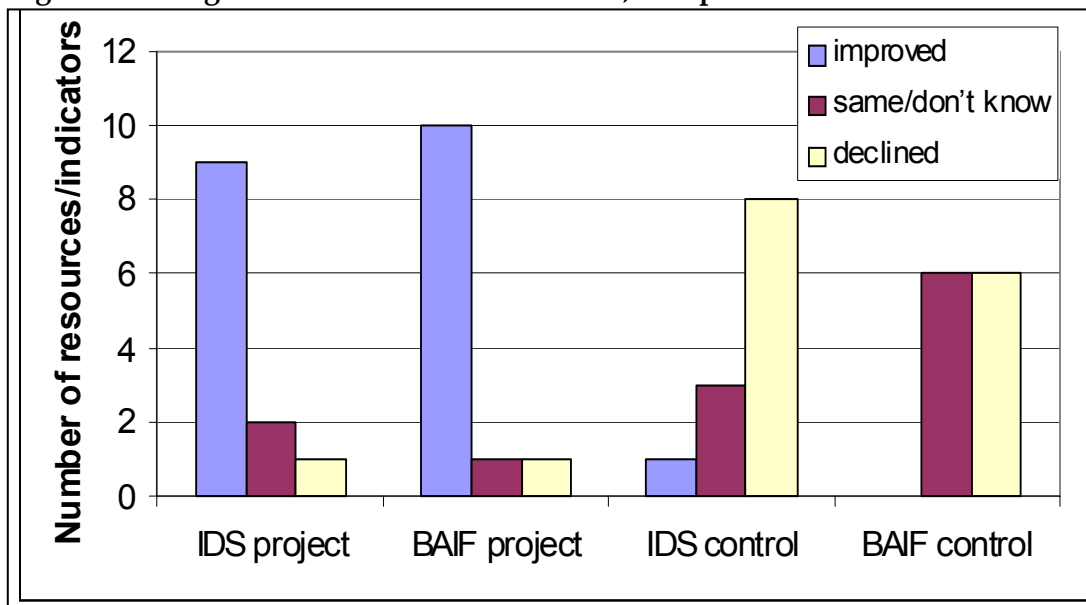
Based on the focus group discussions, there has been a change in the physical characteristics of the natural resource base, and particularly the land use pattern: the proximity to the city means that urban people tend to invest in the peri-urban rural settings and buy land for brick making, orchards or factories. Orchards need less attention and demand less labour than other enterprises. There is also less risk. Small and marginal farmers tend to sell their land to such urban people, as they offer higher prices. Evidence from the FGDs suggests that local people are becoming landless day by day, and that in the near future the number of landless households will increase, as will migration. With the project intervention these marginal farmers are now trying to cultivate their own land using the WADI approach and grow crops, fruit and timber trees (and spending more time in their fields). They expect that even with drought

there will be benefits in the long run. Cropping pattern changed to low water demanding crops. Soil fertility has increased due to vermi-composting, multiple crop cultivation and leguminous tree planting. WADI has introduced tree cultivation and each WADI farm has now over 250 trees. Irrigation water availability and use efficiency has increased due to farm pond and rain water harvest and trickle irrigation method use. Access to forests is restricted due to implementation of government policy and the intervention of Village Forest Committee (VFC).

In contrast, the FGDs in the control villages suggest topsoil loss for brick making and lack of management of soil and water. Also, people tend to work more in the city and in factories (e.g. Bidnal and Belur villages). In these villages land is acquired for industries, and roads. Everyone opined that agriculture is not a profitable enterprise. Water and sanitation were reported to have become worse as more people are coming to these villages for work or to reside there for easy commuting to the city.

Overall, focus group discussions in the project villages reported that almost all natural resources and environmental indicators had improved since the project, whereas many people in the control villages were unaware of any change, or reported a decline (Figure 5). The consensus appears to be that the project impact on the environment has been positive compared with a negative trend elsewhere in the HD peri-urban area; comparing 18 FGDs in project villages and 18 in control villages (about 270 participants in all the FGDs). The changes reported are at the village level, not household level, but may also be affected by greater interest in and awareness of natural resource and environmental issues from the project NGO activities.

Figure 5. Changes in the natural resource base, as reported in FGDs



Note: No difference in opinions between men and women or poor and non-poor, except in BAIF control where apart from non-poor women other FGD mostly did not know.

In summary the main environmental benefits so far have been:

- Water for irrigation increased due to tank de-siltation, farm ponds, and field trenches in 3 villages with IDS,
- Major increase in trees in 2 BAIF villages,
- Integrated Pest Management in 2 BAIF villages,
- Vermi-composting introduced in 2 BAIF villages,
- Soil erosion reduced in 2 BAIF villages, and
- Fodder crops increased in 2 BAIF villages.

4.3 Summary of common themes

This section summarises key points from the case studies in Kumasi, Ghana and Hubli-Dharwad, India. Each livelihood outcome (poverty and vulnerability; women's status; natural resources) is discussed in turn, followed by a brief synthesis of common themes.

Impact on poverty and vulnerability

Key findings from Kumasi:

- A significant decrease in the number of households being ranked as poor – plus, the reduction in poor female-headed households has been even more marked.
- However, food security has worsened slightly over the period, though there are many possible reasons for this.
- In terms of diversification of livelihood sources, the number of income sources has increased for all groups on average.
- The well-being of participants in BYN project has improved because of participation in the project, especially for poor and female-headed households.

Key findings from Hubli-Dharwad:

- Participants reported a major reduction in their poverty; none of the households that said they were very poor in 2001 consider themselves as poor now.
- 25% of poor participants became food secure during the project period (no more than one month a year eating 2 meals a day)
- Male participants have not changed their livestock holdings, they used the project support to replace their livestock, but some women (mainly with BAIF) have increased their livestock as a result of the project. Overall, the number of buffaloes owned by participant households has increased significantly since the project started.

Overall

There has been a significant reduction in the numbers of households considering themselves to be poor or very poor, across both case studies. In Kumasi, food security has however increased only slightly – though there are a number of external factors including poor harvest and high food prices which may have contributed to this.

Impact on women's status

Key findings from Kumasi:

- Although women project participants have become better-off on average, the well-being of women is perceived as inadequate, with half the women involved in the project remaining poorly off or extremely poor.

Key findings from Hubli-Dharwad:

- Self-respect increased so that even for the same income level, poorer SHG participant households consider themselves less poor than they were.
- Participants of both NGOs think their recent gains were mainly due to the PUI project and that this would be sustainable and likely to expand locally.

Overall

Impacts on women have been more modest. In Kumasi for example, a significant proportion remain poorly off, despite women becoming better-off on average.

Impact on environmental/natural resources

Key findings from Kumasi:

- Impact of the project on natural resources within the project area appear limited to date. Most indicators for trees, tree products, water, soil fertility, etc have worsened or any improvements are outside the scope of the project.

Key findings from Hubli-Dharwad:

- The project has improved the local environment and natural resource base: all focus groups in project villages reported environmental indicators improving during the project (except for forest area staying the same in BAIF area), but the only changes reported by control village focus groups were declines in environmental indicators.

Overall

Impact on the environment/natural resources has been limited to date. Indeed in Kumasi, indicators show a worsening picture, while in Hubli-Dharwad there have been improvements – largely in BAIF-implemented areas where the focus has been more on improving natural resource management.

5. Projected impact on livelihoods, 2015

This section identifies the main pathways that are expected to lead to scaling-up and increased uptake of livelihood activities and project benefits amongst the peri-urban population. It then provides some estimates of likely uptake and potential number of beneficiaries by 2015, indicating possible low and high scenarios. This provides the basis for the following analysis of potential contribution to MDGs (section 6) and the economic analysis (section 7).

5.1 Potential impacts, Kumasi

A key issue considered by the impact assessment was how the successes of the project, particularly its institutional innovations (CLFs, participatory business plans, livelihoods networks, plans), and livelihoods and trading enterprises could be scaled up to the wider Kumasi PUI. Scaling-up, or increasing the impact of development initiatives from a small to large-scale coverage. It encompasses improvements in quantity (coverage, numbers, and area), quality (nature of target group, sustainability and depth of impact), cost and efficiency.

Four principal strategies for scaling up can be identified:

- ⇒ Replication/expansion
- ⇒ Devolving and decentralisation
- ⇒ Building partners' capacity
- ⇒ Influencing policy change

These are expanded in relation to projects R7995 and R8090 in Table 56.

Influencing approaches and policy (Pathway 4 in the table) has been a key activity of the project in Ghana from its initiation. Stakeholder workshops have been held at critical phases of the project with the active involvement of senior officials from at least one of the KPUI Districts (Bosomtwe Atwima Kwanwoma or BAK) and apparent interest from a second District (Kumasi Metropolitan Authority or KMA). This was evidenced at the mini stakeholders workshop convened by the impact assessment team to identify pathways by which project pathways might be scaled up. The workshop identified both issues of influence and access: impact on participation and empowerment (demand-pull); and impact on institutions, structure and processes (supply-led). Ways in which the research collaborators, CEDEP and KNUST, could progress these issues were proposed at the workshop and received the strong support of key stakeholders present. Findings are presented at Appendix 11 in terms of pathways to expand and strengthen impact on household capital and livelihoods, particularly of the poor. Some of the pathways are already in place; others proposed appear relatively realistic, being proposed by the stakeholders who will action them.

Table 56. Scaling-up approaches and strategies KPUI

Approaches to scaling-up impact	Organisational strategies	Methods and processes	Possible pathways
1. Direct organisational growth	Internal replication Programme development, expansion	Model replication and adaptation Demonstration projects Organisational growth and learning	Similar project is funded and managed by CEDEP in other communities within KPUI. Other projects within CEDEP adopt similar approaches
2. Indirect organisational growth	Catalysing & supporting partners Joint venturing & integration Decentralisation	Consultancy services Complementary services Spin-offs and setting up of new NGOs	CEDEP/CDU act as consultants/advisors to other NGOs/Government organisations
3. Direct institutionalising, mainstreaming	Capacity building NGO-government partnership Direct replication	Cascade training Secondments, deputation	CEDEP train government /local government bodies
4. Indirectly influencing approaches & policy	Diffusing concepts & models Policy advocacy	Networking Publicity and awareness raising Direct lobbying Conferences workshops Cross visits	CEDEP extend/develop links with District Assemblies, Ministries, Research Organisations, Rural credit institutions, markets

*Based on processes identified by ITAD/WB

Overall we have assumed that the scaling-up will be initiated by one, or a maximum of 2 of the 4 KPUI Districts. Institutional structures are in place to pursue similar livelihoods activities: Rural Enterprise Project (2nd Phase) (REP2) has funds for such activities at District level. Rural banks have an outreach programme and are keen to tap into the rapidly growing small-scale enterprises with group collateral. The Ministry of Agriculture, KMA District has a target to meet of increasing livelihood group support. Maintenance of the focus of the project on the poor and use of participatory processes would be maintained by involvement of CEDEP as consultants/trainers (Pathways 2-3 above).

Finally, CEDEP is keen to build on the lessons and (limited) successes to date and are seeking funding to review, deepen and scale-up the project (Pathway 1). A donors' conference was recently organised to solicit funding. Note that this pathway was considered unpredictable by the assessment and was not included in the uptake scenarios.

Impact on livelihoods of the poor in the projects' sites to 2015 - Kumasi

The first step in projecting study findings to 2015 it to project all current and (any expected additional) KPUI districts populations to 2015. Findings from key informants and stakeholder workshop findings have been combined to obtain high and low uptake factors.

The following assumptions have been made:

For the low case scenario:

1. Scaling up is via household to household transfer of livelihoods skills by communication and demonstration to other households within the community and neighbouring communities. Rates are based on findings from the household survey on transfer of livelihood skills (Table 7) and whether or not these have been used. Assumptions have been made on rates of 'drop-out' (50 percent) and speed of spread (slowing by 50 percent annually after the first year).
2. Transfer of skills is concentrated within the 12 project communities and neighbouring areas.

For the high case scenario

1. Scaling-up is assumed to be via institutions committed to the project (findings from the mini stakeholders workshop). Assumptions on which organization is likely to be the main one responsible for delivery of services are detailed below.
2. Livelihood skills. It is assumed that MOFA will do the scaling up. Assumptions are as follows: On average there are 18 Agricultural Extension Agents (AEAs), who are supervised by 2 or 3 District Development Officers (DDOs) all of which are supervised by a District Director of Agriculture from each of the four KPUI districts. Each of the 18 AEAs in a district is expected to work with about 128 farmers in groups of 8 households and in 16 communities. Each of the groups of eight farmers are visited once every fortnight. In reality, where there is a well defined and supported project such as REP2 the coverage is about 70% of the 128 (90 persons / households) and adoption rates are about 50% of the 90 households (45 households) per AEA, over a period of about 3 years. Within this period of three years the AEAs are likely to work with the same households. Therefore in each of the districts where there is an active and financially supported project e.g. BAK and Kwabre or KMA, over a three year period it is likely that (45 households x 18 AEAs) 810 households will adopt the livelihood and or the entrepreneurial skills in 3 year period in a district. This also means that in the 3 year period each of the AEAs will work with about 11 communities making a total of 198 communities or settlements.
3. Entrepreneurial skills. It is assumed that CEDEP acts as resource persons/quality control/back-up and trains MOFA extension staff to work with the communities, training CLFS etc. This would be similar to 2. Social capital: CEDEP also provide back-up to on-going projects on group formation.
4. Access to credit. It is assumed that the Rural Banks do the scaling up as they are already active in the field. There is a one rural bank in each the districts, except Kumasi Metropolitan Authority (KMA) which has many. BAK District has Bosumtwi Rural Bank and some parts of the district is served by the Atwima Rural Bank. Ejisu-Juabeng District Bank has Otuo Asikan Rural Bank and Kwabre District has the Sekyere Rural Bank. For those banks in the districts the average number of field staff are about 3, each capable of handling about 250 clients.

5. Probabilities/likelihoods of uptake were assigned following the stakeholder workshop organised by the impact assessment team. This resulted in the assessment that 2 of the 4 Districts (BAK and one other) are likely to take up the approach through REP2 and the decentralised MoFA. It is expected that this can be matched by financial inputs from the rural banks at their current extension rates. Details are at Appendix 11.

Target institutions, pathways and likelihood of uptake

Promotion of project uptake through target institutions has been a key project activity in both the Implementation Plans for NRM and Bafo Ye Na projects (R7995 and R8090). Through the process of presenting plans and reports on implementation at District Assembly meetings and Village Development Committees/Unit Committees, the project has sought the participation and buy-in of officials at all levels.

The specific pathways by which impact can be expanded to all sections of the community throughout the Kumasi Peri-Urban area were discussed with key informants individually and as a group at a key stakeholder workshop facilitated by the impact assessment team in March 2005. Changes needed to be made to ensure that these pathways are in place (changes to policy, institutions, plans, budgets, staff etc.) and the likelihood of these changes taking place were also discussed. Findings on pathways are summarised in Appendix 11. These are organised into pathways for improving livelihood assets as a means of improving livelihoods outcomes, noting that all assets need to be improved if sustained increases in well-being etc. are to be attained.

Government institutions

Increased acquisition of livelihoods and planning skills on a large scale in Kumasi PUI would require support from resource people in government institutions. It is envisaged that some District Assemblies will allocate funds to CEDEP groups to expand activities through the REP2 project (BAK District has already allocated funds to this). Linkages between researcher collaborators at KNUST and MoFA would need to be strengthened at District level, and research reoriented towards the needs of the poor: proposal for linkages has been made. In addition, the livelihoods groups need support in marketing and planning skills which would need to be coordinated by CEDEP: REP2 marketing staff (beginning with BAK District) can identify marketers. Some of the groups have already responded to the needs of the market and one Co-operative Society has been formed: however, leading members are non-poor and it is not clear how far poorer households will be able to participate in this commercial activity.

Financial institutions

Increasing the number of borrowers, particularly the poor, preferably with favourable terms for loans, will need to be done through the commercial credit sector. Rural banks are already operating in each of the KPUI Districts and at least 2 are interacting with Bafo Ye Na livelihood groups. Opportunities for improving knowledge of groups, increasing savings and eventually improving terms of loans are to be explored and the banks have invited CEDEP project staff to contribute to their planning. Innovations

such as participatory business plans as well as the linking role played by CLFs are attracting the banks to collaborate with project groups.

Local and traditional authorities

Improvement of social capital is recognised as important to the success of livelihood groups and ensuring the participation of the poor. District institutions intend to look at the possibility of collaborating with project staff and CLFs in training extension staff in group promotion. The District Executive of the most active district (BAK) has committed to promoting Bafo Ye Na concepts amongst other DEOs in KPUI with CEDEP project staff acting as resource people. Local and traditional authorities (Unit Committees, Village Committees, Chiefs, Queens and Elders) who have interacted with the project in the 12 villages have a generally positive attitude towards its aims and achievements and have committed to promoting awareness amongst their colleagues in other areas, as well as to supporting the project in their own constituencies.

Within local institutions there is also anecdotal evidence of the participatory principles of the project being promoted. In Asaago, the Unit Committee Chairman who is also a CLF, has begun promoting the participation and interests of poor and disadvantaged groups who were previously unheard at community meetings. District executives themselves are also clearly impressed with the ability of CLFs trained by the project to develop and articulate plans and have instructed their planning officers to give consideration with a view to supporting Bafo Ye Na projects.

Taken together, these pathways form the basis of the high impact scenario, with take-up in 2 of the 4 KPUI districts at the rate of 500 households per year. Evidence of impact on the project on institutions to date indicates that good progress towards this target is not unlikely. Active participation at the stakeholder workshop of a Chief Executive Officer of 1 District, Chief Agricultural Officer of another, 2 Bank managers and 4 Chiefs/Queens as well as research collaborators and project staff (organised at extremely short notice) showed the strength of support for the project and commitments made are beginning to be implemented.

NGOs

In addition, impact within institutions participating in the project has also been observed. Within the implementing NGO, CEDEP, some project innovations have already been applied to other programmes: for example the Youth Programme is to promote Community Level Facilitators (CLFs) and alternative livelihoods activities such as grasscutters. At a recent donors' conference, assistance was sought to review the lessons of Bafo Ye Na and develop a future development programme.

Other NGOs and development projects operating in and around Kumasi PUI have been kept informed of project activities and some have shown interest by attending workshops, providing training and resource people. However, none was identified as very likely to take up project activities in their own programmes.

Research institutions

Impact can be seen on the research programmes and activities of the KNUST university collaborators. Collaboration with the programme for 3 of them began under earlier NRSP research projects. It has afforded them and successive cohorts of students the opportunity to collaborate with communities and rural households which was not otherwise available to them. The introduction of the CLF system under Bafo Ye Na has facilitated their research activities in the community so that much more fieldwork can be undertaken. It has also opened the eyes of students who find communities able to articulate their needs and capabilities. Numerous research projects have been (and continue to be) conducted and theses and written with an increasing focus on communities' research needs. Impact is difficult to quantify, and there are additional problems of attribution.

Publications and dissemination

Dissemination of project findings has so far taken the form of 4 research reports that focus on various technical and social aspects of the research. Although there were plans to edit and publish these, they had not been circulated widely. Several pamphlets and posters have been distributed and radio interviews given with the aim of raising awareness of project activities. Assessment of the impact of these has not been made, but it is likely to have supported the communication at project level by staff and communities.

Impact on livelihoods outcomes and poverty at 2015

The above assumptions on rates of dissemination by target institutions and numbers of people expected to take up alternative livelihoods activities have been combined with expected returns from the different activities to obtain projected increases in net incomes and total numbers of beneficiaries under a high and low scenario.

Projected impact of the project on incomes and poverty is shown in Table 57. Starting from the estimated impact to date of the project on around 400 households, under the low case scenario over 600 households are expected to benefit by 2015, compared to 5,800 under high impact assumptions. Of these, the number of poor beneficiaries is expected to rise from the current estimate of 260 to over 400 households or 3,770 under the high and low scenarios respectively. The proportion of poor beneficiaries in the total is around 65 percent. In practice, the higher the level of inputs of CEDEP staff (whether through direct training of group members or on-training of extension staff), the higher the proportion of poor people likely to be reached. In contrast, if the groups are left to disseminate knowledge and skills on alternative livelihoods themselves, future beneficiaries are likely to be those with sufficient levels of human, financial and social capital to take on a new enterprise.

Table 57 Projected no. beneficiaries of Bafo Ye Na Project 2005 and 2015

	Low impact scenario		High impact scenario	
	2005	2015	2005	2015
All HH	405	634	405	5,805
Poor HH	263	411	263	3,770

Source: HH survey and estimates from key stakeholder workshop.

Impact and methods used are explained further in Economic Analysis (Section 7).

5.2 Potential impacts, Hubli-Dharwad

The projected reduction in poverty levels by 2015 is based on estimates and assumptions which include the following: (i) the poverty level of project participants, and the impact to date in improving their livelihoods; (ii) the predicted further impacts based on partner NGO information, and especially the rate of moving households out of poverty; (iii) the uptake attributable to the project by 2015 in terms of people covered and phasing of their coverage; (iv) the estimated poverty level of those covered by the project uptake approaches (based on project data), and, the likely impact on those people. Key limitations to the analysis are: the extent of uptake that is attributable to the project; the poverty level of participants covered by such uptake activities; and the extent to which the same level of impact can be expected in uptake as in the PUI project.

Awareness of PUI project approach

The main task in predicting livelihood impacts up to 2015 on the poor in the project sites was expected to be understanding changes in attitudes and understanding of local target institutions and their future plans for uptake.. It was reported that planning took place in three phases in Mugad, Channapur and Kotur village areas.

Local key informants could not remember much about the participatory planning process. Only some of the villagers and local secondary stakeholders were involved and so the study only found a few of them in its FGDs, even key informants who were involved could remember little other than that they had attended meetings. It is clear from this study that since the project started these methods and approaches have not been used by these stakeholders in their villages or the adjacent ones, and that the planning approaches have not been mainstreamed in village level planning. Moreover, beyond the project partners few other organisations are even aware of the project approach as something distinct, and so could not rate its success or impact or appropriateness. This may partly be because there are in any case already similar SHGs in many villages in the District.

Thus key informant interviews and information on existing project plans indicated that there is limited awareness of the PUI R8084 project impacts and approaches beyond the project and interested NGOs in the area. Moreover even these NGOs are unable to expand the approach extensively without funding and in particular government support for such an expansion. It was reported that there are at present no new pipeline projects of the urban authorities or district level that would take up the lessons from the project.

Uptake pathways

However, there is one major ongoing project (Sujala) that has been influenced in its design and implementation by the PUI project. Staff involved in this World Bank

supported project informed that a series of discussions took place with PUI partners during the design and development of Sujala, and it has taken more or less the same approach as the PUI project but on a much larger scale. Moreover IDS is the lead NGO partner in Sujala and BAIF is also a partner so PUI project approaches are being directly transferred through the PUI project NGOs. Although there is also a government support programme called “Shtri Shokti” (women’s power) which is providing access to bank credit support to an estimated 140 SHG with 2,800 female participants in villages within HD PUI area, this appeared from discussions with key informants to have been influenced only to a limited extent by the PUI project. According to the bank manager, members of the SHGs of PUI project have helped to train some of the Shtri Shokti participants. The extent that any impacts of that project will be attributable to the PUI project is uncertain, a conservative assumption has been made not to include it in estimates of PUI project impacts.

In addition, in FGDs it was found that some in the control areas had already heard about the project activities and were interested to have support to adopt similar practices in natural resource management, while the SHGs that are already widespread are ready to adopt lessons from the project provided they can access training and information.

Uptake potential to 2015 is therefore likely through three paths:

1. Completion of pilot activities and demonstration effects within the six project villages, this is an ongoing process not requiring further investment as the savings and revolving funds of the SHGs will cover the remaining households and additional IGAs, it is considered to be highly likely to be achieved.
2. Uptake through the ongoing Sujala project supported by World Bank which is working in 5 taluks of which 2 comprise the HD PUI. In the HD PUI it plans to support 54 villages with 5,911 SHG members and 11,501 farmers. Since a household cannot belong to more than one SHG these will be additional to the PUI participants. This is also highly likely to be achieved as the project staff reported that the project is on track and is starting into its third phase/batch of groups. Although the whole project was influenced by the PUI project, the activities in 3 taluks and their villages that are not considered to be peri-urban have not been included in the estimation here (a conservative assumption about uptake).
3. Spontaneous uptake through direct contact between project SHGs and other SHGs and villages. The interest expressed in FGDs indicates that this is likely to happen, but the rate of spread and funding and knowledge constraints that SHGs may face mean that it is very difficult to estimate the potential impact. The conservative assumption of no impact has been adopted.

In addition, despite the apparent and predicted benefits from the WADI approach to farming-land use, it is difficult to attribute more than just the benefits of the piloting with 37 households by BAIF to the PUI project for the following reasons:

1. The approach was developed by BAIF separately from the PUI suite of projects. While it may have been influenced by the projects a definite causal link could not be established. Instead BAIF reported that it also had its own large project extending this approach which was independent of any link with R8084, and that development of the approach came before the NGO's involvement in the PUI project. Only benefits to the 37 WADI farmers directly funded by the NRSP project have been attributed to the project: the rest of BAIF's WADI programme is not considered as uptake.
2. Although BAIF has targeted WADI at poorer farmers (some of whom categorise themselves as poor and/or fall below the state poverty line), the Sujala project works with poor households in its SHGs but with non-poor in its farmer programme, and the latter focuses on field bunding for water conservation in the crop field which is only a component of the WADI approach. Therefore the farmers under Sujala are not considered to be a possible uptake impact population for any PUI project related approaches. However, the Sujala project is heavily involved in training on different IGAs and providing financial support to both SHG members and farmers.
3. At best therefore the PUI project may have a demonstration effect with other farmers in the two BAIF pilot villages, but neighbouring farmers are only likely to spontaneously adopt the approach when they can see the returns from fruit trees (which means that the unknown number of possible adopters will not benefit significantly until after 2015. Although BAIF already has their ongoing project in other districts on integrated farming and is transferring staff to those other districts (which will spread experience gained in the PUI project), this probably does not indicate an uptake effect since this is part of their wider WADI programme.
4. The main benefits from WADI are assumed to arise when the non-fruit trees are cut which is about 12 years after planting. So any uptake in or after 2005 will not yield a worthwhile benefit until after 2015. Estimation of the benefits from non-fruit trees in WADI in pilot households is dependent on the potential income for participants from selling timber or using branches, leaves and wood themselves. Based on NGO estimates and cross checking in focus groups and interviews with IDS and BAIF participants who had sold trees recently for timber, an average farm gate value for the landowner of Rs 8,000 per tree was obtained. The numbers of trees of the WADI participants are known from the survey. What is not sure is whether a tree of value Rs 8,000 will have grown in 12 years, and if a large number of trees are available at one time if the price of timber will fall (although the demand of the whole HD urban area is large relative to 37 WADI participants). The value of branches and leaves as fuel or in other uses for the participants is also not counted.

Potential area of uptake

Based on the views of project staff and key informants the PUI for H-D has been defined as the 160 "rural" villages of Hubli and Dharwad taluks (sub-districts). This defines the area and makes it possible to use data from the 2001 census and other secondary sources. This does omit a few communities that have retained village names and identities but have been absorbed into and are now officially recorded as within

the urban area, although they can otherwise be considered peri-urban. Similarly the Revised Comprehensive Development Plan of Hubli-Dharwad to 2021 envisages continuing urban growth while noting that the urban population growth rate fell from 42% in 1971-81 to 19% in 1991-2001. That plan earmarks about 3,000 ha of what is here termed peri-urban land for development as part of the urban area in the following 2 decades. For the purposes of this study these areas are expected to remain part of the peri-urban interface up to 2015.

There was no clear evidence of any potential uptake of lessons and approaches developed through the project outside of the H-D PUI. The project uptake promotion and awareness raising about its interventions has so far reached very few government officials and none from the state level. Therefore since they could have no prior knowledge or contact with the project it was deemed inappropriate to interview state level officials on their planned uptake of approaches that would be new to them. Prediction of any uptake outside of the H-D area or even of the scale of the area and population that could be described as peri-urban in Karnataka state was therefore too uncertain to include in the impact assessment. There may of course be a future impact at state level outside H-D (see next paragraph) but the possibility is impossible to quantify at present.

Target institution opinions

In the Target Institution workshop organised by the project in 2005, 13 officials out of 28 felt “government resources are constraints for development of peri urban areas” and unless it is specified in the state level budget at the district level there is no scope for working outside their own approved workplan. Concerning resources, half the officials (13) said there were no separate resources for peri urban areas. This was mainly because the government does not differentiate between peri urban areas and urban and rural areas. Several officials could not respond to this question or did not know about resources for the peri urban. There was not even one official who could identify specific resources for the PUI.

Not a single official was able to identify the existence of any form of state or national support for the PUI. Only three officials claimed that special laws for the peri-urban existed. Most officials (18) either claimed that no special laws existed or that they did not know about these laws. Some officials (7) said that special laws for the PUI were not needed, while others could foresee that if neglected, peri-urban poverty could become a serious problem. Researchers and officials suggested that a prior study and collection of base line information for the programmes has to precede planning across rural and urban lines. Officials all saw the need for increased involvement of NGOs and government agencies to address peri-urban poverty and problems. The large majority (25 officials) said that NGOs were more likely to have the capacity to address peri-urban poverty. A range of different roles for NGOs were identified by officials including:

- Raising awareness of the peri-urban populations and even of officials;
- Training and capacity building;

- Act as a bridge between government and communities and play a role in decision making, planning, policy forming, monitoring and evaluation of government programmes;
- Identifying the needs of the communities; and
- Increasing the participation of communities in governance and development.

At present government frames policies, plans and programmes independently without knowing the needs of the peri-urban poor or the ground realities. In this scenario NGOs can play an important bridging role of communicating to government agencies and peri-urban communities. An institutional vacuum exists in the PUI with both urban and rural institutions seeing the responsibility of the peri-urban communities lying with the other, and not with themselves. The case of water tanks is a classic example for understanding how there is no coordination and linkage among the multiple institutions responsible for managing them. Tanks are linked with the Revenue Department for land rights, Minor Irrigation for water rights, Watershed Department for the watershed area and Fisheries Department for the fishing rights. The Gram Panchayat is also linked with the maintenance of water tanks in its area. In addition, there are several user stakeholder groups (some having associations) involved in the use and management of tanks. However, at the ground level there is no integration or linkage among the different institutions whatsoever.

Research

The **research component** undertaken by the University of Agricultural Sciences (UAS) included various demonstrations and variety trials, IPM and intercropping. Some of these demonstrations were linked to the various All India Co-ordinated Crop Improvement Projects who had the kits for crop demonstrations which they called them as Front Line Demonstrations (FLD) which were to be conducted on one ha of land. However the project modified it and conducted each on one acre so as to give support and demonstrations to more farmers so that the benefit was reaped by a larger section of the farmers.

In 2002, 2003 and 2004 a total of 77, 95 and 38 crop demonstrations were conducted respectively on sorghum, soybean, groundnut, little millet, cotton, green gram, cowpea, paddy, etc., Initially in 2002 a series of meetings were conducted in all the villages and specialists for each crop were taken to all the villages and conducted meetings with the farmers. However, due to three years of consecutive drought yield levels achieved were not up to the mark since the rainfall was far below the normal in terms of distribution as well as quantity. This resulted in very poor crops. As we have no evidence of the possible gain in years of better rainfall there is no basis for estimating a project related benefit from crops.

Communications

The **communication component** of this project was not uniform throughout the project period. Besides launching a book, newsletter and some local level theatre, other communication media were limited. There was no feedback session or communication with the recipients of the book on their responses. The government officials at the national and state level were not persuaded or very limited attempt was made to

convince these government levels for uptake of the package. However, the comment of one of the former Chief Executive Officers (*Mr. P.S. Vastrad*, Commissioner of Public Works) in the Target Institution workshop is important in this respect: *“Please give me the technical inputs and I will try to implement the recommendations and knowledge you have shared in this workshop with the government. If you have any problem, even today, please come down to me at any time, I will take you to the relevant agencies and help you to find solutions for your problems”*. This is evidence of the need for an implementation package for government uptake.

Impacts on poverty by 2015

Therefore there is a major scope for uptake, but this will take time and further promotion. At present there is no assurance that this will happen up to 2015 other than through the existing project initiatives. Within the project pilots the following information and assumptions were used to predict impacts on poverty by 2015:

1. The partner NGOs reported the numbers of participants in SHG who had adopted various IGAs as of 2004-05. This totalled 131 households under IDS and 146 under BAIF support with livestock that had been supported by the project (including 41 under BAIF who are producing vermi-compost). A further 87 IDS supported households are involved in 19 income generating activities (IGAs) and 13 households were involved in 8 IGAs under BAIF support. This does not include IDS supported households that received free crop seeds or tree seedlings.
2. The partner NGOs estimated the number of participants that they would expect to be covered by these activities by 2015 based on their assessments of the attractiveness and potential returns from different IGAs and the scope through the SHG revolving funds to help household set up in such activities. This gave estimates of 240 IDS households and 305 BAIF households with livestock provided through project related support by 2015. It also gave estimates of 174 IDS supported households and 34 BAIF supported households with IGAs by 2015 in the same IGAs that are being followed in 2005 (Table 58).

Table 58 Coverage of households by livestock and IGA support in pilot villages

Year	IDS		BAIF	
	2005	2015	2005	2015
Livestock	131 (30%)	240 (54%)	146 (78%)	305 (163%)
IGA	87 (20%)	174 (39%)	13 (7%)	34 (18%)
Total SHG members	442	442	187	187

3. Therefore most BAIF households are expected to have more than one type of livestock provided through the SHG by 2015 since poultry, goats/sheep, cattle, buffaloes, and vermi-compost are each separate types of support. In fact this is mainly because 50% of BAIF SHG members are predicted to adopt vermi-composting (cultivating worms) by 2015. This could be treated as an IGA since they can sell the compost, but as it is a continual activity that uses on farm resources and like other livestock is assumed to have no opportunity cost of household labour, it is treated with other livestock.

4. It was assumed that the increase in households having livestock or IGAs through SHGs would be linear between 2005 and 2015 (since this will depend mainly on rotation of funds and loans within the SHGs).
5. It was assumed that additional incomes from livestock would not displace any other household income source.
6. It was assumed that other IGAs (except in the case of papad making where the NGO informed specifically that it was seasonal for about 3 months a year) were active through the year – mostly for 5 or 6 days per week according to local informants. Based on NGO reports and interviews, those people who adopted these IGAs were assumed to have previously worked as labourers for about 4 months a year at an average wage rate of Rs 30 per day (Rs 25 for women, Rs 40 for men, more of the IGAs are undertaken by women than men, two thirds of SHG members are women). The opportunity cost of adopting full time IGAs was taken to be Rs 2,880 (calculated at 96 days for Rs 30 a day) and was deducted from the average returns from those IGAs to estimate the benefit.

The surveys indicated that as of 2001 about 70% of the project SHG members were poor with no clear difference in the proportion of poor between male and female participants. Already by 2004-05 30% of SHG participants had moved out of poverty (i.e. 43% of those who were poor in 2001). It is assumed that the impacts of SHG membership in this or other uptake (Sujala) SHG for up to 10 years will be a 43% reduction in the numbers of SHG members in poverty, and that membership for over 10 years will result in 86% of SHG members rising above poverty. Similarly about 40% of WADI participants were reportedly poor in 2001, already this fell to 22% and if the predicted benefits are even 50% of expectations then all will have incomes above the poverty level in 2015.

In total about 59,500 households lived in the HD PUI in 2001 (census data). State and district level data indicate that on average 47% of households in the area are poor, and that recent population growth has been 1.9% a year so there would be about 36,000 poor households in the PUI area by 2015. There should be about 6,350 SHG member households in the area that will have been influenced to some extent by the NRSP project by 2015 of whom 70% (4,450) would be poor when they join the SHGs, assuming that poverty targeting is as effective as in the PUI project. By 2015 about 4,000 of these households should no longer be poor assuming the same rates of improvement in their livelihoods (Table 50), or 14% of households in 2001 that were poor in HD PUI area (or 11% of those that would otherwise be poor in 2015 in HD PUI area).

5.3 Summary: pathways and likely uptake

Overall, the pathways to uptake have taken different forms in Kumasi and Hubli-Dharwad: generally, the former has been more successful at tapping into District government structures, while the latter has had greater success with local NGOs especially through the ongoing Sujala project. The key points are summarised below.

Summary of pathways

In Kumasi, three main pathways were identified:

1. Indirect influencing approaches and policy, through stakeholder workshops held at critical phases of the project and with the active involvement of senior officials from at least one Kumasi peri-urban district (KPUI).
2. Scaling-up initiatives in one, or a maximum of two, of the four KPUI districts – with CEDEP acting as consultants or advisors, or training, local government and other NGOs.
3. The implementing NGO itself which is keen to build on the lessons and (limited) successes to date – and are seeking funding to review, deepen and scale-up the project.

In Hubli-Dharwad, the three main paths identified were:

1. The completion of pilot activities and demonstration effects within the six project villages
2. Uptake through the ongoing Sujala project, which is working with 5 taluks of which 2 comprise of the Hubli-Dharwad peri-urban interface.
3. Spontaneous uptake through direct contact between SHGs and other SHGs/villages.

Likely uptake

Uptake in Kumasi is most likely to occur through CEDEP training/mentoring and the mainstreaming through district institutions. The following ways have been identified:

- To increase the acquisition of livelihood and planning skills on a large scale, requires support from government institutions. To date, it is envisaged that at least 1 District Assembly will allocate funds to CEDEP groups to expand activities.
- Increasing the number of borrowers, especially the poor, needs to be done through the commercial credit sector. The banks have invited CEDEP project staff to contribute to their planning.
- District institutions intend to look at the possibility of collaborating with project staff and CLFs in training extension staff in group promotion.
- In addition, the District Executive of the most active district (BAK) has committed to promoting Bafo Ye Na concepts amongst other DEOs in Kumasi PUI.

In Hubli-Dharwad, uptake is likely to be limited, with the main potential through NGOs working in the Sujala project. In summary, the key points are:

- There has been limited awareness of the PUI N8084 project impacts and approaches beyond the project and interested NGOs in the area.
- Also, even the NGOs involved in implementing the project are unable to expand the approach extensively without funding and government support.
- At present there are no new pipeline projects of the urban authorities or district level that would take-up the lessons from the project.
- The one exception is the World Bank-supported project of Sujala, which has been influenced in its design and implementation by the PUI project – with IDS as a lead partner, and BAIF also as a partner.

6. NRSP PUI research's contribution to MDGs

This section assesses NRSP PUI (Suite 1) research's likely contribution to, and implications for, meeting the Millennium Development Goals (MDGs) by 2015. The focus is on the three most relevant goals: (1) Poverty and hunger; (3) Gender issues; and, (7) Environmental sustainability, as per the terms of reference. It should be noted however, that this is a particularly difficult area of assessment, and that any conclusions should be drawn with caution. In particular, it is tricky to directly attribute relatively local project outputs and intermediate outcomes to longer-term, global goals.¹ And, while the previous section (5) postulates the likely uptake and estimated peri-urban growth, these are based on assumptions that can dramatically alter the analysis (e.g. projected population growth rates are subject to a plethora of external factors, including HIV/AIDS). Secondly, the discussion below covers the breadth of impacts, and not necessarily specific MDG targets (see Appendix 10 for details of MDG targets). This is because many of these targets are either not relevant to the project outputs, or were not easily measured at the local level. For example, MDG7 for which the targets on 'environmental sustainability' either relate to country policies/programmes (target 9) or areas not relevant to NRSP PUI outputs (e.g. safe drinking water and sanitation, and the lives of slum dwellers; targets 10 and 11). As such, the analysis addresses project impacts on the natural resource base. Similarly, the target for MDG3 concerns education rather than gender equality and empowerment more generally.

6.1 MDG 1: Eradicate extreme poverty and hunger

The application of NRSP PUI research is expected to contribute to this target by improving household incomes, improving diversity of income sources and reducing vulnerability, and increasing human capital.

Kumasi

Data on per capita income in Kumasi PUI is limited. However, a number of surveys point to evidence of pervasive poverty. Kasanga (1998) reported high levels of prevailing unemployment (18 percent), whilst 55 percent of peri-urban dwellers had suffered periods of unemployment. High levels of food shortage (60 percent) and inability to meet basic needs (73 percent) were also reported. Findings from our own survey of 4 villages show poverty levels of around 65 percent. This definition was in terms of hunger - the household consuming less than 2 meals per day for more than 2 months per year².

Using 2000 Population Census Data (Government of Ghana), population in the 4 Kumasi Peri-Urban Districts totalled around 1,600,000 or 500,000 households. Using

¹ This is a difficult area of analysis. In the field of monitoring Poverty Reduction Strategies (PRS) for example, it has been observed that many strategies have a "missing middle". That is, they haven't worked out exactly how they are going to get from inputs to final goals – goals that are mostly derived from the MDGs. See Booth, D. & Lucas, H. (2002).

² As noted elsewhere, the lack of reliable income data precluded the use of indicators of poverty such as \$1/day.

poverty rates from our survey, an estimated 1 million people (300,000 households) live in poverty on Kumasi PUI. With even the high scenario of projected impact of the project (5,800 households), this represents barely 1 percent of KPUI households lifted out of poverty by 2015 as a result of the project and follow-up activities. If activities were focused on existing project villages (with a projected population of around 6,000 households), this impact increases to 4 percent using low case assumptions and over 60 percent assuming high uptake rates.

Hubli-Dharwad

In Dharwad district per capita income has risen from Rs 7,050 in 1993-94, to Rs 10,400 in 1997-98 and Rs 16,900 in 2001-02 (Directorate of Economics and Statistics, Government of Karnataka); about 47% of the rural population were below the poverty line in 1993-94 (Human Development in Karnataka, 1999).

In H-D the project direct beneficiaries in the six pilot villages comprise 629 households in SHG plus 37 WADI farmers. In 2005 it was reported that 423 of these households were benefiting from income generating activities (IGAs) including livestock and 37 had improved more diverse and drought resistant tree-based land use practices (WADI) but did not yet earn much from these practices. On average the SHG households were estimated to have Rs 4,250 additional income in the last one year (based on survey data and NGO reports of the returns from different IGAs, and the numbers of adopters of various IGAs, and assuming that those who adopt new more-or-less full time occupations would have lost 4 months of labouring work).

As noted in the previous section about 59,500 households lived in the HD PUI in 2001 (census data). On average 47% of households in the area are poor (district level data), and recent population growth has been 1.9% a year so there would be about 36,000 poor households in the PUI area by 2015. There should be at least 6,300 SHG member households in the area that will have been influenced to some extent by the NRSP project by 2015 - PUI project and Sujala project SHGs. Of these 70% (4,450) would be poor when they join the SHGs, assuming that poverty targeting is as effective as in the project. By 2015 an estimated 4,000 of these households should no longer be poor assuming the same rates of improvement in their livelihoods as was reported in the sample surveys of PUI participants. This implies that the PUI project and its uptake in Sujala project SHGs will contribute an 11% reduction in the number of households in poverty in the HD PUI as its direct and indirect impact.

In principle the SHGs should help individual households cope with shocks and variations in the environment such as drought, although there are risks from intensification and adding value to NR based activities. Similarly the WADI approach should reduce vulnerability to drought since the evidence so far is that trees are growing despite adverse recent years. But the overall impact of risks cannot be assessed yet (for example there could be a risk of theft when trees are larger).

6.2 MDG 3: Promote gender equality and empower women

The application of NRSP PUI research is expected to contribute to this target by improving women's livelihoods assets and status and expanding their income-earning opportunities.

Kumasi

The project has impacted on women in the following ways:

- Women have trained alongside their male counterparts in livelihoods and planning activities, and feel competent in the use of these skills.
- Women in male and female-headed households have experienced some improvements in aspects of social capital (unity and co-operation) but half of all female-headed households perceive little help available for their problems.
- Women have gone into trading in large numbers (64 percent of women participants) with fewer in some of the more profitable alternative livelihoods activities such as snail rearing.
- Savings of female-headed households have increased by 55 percent compared to a decrease for 22 percent male-headed households, although there is a switch into informal sources.
- Female-headed households have improved their levels of well-being as a result of the project with a halving in the numbers of those perceived as poor. Women engaged in trading activities have been the main beneficiaries. However, over half of female-headed project households remained poor at the end of the project.
- Women have traditionally held positions of authority in Ghana as village chiefs and queen mothers. The project has given the opportunity to women to undertake leadership activities as livelihood group officials and particularly CLFs. This has raised the status of the women participating and raised awareness amongst government officials of the planning and development capabilities of peri-urban communities, including women.

Hubli-Dharwad

The project approach has had the following impacts on women:

- Women received 1.3 times more training than men. But they rated training lower than the men. This is due to unavailability of cash return on the spot.
- 58% women confirmed that they will continue to use their skill in future for livelihoods improvement, whereas 68% men said so.
- Poor women reported increase in social cohesion more than men.
- Cooperation among female SHG members increased more than the male members.
- Per female SHG member credit and savings are more for than men.
- Women in BAIF villages are earning more from natural resources now than before the project, but less than the men. However, when calculated as per household income from natural resources it was found that female-headed households are making more from natural resources than male-headed households.
- Poor women gained more from selling natural resources in the city than before, but they are selling less labour in the city than before.

- Female-headed households have less livestock than male-headed households but they adopted chicken and goats as IGA.

Karnataka State Government policy in its Rural Development Programme is now that women under that programme need to form SHG in order to access credit from government banks, so it is likely that all women who are interested to get such credit will form SHGs. However, they are not guaranteed to have access to training and skill development based on PUI project concepts outside of the government projects. Two thirds of SHG members under the project are women. Projecting this to the expected uptake through other SHG programmes, about 4,200 additional female SHG members can be expected among the 6,350 SHG members influenced by the project. Of these about 2,400 may be expected to take up and continue new skills, and all of these women should benefit similarly to the project participants including local empowerment and social capital gains, and improving their use of and returns from natural resources.

6.3 MDG 7: Ensure environmental sustainability

The application of NRSP PUI research is expected to contribute to this target in Hubli-Dharwad through increasing knowledge of land and water management. In Ghana, where the project (R8090) did not include directly-targeted environmental activities, there is low likelihood of contributing to environmental sustainability.

Kumasi

The Ghana project had as its original objectives the reduction in reliance on the fragile natural resource base of KPUI through the development of environmentally sustainable natural resource plans and the increased adoption of non-land based livelihoods activities, particularly by the poor. There are signs that households, especially the poor and women, are moving into activities such as trading and soap-making, which are either non-land based or involve processing of agricultural products. However, the prospect of such activities making a dent in deteriorating trends of deforestation, siltation and soil erosion seem remote.

Hubli-Dharwad

In India the pilot activities under the project have demonstrated a path for reversing some of the environmental problems in the peri-urban areas of HD. The WADI demonstrations show how returns from land can be increased and at the same time restore land with better water management and private reforestation. With higher returns from land, small farmers are less likely to sell or lease out their land for urban related uses that have adverse environmental impacts, for example use for brickfields. If this is adopted on a larger scale it has the potential to benefit all 160 villages in the peri-urban areas that make up "rural" Hubli and Dharwad taluks (2001 census). The greatest prospect in terms of impact could be in the 60 or so villages closest to the urban area, while the most likely uptake is in the 54 villages under the Sujala project and those others with government-NGO supported SHGs.

7. Estimation of economic efficiency

This section provides an estimate of economic efficiency of research resources, using traditional cost-benefit analysis measures to calculate the Net Present Value (NPV) and the Internal Rate of Return (IRR). The purpose is not so much to calculate an exact rate of return, but to use the process to identify whether the project investment makes economic sense. Returns to date and the returns projected to 2015 (high and low impact scenario) are based on the analysis and assumptions outlined in the previous section.

In summary, the basis for the assessment is as follows:

- Benefits from IGAs are based on the household survey, and estimates from NGOs, project staff, CLFs.
- Uptake beyond the 2005 level in the pilot (project) villages is based on two scenarios/estimates by the NGOs for expansion of IGAs within existing SHG members: high and low scenarios (Section 5 above).
- Costs of the projects, as well as the project suite, are based on internal records.

The analysis of costs has been undertaken at individual household and project level, whilst benefits refer to those accruing to households only. Wider research benefits could not be clearly identified and valued (see Section 5.3) and have not been included in the economic analysis. As a result the benefits identified here will be an underestimate of those likely to accrue.

7.1 Economic analysis, Kumasi

Table 60 summarises the economic analysis of investment impact in R7995 and R8090 in Kumasi PUI. The analysis derives from assumptions on up-take described in Section 5 above: uptake pathways.

Projected cash flows have been constructed for each of the 5 main livelihood activities currently being undertaken by Bafo Ye Na groups, and for 4 individual activities (2 farming and 2 trading). These are expected average cash flows based on project estimates and case studies to date of typical enterprises. Although it is possible that different activities will be taken up in future, in the absence of any definite trends it assumes that the current mix of activities will be maintained. Scale of individual operations is also assumed to remain constant. Average annual net returns per household are positive for all activities from 2006, ranging from Cedis 196,000 (£11) (rabbit keeping) to Cedis 19,803,000 (£1,165) (snail rearing). Cassava and plantain farming are also in the upper range. Alata soap making, mushroom growing, grasscutter rearing and food and orange trading are in the mid-range of Cedis 1,364,000 to Cedis 3,600,000 (£80-£210 per year). Using the minimum wage of Cedis 15,000 per day, activities at the upper range are very attractive. However, those livelihoods and trading activities in the lower and mid-ranges will not be attractive (Cedis 650 and

Cedis 4,500-8,900 per day) unless they can be combined easily with other economic activities.

The viability of the project as a development activity has been assessed. Two sets of NRSP costs have been included: A. (in Table 59) are costs of the two projects in the impact assessment (R7995 and R8090) only plus management cost of 20 percent to cover NRSP inputs; B. includes costs of earlier NRSP PUI Ghana projects (R6448, R7269, R7330, R7549)¹ as well as those of current projects. Benefits per household from the alternative livelihood activities are net of costs.

High and low impact scenarios are presented based on the uptake pathways in Section 5.1 above. Low impact assumes uptake through farmer-to-farmer dissemination at 50% of current rates of dissemination, dropping off by 50% per year for 5 years, then stabilising at 630 households. Project costs are assumed to be minimal: 10 percent of current levels. High uptake assumes adoption by 540 new households per year in 2 of the 4 KPUI Districts from 2006-2015 through existing projects (REP2), agricultural extension agents (MoFA) and rural bank staff, with CEDEP playing a training and supervisory role, and project support costs at 50 percent of current levels.

Table 59. Summary of economic analysis, Kumasi PUI

Scenario	Indicator	Low uptake scenario	High uptake scenario
No. HH expected to benefit (2015)		634	5,805
Net returns in 2015 (‘000 Cedis/household)		2,906	2,906
Net returns in 2015 (£/HH)		170	170
Net returns in 2015 (£)		108,328	992,196
Total net returns (£)		1,149,943	5,874,594
Project cost in 2015 + NRSP support costs (£)(A)		15,610	78,050
Total project + NRSP support costs (£)(A)		676,070	1,362,198
All PUI projects (£)(B)		939,226	1,626,066
Total project + NRSP support costs (£)(A)			
	BCR	1.7	4.3
	NPV 12%	-42,733	971,536
	NPV 8%	51,555	1,622,200
	IRR	10%	31%
All PUI projects (£)(B)			
	BCR	1.2	3.1
	NPV 12%	-370,059	804,097
	NPV 8%	-346,252	900,589
	IRR	0	17%

Source: Spreadsheets based on data from surveys for this study, R8090 partner information and estimates, information on PUI suite costs from NRSP, information from MoFA and rural banks. See Statistical Annex 2.

¹ Costs for projects prior to 1998 such as R6880 were not available.

Notes:

- Values in Cedis and £ at 2005 prices. Exchange rate 2005 average £1=Cedis 17,000
- Net Benefits to project participants and cost flows projected from 2005 to 2015
- Low uptake assumes uptake through farmer-farmer dissemination at 50% of current transmission rates, dropping off by 50% per year for 5 years, then stabilising at 634 households.
- High uptake assumes increase of an average of 540 households per year from 2006-2015 through existing projects, agricultural extension agents and rural bank staff, with CEDEP in training/supervisory role
- Total project support costs of R8090, R7995, including UK NRSP management support
- Future project costs assumed at 10 percent of current rates in low scenario, 50% of current rates in high case

The economic analysis shows that, in development terms, the project will not have been viable if existing livelihood activities and groups continue with only minimal support, without development of new groups (low impact scenario). Net present value (NPV) is negative when past projects are included and the Internal Rate of Return (IRR) is zero. When only the costs of current projects are taken into account, the IRR increases to 10.0% (less than the World Bank rate of 12%). Arguably, viability could be further threatened if existing groups are not supported until ready to be self-sustaining and the number of households drops from the projected 630 plateau (2010).

Under the high impact scenario the project is viable: NPV at both 8% and 12% is positive and the IRR is 17% and 31%, taking into account current and past project costs respectively. Even if the number of households under the high scenario falls considerably the project will still have been viable. If wider potential benefits from the research for other peri-urban areas were to be included in the analysis, viability would of course increase.

7.2 Economic analysis, Hubli-Dharwad

Assumptions include:

- Benefits from IGAs are based on the household survey, and where such data is not available, it is based on estimates from partner NGOs. *For example where both sources are available, the results were similar on average for livestock; NGO estimates averaged 95% of the survey income figures for livestock. But, the NGO estimates of income were more than double the survey results for tailoring, vegetable selling and petty trade, and under half the survey findings for grocery shops. The sample sizes are small for these IGAs in the survey. Given this variation, averages from the survey are used for IGAs covered in the survey, NGO estimates for IGAs that they could make estimates for and averages of these sources for all other IGAs.*
- Uptake beyond the 2005 level in the pilot (project) villages is based on two scenarios/estimates by the NGOs for expansion of IGAs within existing SHG members. *These are based on the opinion of the NGO staff of the potential interest among their SHG members and the scope for different IGAs in the next 10 years. For the high uptake scenario, the potential additional participants in each IGA are added to existing known participants (SHG and NGO records); the low uptake scenario is based on just the*

“extra” IGA adopters estimated by the NGO staff (i.e. a modest increase the adoption of IGAs). The low scenario means that each IDS SHG member would on average have adopted 1.2 IGAs by 2015 and each BAF participant 1.8 IGAs by 2015; the respective numbers of IGAs per household in the high scenario are 1.4 and 2.7. The same benefit per IGA is assumed in both scenarios.

- Predicted benefits from WADI are derived from NGO estimates and are only for the 37 demonstration farms. These benefits depend on large returns when trees are felled after 10-12 years, and no further uptake until 2015 is assumed. *It should be noted that the assumed farm gate value of timber trees at felling in 2015 (when about 12 years old) is Rs 8,000 per tree based on farmer and NGO estimates, but if the actual value of a tree is assumed to be only 50% of this value it reduces the IRR for the low project uptake from 26% to 22% (IGA plus WADI benefits compared with all India costs) and from 16% to 12% (compared with all R8084 costs).*
- Wider uptake of SHG benefits is assumed to be through the SHG of Sujala project, which has been strongly influenced by the PUI project partners (other possible uptake pathways have not been included). By 2015 the benefits to its participants are expected to be comparable to the return per household in the low uptake scenario of the PUI project SHGs – based on limited time to develop multiple IGAs per household.

Table 60 summarises the economic analysis of investment impact in R7995 and R8084 in Hubli-Dharwad PUI.

Table 60. Summary of economic analysis, Hubli-Dharwad PUI

Cost scenario	Indicator	PV of costs (Rs)	SHG benefits low uptake in project villages		SHG benefits high uptake in project villages		Wider uptake through Sujala project SHGs
			no WADI	with WADI	no WADI	with WADI	
No. households benefited			629	666	629	666	6,353
Benefit in 2015 (Rs/household)			5,944		8,826		5,151
PV of benefits (Rs)			11,871,000	32,286,000	14,915,000	35,330,000	32,138,000
Costs (A) for SHG	NPV (Rs)	4,040,000	7,831,000	na	10,876,000	na	na
NGO support only from R8084 ^a	IRR (%)		42.55		47.78		
	BCR		2.94		3.69		
Costs (B) for all India activities/ partners in R8084 ^b	NPV (Rs)	10,794,000	1,077,000	21,492,000	4,121,000	24,536,000	na
	IRR (%)		13.86	26.29	18.18	28.00	
	BCR		1.10	2.99	1.38	3.27	
Total project costs (C) (R8084 including UK)	NPV (Rs)	22,818,000	-10,947,000	9,467,000	-7,903,000	12,511,000	28,098,000
	IRR (%)		1.11	16.11	5.01	17.33	16.47
	BCR		0.52	1.41	0.65	1.55	1.41
R7959 & R8084 costs (D)(pounds as of 2005) ^c	NPV (£)	646,000	not considered		-309,000	152,000	80,000
	IRR (%)				1.16	13.36	12.32
	BCR				0.48	1.13	1.02
All HD PUI NRSP costs (E) (pounds as of 2005) ^c	NPV (£)	1,171,000	not considered		-834,000	-373,000	-445,000
	IRR (%)				not calculable	7.37	6.06
	BCR				0.29	0.68	0.62

Source: Spreadsheets based on data from surveys in this study, R8084 partner information and estimates, information from Sujala project, information on PUI suite costs from NRSP. See Statistical Annex 3.

Notes:

- All values in Rs at 2005 prices
- Benefit and cost flows only projected from 2001 to 2015

- NPVs in 2001 except for all HD PUI NRSP, which is for 2005
- Wider uptake includes many SHGs with few years of activities in 2015
- Wider uptake compares R8084 costs with the net benefit from SHG expansion (benefits less costs of supporting those SHG based on Sujala project costs and NGO field costs in R8084)
- Only private benefits included

^a N8084 actual expenditure and estimates to end of project for IDS and BAIF only from their expenditure summaries in Rs as of January 2005.

^b Costs of IDS, BAIF, UAS and BFP converted to Rs from original project budget in pounds.

^c Total costs of R6825, R7269, R7549, R7867, R7959, and R8084.

The analysis of costs and benefits can be undertaken at a number of levels. Firstly, it is possible to consider only **direct costs of NGO support** to SHGs (A in Table 61). In this case, less than a fifth of R8084 costs (Rs 4,039,695 of a total of Rs 22,818,500 at PV) are incurred for direct support through NGOs to SHGs. This results in a good economic performance for the direct investment in SHG IGAs giving a rate of return of over 40% even with limited expansion of IGAs within the SHGs (Table 61).

Secondly, it is possible to look at the returns on the **investment in India** (including university and BPF research and management) (B in Table 61). These returns are modest if only IGA benefits are considered (14-18% rate of return), but will rise to over 25% (i.e. 26.95% to 28.57% in the table above) if the WADI demonstrations are as successful as BAIF predicts.

Thirdly, the viability of the **total project** as a development activity with over half the costs (C in Table 61) incurred on UK partners is poor: Assuming that the UK partners have not directly contributed to the impact through SHGs, this results in a negative NPV (under 5% return, large negative NPV at 12%). However, if the benefits from WADI or potential wider uptake are considered then there has been a reasonable return on the investment. Attributing pilot village WADI benefits to the project, or the incremental net gain from IGAs supported in the rest of the HD PUI by Sujala to the project, gives a return of over 16%.¹

Fourthly, the costs of the two projects R7959 and R8084 (D in Table 61) are compared with the predicted benefits in HD to 2015. The combined investment with present (2005) value of almost £0.65 million only gives a modest rate of return of 6-7% if the benefits from WADI and/or potential wider uptake are considered.

And lastly considering **all NRSP project costs** in HD (projects R6825, R7269, R7549, R7867, R7959, and R8084) (E in Table 61) and the predicted benefits in HD to 2015, the combined investment of over £1.1 million was *not* economically worthwhile based on the benefits (low and high uptake). Indeed, there was a long lead-time from 1997 to

¹ The reported costs of the Sujala project indicate that scaling up costs for IGAs are comparable to the NGO IGA related costs in this project at about Rs 8,000 per household/participant over 3 years of support per SHG in a program of gradual adoption. However, the costs for supporting WADI would appear to be about three times higher although the potential benefits are also much higher. In estimating the returns from wider uptake through Sujala the net return from that project has been used for comparison with PUI project costs. That is the estimated Sujala implementation cost is deducted from the estimated net benefits for participants to give an overall net benefit from the project.

2003 before any benefits were achieved, and it is only if there was a high uptake in project villages with WADI that the investment could be justified economically (with a low rate of return). There is of course an element of uncertainty in such estimations. For example, the uptake estimates do not count other (women's) SHG programmes that have been somewhat influenced by PUI projects, as well as other spontaneous uptake. Also, if the benefits of pilot villages prior to R8084 are considered (**including WADI** plus wider SHG uptake) then the PUI programme in HD may have just been economically viable – based on the most likely uptake attributable to the project to 2015 and assuming that the WADI trees give the predicted return.¹

The critical point here however is the importance of scaling up. This study did not find any strong argument for assuming any greater adoption or uptake of activities that could be attributed to the PUI projects beyond those covered in Table 61 up to 2015. Even if the projects extend a greater influence than they have to date on government and funding agencies the lead in time to start projects plus the time taken to develop effective SHG or WADI land uses means that there could be little extra benefit by 2015.

Including costs of a series of research projects leading to actions inevitably means that there is a long lead-in period of costs without economic benefits and so it is very difficult to achieve a positive economic return from a limited uptake or piloting compared with the series of project costs.

¹ Estimates show that this could result in an IRR of 11% and BCR of 0.9 at 12% (not shown in Table 60).

8. Key Findings and Conclusions

Drawing on findings presented above and from wider discussions with stakeholders, key findings and conclusions of the study are:

- **The overall impact on poverty of project beneficiaries has been positive.** In India returns from income-generating activities are more likely to have been realised and incomes have increased; similarly for individual trader beneficiaries in Ghana. In both countries beneficiaries perceive their overall well-being to have increased with improvement in livelihoods assets. These positive findings are confirmed by a reduction in the number of households being ranked as poor in both countries. Impact on poverty within households is starting to be felt with increased incomes being spent on children's education, for example. **However, the outlook for reducing poverty on a larger scale may be limited** without further (modest) support to ensure continuing focus on pro-poor groups and to retain project innovations. If this is secured (in Ghana particularly) much larger reductions are expected to be achieved.
- **Women's status has improved, though the existence of a significant proportion of poorly off women remains a major challenge.** Impact on women's status has been positive in both countries, with improvements in both well-being and incomes. However, 50 percent of women were still poorly off in Kumasi by the end of the project. Establishment of women's *sangha* in Hubli-Dharwad has been a highly positive development and women are now moving into traditionally male economic activities (trading). Election of women to leadership posts, such as CLFs in Ghana and Gram Panchayat in India, is a significant step.
- **The establishment of strong groups is important to projects' successes.** Findings on cohesion of groups suggest that where a strong culture of mutually rewarding joint activities, including savings, have been fostered, groups appear to be strong and viable (in India, particularly IDS). Where groups have been formed only on the basis of similar interest in a particular livelihood activity, without previous experience of joint working, there is a fatal lack of cohesion (Ghana). Here, problems are exacerbated by heavy labour demands and long payback periods. An alternative approach, supported by group members and Bafo Ye Na project staff, would be savings groups providing loans for individual livelihoods activities. However, further support appears to be required for group leaders and CLFs before the groups can be self-sustaining. Groups' constitutional arrangements, including election of new leaders, are yet to be resolved.
- **Marketing is a key component to the realisation of returns, but hampering profitability especially in Ghana.** Development of planning skills appears to have contributed significantly and positively to project members' confidence and ability to undertake income-generating activities. Training in marketing

skills has also been a key component of the India project, contributing to early realisation of returns. There have been some marketing inputs into the Ghana project, but marketing was apparently not (adequately) covered in groups' alternative livelihoods training and lack of markets is currently hampering profitability. Whilst some groups have taken the initiative and formed a Co-operative society for joint marketing, this appears more likely to benefit the majority non-poor members initially. Poor households have tended to opt for activities with shorter payback periods. These include small-scale trading which has particularly benefited poor women. However, training was not apparently provided (women had significantly lower increases in human capital than men), presumably it was assumed unnecessary given the strong tradition of women's trading in Ghana. However, expansion of skills into new enterprises and on a larger scale and to engage more women as envisaged in the high impact scenario would require a more pro-active trading element.

- **Uptake promotion has been targeted more at government officials in Ghana and at development projects in India.** Identification of target institutions and uptake pathways has been a key concern of both projects at the end of this series of NRSP PUI projects. Linkages with government organisations have actively been sought by the Ghana project partners, through regular interactions such as District stakeholder workshops, with signs of up-take in at least one District. Relations have been built on a combination of formal and informal relations. In India, officialdom is highly complex and awareness of the problems of peri-urban areas is low. Project activities did not include linkages with government. The exception is the World Bank-funded Sujala project which, as a result of project partners' involvement, has adopted PUI project activities on a larger scale, within Hubli-Dharwad. The projects in both India and Ghana have been successful in improving relations between communities and local officials, thus improving social capital which may otherwise be weakened by the pressures and mobility within the peri-urban interface. In both cases, uptake has been targeted at District and State level, which appears realistic given the pilot nature of the project and the time and resources needed to build linkages.
- **Directly targeted activities are required to address the declining natural resource base.** Reducing the deteriorating trends of natural resource degradation was an overall objective of both projects. In Hubli-Dharwad the project has secured improvements in the local environment and natural resource base, including availability of wood products, soil fertility and water availability through individual and community activities (particularly BAIF areas). In Kumasi, natural resources were targeted only indirectly by the project and whilst there is some evidence of alternative livelihoods activities reducing dependence on the natural resource base, impact on the natural environment has been negligible. In the longer term, it is possible that some switch from natural resource-based activities such as firewood or charcoal selling might occur with increased take-up of non-natural resource based activities. However, more directly targeted activities (drawing on experience from Hubli-Dharwad

and previous NRSP PUI research projects) would be required to address identified problems of land shortages from building, logging, water shortages and adulteration, sand mining by transporters, etc.

- **Relatively little additional support is required to make this a worthwhile economic investment.** The economic analysis of livelihood activities shows that the investment made in the project in both sites is only likely to be repaid if the project groups (Livelihoods groups and *sangha*) continue to receive some level of support from the project (low case scenario). However, with a relatively small further investment, numbers of households benefiting from the project could be considerably greater. In Ghana, this finding reflects the pilot nature of project R8090 activities being tested and the modalities of operation. The groups are considered by the project and members as not yet ready to be self-supporting and requiring a further (short) period of support from CEDEP focused on achieving sustainability. Establishment of further groups (even if, as expected, to be carried out by MoFA) would require input from the NGO, at a minimum in training extension personnel, to ensure quality of participation and that the poorest benefit. In India, pilot and demonstration activities have been completed and savings and management practices established, and groups are considered to have reached a stage of being self-sustaining. However, for the establishment of new groups and promotion of pro-poor and environmentally sustainable activities, issues of further uptake again arise. Existing projects may introduce similar environmental technologies in BAIF/IDS target villages but may not reflect the pro-poor and independent and self-supporting characteristics of groups.
- **Application of NRSP PUI research is expected to contribute to meeting the Millennium Development Goals (MDGs) but it is difficult to attribute and quantify success.** In particular, it is expected to contribute to three Goals: (1) Poverty and Hunger, by improving household incomes, improving diversity of income sources and increasing human capital (2) Gender Equality and empowerment of women, by improving women's livelihoods assets and status and (3) Environmental sustainability, through increased adoption of non-land-based livelihoods activities and, in Hubli-Dharwad, improved land and water management.
- **Future PUI research needs to take a more integrated approach throughout the research and pilot implementation process.** This implies stronger linkages between the testing, modification and demonstration of implementation plans, and other aspects of PUI research including data collection and monitoring systems. The current projects came out of a series of NRSP research on databases and collection systems for PUI resources, models for peri-urban natural resource productivity, frameworks for water resource management, improved urban waste utilisation and environmental planning and management strategies for the peri-urban interface. A number of findings and lessons from the earlier projects have informed the current ones, including, in Ghana: knowledge of resource use and availability within the peri-urban

interface; and in India: potential strategies for environmental amelioration, including waste utilisation and land management. However, the 'research' orientation and content of the programme has been substantially reduced compared to earlier projects. Plan implementation has made only limited use of action research. There may be scope for involving the community in reviewing the research process and lesson learning.

- **A greater role of researchers in the implementation of community plans appears to have led to greater continuity in India.** The role of researchers in plan implementation has been somewhat different in the two countries. In Hubli-Dharwad, activities have been led by NGOs with strong backgrounds in natural resource and community activities, supported by a local research institution and a series of complementary inputs from the UK research collaborator. In Ghana, the implementing NGO is a community development organisation, which has strong expertise in social processes and institutional issues but limited research experience. Participation of several KNUST researchers from earlier NRSP projects as collaborators has brought continuity and knowledge of the PUI environment, institutions and processes and has enabled rapid adaptation of technologies. However, the Hubli-Dharwad approach, though higher cost, appears to have brought greater continuity and links with earlier NRSP PUI research.
- **Research communication outputs from the projects have been limited.** Recording of the process of community level environmental planning was an important part of plan development (projects R7959 and R7995) and video footage of the stakeholder workshops has been made but not edited and synthesised. In Ghana reports have been compiled on some aspects of the piloting process, such as the role of community level facilitators. However, a more in-depth documentation of the evolution from research to mainly development programme would be helpful to future pilot research/development projects.
- **Collection and use of environmental monitoring data has been limited.** In Kumasi the database established under R6880 does not appear to have been used by the project, and environmental monitoring trials have not been maintained. In Hubli-Dharwad the project attempted to establish participatory environmental monitoring but success was limited, in part due to lack of local capacity. Participatory environmental monitoring was not given prominence under the projects, but could be used for data collection, identifying and measuring indicators of change and to reinforce ownership of the plans.
- **PUI livelihoods research may not be able to meet the needs of the poorest directly.** The current projects have had successes in improving the livelihood assets and well-being of poor groups who have been involved in the project. However, the poorest groups or destitute are unlikely to have the capacity to participate in livelihoods or other activities (including those affected by ill health, particularly with the spread of HIV and AIDS, or headed by elderly

people or sole heads with numbers of dependents). Social protection programmes may be the only way of reaching the poorest groups.

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APPENDICES

The following appendices are included:

- Appendix 1: NRSP Impact Assessment Case Studies.
- Appendix 2: List of NRSP PUI projects
- Appendix 3: Coverage of Villages in Livelihood Training- Kumasi
- Appendix 4: Coverage of Villages by Project Partners in Hubli-Dharwad
- Appendix 5: Study Framework
- Appendix 6: Household Questionnaires
- Appendix 7: Household Interview survey Peri-Urban Interface Impact Evaluation in Hubli-Dharward
- Appendix 8: NRSP Peri-Urban Interface Impact Assessment-Focus Group Discussion Checklist.
- Appendix 9: Peri-Urban Interface changes and impacts in Hubli-Dharward
- Appendix 10: Millennium Development Goals
- Appendix 11: Framework for assessing Poverty Impact, Kumasi PUI

Appendix 1: NRSP Impact Assessment Case Studies Terms of Reference

August 2004

1 Background

The DFID Natural Resources Systems Programme (NRSP) is one of ten programmes in DFID's Renewable Natural Resources Research Strategy (1995-2005). NRSP's purpose is to deliver new knowledge that enables poor people who are largely dependent on the natural resource (NR) base to improve their livelihoods. The programme's goal is to generate benefits for poor people by application of new knowledge to NR systems.

NRSP wishes to assess the programme's current and potential development impact (hereafter impact). Here an impact is interpreted as an enduring change to attributable to the outcomes resulting from the application of research findings and products from NRSP research.

For assessment and measurement of NRSP's impact, priority order is:

'impact on livelihoods'

'impacts on poverty' and

'economic impact'

with a 'pro-poor' emphasis to assess the equity of impact.

NRSP's project portfolio is grouped geographically by eight Nodes and clustered by Suites within nodes. The NRSP Uptake Promotion (UP) Strategy identifies eight nodes – Bangladesh, Bolivia, Caribbean, Eastern Africa, Ghana, India, Nepal and PUI. Using the domain concept of NRSP's Conceptual Impact Model (CIM) projects within each node are clustered into project Suites around common areas of research and common sectoral stakeholders in CIM Domains for national (X) and international (Y) stakeholders. Projects suites by Uptake Promotional Node are summarised in Table 1 (below) and CIM documentation is provided in the ToR resource pack.

These ToR relate to the impact assessment of two NRSP uptake promotion node suites of projects as case studies. Currently these are the Bangladesh Suite 1 and the PUI Suite 1, although choice of suite may change once details of the scheduled DFID RNRRS Research Evaluation and Impact Assessment Study are available. A separate impact assessment case study is to be conducted for each node suit. The Impact Pathways for these two node suites are provided in electronic (ZIP) files as ToR resource material.

In order to conduct the impact assessment the following minimum outputs will be needed:

- Concise description of the impact on the livelihoods of the poor in the node suite project's sites and, if relevant, more widely (nationally and, if relevant, regionally).
- Identification and measurement of impacts on poverty that have resulted by 2005, or are likely to result by 2015 (the MDG timeframe), from the node suite projects in their target sites, and more widely if relevant.

- Estimation of the efficiency of research resources using traditional cost-benefit analysis measures (NPV, IRR) while noting that data may not exist for some externalities (e.g. environmental benefits or improved governance).
- Identification of NRSP research's contribution to, and implications for, meeting the relevant MDGs.

2 Method

The study method should:

- Draw on project literature and discussions with node suite leaders or team members (as relevant), the NRSP programme manager and steering group members, in order to review the ways in which research findings have been used and to anticipate the mechanisms and pathways of the associated developmental impact.
- Delineate “with and without” scenarios in order to demonstrate NRSP’s impact.
- Identify the evidence types and sources for determining NRSP’s impacts.
- Where primary data collection is required, develop an appropriate method and sample for collecting data consistent with the resources available to the studies. The method should include a means for the sample findings to be grossed up.
- Document livelihood changes and estimate qualitative and quantitative benefits resulting from NRSP research. Documentation should permit illustrative NRSP developmental impact examples to be developed for reporting NRSP ‘Success Stories’ subsequent to completion of the studies.
- Identify and estimate the actual and expected impacts (to 2005 and 2015 respectively) on poverty using MDG, local and, if appropriate, other measures. Assumptions used in the estimates to be clearly stated.
- Estimate the NPV and IRR attributable to the research investment in the node suite using estimates of economic return, or other estimates of added value and benefits, and the project cost – to include a share of NRSP’s total project management costs.
- Use sensitivity analysis to test the reliability of the study findings with respect to the data and evidence sources and against key assumptions.

3 Reporting

Two reports will be produced. The first will be an interim report after one third of the study period. This report should set out the “with and without” NRSP scenarios and the data sources for each area of livelihood, poverty and economic impact that the team

has identified. It will also provide a detailed method for data and information collection and an outline of the analysis proposed and report structure.

The second will be the full report. This will provide a concise record of the study objectives and method and will concentrate on the findings of the study. The findings should be put into the context of the on-going development changes in the target sites and countries and of the method used to identify the NRSP impacts. The report should also identify any implications of the study findings for research on the management of natural resources with the objective of improving the livelihoods of the poor. An executive summary of not more than 2,000 words should be included.

4 Team composition

The study team will include both international and local specialist and will be led by a specialist with experience of similar studies using quantitative and qualitative data to demonstrate the impact of research, and with experience in the livelihoods of the poor. The team should include the mix of expertise and skills needed to implement the study to the scope set out above.

There should be no conflict of interest for team members as a result of participating in the study. This would preclude inclusion, in a case of study team, of individuals who had been involved in the implementation of any of the projects that comprise the respective node suite. It will also preclude persons who are close colleagues or professional associates of those involved in implementing any of the projects in the study case. Persons who have worked on the NRSP projects in uptake promotion node suites other than that under study are not precluded. Any issue that might later be interpreted as a conflict of interest for team members, including associations with NRSP programme management, must be identified at the expression of interest (EoI) stage.

5 Timing

Months

September 2004 - Late

October 2004

November 2004 - Beginning

December 2004 - Mid

January 2005 - Beginning

February 2005

March 2005 - End

Milestones

Evaluation of EoIs

Selection of preferred study teams

Briefing discussions with NRSP

Contracting of study team(s)

Study begins

Interim report due

Agreement on interim report proposals

Final report due

Summary of NRSP projects by uptake promotion node suite

UP node	Suite 1	Suite 2	Suite 3
Bangladesh	Improving NRM through promotion of CBMPAPD and identifying the institutional environment favouring uptake of participatory methodologies	Improved pro-poor information services for NR-based livelihoods	Integrated floodplain management
	LW: R6756, R7562, R8103, R8195, PD114/R8223, PD131, RB04/01	HP: R6751, R7600, R8083	LW with inputs from HP1: R6755-HP, R7868, PD124/R8306
Bolivia	Community-led improved NRM that is inclusive of the poor	Strategies for scaling-up field level research	Promotion of products of other HS projects conducted in other countries
	HS: R7584, R8362	HS: R7865, R7866, elements of R6621, R6638 & R8362	HS: R6525, PD097, PD118, PD113
Caribbean	PD127 – the Caribbean Focus Group (for uptake promotion) gross cuts		
	Institutional arrangements and decision support tools for livelihood sensitive (pro-poor) ICZM	Policy-relevant knowledge on feasible alternative NR-based strategies for enhancing livelihoods	Best management practice for amelioration of sediment and agrochemical pollution
	LW: R6919, R7408, R7559, R7976, R8134, R8317	LW: R7797, R8135, R8325	LW: R7111, R7668, R8364
Eastern Africa	Drylands rainwater harvesting (RWH) and issues around rainwater management	Densely populated, high rainfall lands with various land management constraints plus relatively remote areas with poor market access	Drylands livelihoods in relation to access to and use of CPRs and PPRs
	SA: R6758, R7888, R7949, R8088, R8115, R8116 (poverty study component), R8381, R8390 may contribute	HP-R7056 & R7962, HS-R7517 & R7856 with PD097, RB03/04 (pipeline). Also PD111/HP-R8211 but broadly covering HP lands	SA: R7150/PD099, R7806, R7857, R7973 and R8116
Ghana	Inclusive (of the poor) public governance mechanisms for NRM at the FAI	Integration of PTD into NItM research and extension for improved fallow management in the FAI	Contextual problems and constraints; tools for improved decision-making on NR research, esp. soils research
	FA: R7577/PD115, R7957, R8258	FA: R7449, FA-R6789, R7992 may contribute	FA: R7515, R7516
India	Cross-cutting – local UP coordinator for target organization liaison		
	Policy processes pro-poor rural services (focused on aquaculture)	Pro-poor rural services for livelihoods-based around irrigated farming systems in marginalised areas	Improving NRM strategies for NR-based livelihoods accessing CPRs and PPRs in semi-arid lands
	HP: R6759, R8100, R8334, R8363 may contribute	HP: R7830, R7839	SA: R7558, R7877, R7973, R7974, R8192, R8280
Nepal	Social analysis, livelihoods and NR management; strong CPR-forestry component	Linking field activities with development policy	Crosscutting Suites 1 and 2. Raising awareness of pro-poor livelihood opportunities for NRM in mountain environments
	FA: R6778, R7514, R7889, R7975, PD119	HS: R7412, R7536, R7958. R7865 and PD097 also contribute	R7313 (HS Conference), P0113 (HS Symposium & Workshop)
PUI	Pilot NR management strategies to improve livelihoods	Understanding livelihoods in relation to NRM for policy-level dialogue on entry points for opportunities for pro-poor NRM	New knowledge of participation in decision-making processes relevant to NR management at the PUI
	PUI: India - R7959, R8084, Ghana-R7995, R8090	PU: R7549, R7897, R7872, PD121, R8084, R8090	PUI: R7959, R7995, R8365

Appendix 2: List of NRSP PUI projects

Projects included in NRSP Impact Assessment Case Studies

Suite 1: Pilot NR Management strategies to improve livelihoods	
Uptake Promotion Node: Peri-urban interface	India R7959: Natural resource management action plan development for Hubli-Dharwad PUI
	India R8084: Enhancing livelihoods and NR management in peri-urban villages near Hubli-Dharwad
	Ghana R7995: Implementation plans for natural resource management strategies for Kumasi peri-urban interface
	Ghana R8090: Who can help the peri-urban poor?

Research projects on the peri-urban interface (Hubli-Dharwad, India)

Project No.	Project title	Brief description	Key findings
R6463	South Asia Scoping Study	This project aimed to identify key components and principles of a workable strategic approach to planning and managing environmental dimensions of the rural-urban interface which would benefit the poor.	Identified a number of research themes and proposed the twin city of Hubli-Dharwad, representing medium-sized cities in India, as a site for future research
R6825 Jan-Sept 1997	Baseline Study and Introductory Workshop for Hubli-Dharwad city Region, Karnataka, India	To create a baseline database on natural resource information, develop an understanding of the peri-urban interface as a system and to identify the research problems and priorities in a participatory way.	Baseline database on natural resource information. A number of researchable projects with short payoff period were suggested, e.g. urban waste management and soil fertility.
R7099 Jan-Dec 1999	Improved utilization of urban waste by near-urban farmers in the Hubli-Dharwad city region	The research looked at the present and past use of composts, including urban waste, by near-urban farmers and used on-farm trial to pilot test the use of sorted and treated municipal wastes in the peri-urban areas of Hubli-Dharwad.	Integrated urban waste management needed with special emphasis on quality of the wastes, awareness raising, access issues, constraints and marketing.
R7209	Strategic Environmental Planning and Management (EPM) for the peri-urban interface	To identify key components and principles of a workable strategy for planning and managing environmental dimensions of the rural-urban interface which would benefit the poor.	Identified a series of studies generating information on factors and their consequences on natural resources and livelihoods up to 2000.

R7269, Jan- August 1999	Valuation of peri-urban natural resources productivity	To develop a framework for assessing natural resource values.	A framework is needed where provisions for incorporation of all stakeholders and values for natural resources are taken into account
R7549	Consolidation of existing knowledge in the peri-urban interface system	To generate knowledge on natural resources management in peri-urban production systems.	Consolidated knowledge generated in all the previous PUI HD projects and identified knowledge gaps in the context of poverty reduction and improving livelihoods of the poor.
R7867 Oct '00– Sept '01	Filling gaps in knowledge about the peri-urban interface around Hubli-Dharwad	To generate knowledge on natural resources management in peri-urban production systems.	Agriculture is still an important activity along with growing demand for dairying. Cropping system varies, so does marketing system. New knowledge has been generated in the areas of indicators of poverty and how urbanisation has effected livelihood strategies. Book.
R7959 Feb-Oct 2001	Participatory Action Plan Project for natural resources management around H-D	To formulate plans to implement natural resource management strategies for peri-urban areas.	3 plans generated. Improved understanding of the process of participatory action plan formulation, and what facilitated it and what hindered it.
R8084	Enhancing livelihoods and NR management in peri-urban villages near Hubli-Dharwad	To test, modify and demonstrate NR management strategies for the benefit of the poor through implementation of plans of action in pilot projects in the Mugad cluster, Kotur, Gabbur and Channapur villages	Implementation in 6 villages ongoing

Research projects on the peri-urban interface (Kumasi, Ghana)

Project No.	Project title	Brief description	Key findings
R6448 1996	Kumasi Baseline Studies	To design an effective information base for PUI production system research in Kumasi city Region, including: relevant NR data; institutional and legal framework within which it is managed; overview of stakeholders and specific community groups, their activities and their needs; trends in change over time in land use, livelihood systems	3 month study defining data needs

Project No.	Project title	Brief description	Key findings
		and employment patterns	
R6880 1997- 2000	Development of methods of PUI resource information collection, storage, access and management	To develop a model for the use of GIS in PRA work and derivation of a number of hypotheses to be tested for successful integration of the 2 methodologies.	A major aerial survey of the greater Kumasi area was carried out using high spatial resolution digital cameras
R7269 1998- 1999	Valuation of peri-urban NR productivity (Ghana and India)	Development of a framework using range of valuation and NR management methods	Highlighted lack of recognition of urban bodies to effectively seek views and preferences of all stakeholders, especially the poor. Recommended training of NR managers in stakeholder analysis and rough and ready approach to valuation
R7330	PUI production system research. PUI natural resources management at the watershed level	Developed a framework for sustainable and equitable water resource management in Kumasi PUI (with wider applicability)	Identified a range of stakeholders and polluters and developed GIS data input and display formats
R7549 2000	Consolidation of existing knowledge in PUI systems	Consolidation of knowledge about peri-urban production systems	Identified i) Ways in which PUI systems are affected by PU driven changes, ii) which stakeholders are affected by changes, iii) how poorer stakeholders are affected, iv) flows of knowledge and physical resources, v) how municipal and district authorities take PU processes into planning development strategies, vi) options for interventions in PU systems
R7995 May 2001- Jan 2002	Implementation Plans for NRM Strategies for KPUI	Development of participatory process for formulation of plans of action for implementing NRM strategies.	3 livelihoods-based plans prepared. Community-level facilitators elected.
R8090 Feb 2002- Jan 2005	R8090 Boafo Ye Na	Initiated to answer the question: Who can help the peri-urban poor?	Livelihoods activities initiated with groups in 12 communities: participatory business plans developed; group members trained.

Appendix 3: Communities participating in Bafo Ye Na Livelihood Training

Livelihood Activity/ Community	Grasscutter		Snail Rearing		Mushroom Production		Alata Soap Production		Rabbit Rearing		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Abrepo	3	2	2	3	1	5	3	1	1	1	22
Atafoa	0	0	0	5	3	3	0	5	1	1	18
Apatrapa	4	1	2	3	0	0	3	1	1	1	16
Behenase	5	0	3	2	1	5	1	2	1	1	21
Ampabame II	4	1	4	0	2	3	0	5	0	0	19
Asaago	5	0	2	1	2	3	1	5	1	1	21
Adagya	3	2	2	3	5	2	4	1	1	1	24
Esreso	5	0	3	1	4	2	4	0	1	1	21
Okyerekrom	4	1	4	1	1	0	2	2			15
Duase	5	0	1	4	2	4	2	3	1	1	23
Swedru	4	0	2	3	3	3	1	4	1	1	22
Maase	3	2	2	3	4	2	4	1	1	1	23
Total	45	9	27	29	28	32	25	30	10	10	242

Appendix 4: Coverage of Villages by Project Partners in Hubli-Dharwad

Partner	Mugad	Mandihal	Daddikamapalur	Kotur	Channapur	Gabbur
IDS	<i>Sangha</i> , IGA, livestock	<i>Sangha</i> , IGA, livestock	<i>Sangha</i> , IGA, livestock	<i>Sangha</i>	none	none
BAIF	none	none	none	none	<i>Sangha</i> , agro-forestry, livestock	<i>Sangha</i> , livestock
UAS	Biogas, improved stoves, tank-watershed management	Tank-watershed management	Livestock research	IGA, research in <i>sangha</i> , watershed management	Agro-forestry, farming system research	MOVE
BPF	Process monitoring, interviews					

Appendix 5: Impact Assessment Study framework

Study questions	Variable	Likely impact	Method	Disaggregation/ comparison
1. Impact on poverty (also from many of other questions)				
Has poverty been reduced <i>due to project intervention</i> ?	<ul style="list-style-type: none"> a) Wealth ranking - assessment of characteristics of poverty groups b) % HH with change in poverty characteristics c) Change in household assets (livestock numbers, bicycles, radios/TV, cooking utensils) d) Change in land holding (owned, leased in, leased out, type of land, use of land) e) Change in buildings (e.g. type of roof) f) Change in overall wellbeing 	H-D: Small percentage increase K: Limited; some increase in land leased possible	HHQ (cross-checked with FGD) KII (expected future impact on poverty and poverty groups)	Before v now, poor v non-poor, men v women
<ul style="list-style-type: none"> • Have assets of participant households increased? What is the source of funds for capital purchase? • Do households feel generally better off? What are the reasons for this? 				
2. Impact on physical capital				
Has physical capital of participant households increased <i>due to project intervention</i> ?	<ul style="list-style-type: none"> a) Change in physical assets resulting from the project which the household has access to 	H-D: increase in water tanks K: some livestock sheds constructed (Issues of access explored further in social capital)	HHQ (cross-checked with FGD)	Before v now, men v women, poor v non poor
<ul style="list-style-type: none"> • Who has access to it? 				
(NB: limited impact expected in terms of physical capital – roads, energy, etc)				
3. Impact on human capital				
Has human capital (specific livelihood skills) of participants increased (as a <i>result of the project activities</i>)?	<ul style="list-style-type: none"> a) Change in personal knowledge: Average rating of competency (1- low; 5-high) by livelihood activity b) Average rating of relevance of knowledge by livelihood activity 	H-D/K: good increase expected in livelihood skills	HHQ (cross-checked with FGD)	Before v now, men v women, poor v non poor
Has human capital (entrepreneurial skills) of participants increased?	<ul style="list-style-type: none"> a) Average rating of competency (1- low; 5-high) by skill type (planning; marketing) b) Average rating of usefulness of knowledge by skills type (planning; marketing) 	H-D/K: good increase in 'leading' group members, but less so for others (illiterate women?)	HHQ (cross-checked with FGD)	Before v now, men v women, poor v non poor
Have any skills been passed to non-participants (within and outside the HH)?	<ul style="list-style-type: none"> a) Number of individuals (by skill type, location and whether used in a productive activity) 	H-D/K: limited overall, perhaps a few key individuals (e.g. mushroom cultivation)?	HHQ FGD (with/without project) KII	men v women, poor v non poor
<ul style="list-style-type: none"> • What skills have been passed on? 				

Study questions	Variable	Likely impact	Method	Disaggregation/ comparison
<ul style="list-style-type: none"> To whom? Have they been able to use them? How? 				
4. Impact on financial capital Has financial capital of participant households increased (as a result of the project activities)? Has there been a change in productive assets as a result of the project?	a) Source and change in HH credit (formal, informal) b) Level and change in HH savings? a) Change in levels of productive assets (breeding stock of rabbits; soap-making equipment; etc) b) Change in access to productive assets (HH ownership; group ownership)	H-D/K: access to formal credit initiated through group borrowing H-D/K: capital shared amongst group members (?), issues of sustainability	HHQ FGD (with project groups) HHQ KII (with project staff) FGD (with project groups)	Before v now, men v women, poor v non poor Before v now, men v women, poor v non poor
5. Impact on natural capital Has there been a change in the reliance on the natural resource base (as a result of the project activities)?	a) Number of livelihood IGAs by source of inputs (own land; community land; non-land resources in village; city resources) b) Proportion of income from NR sources	H-D/K: expected increase in IGAs using non-land based inputs (esp. soap making; trading in natural produce) H-D: expected increase in income from non-land based activities	HHQ FGD (Resource flow maps – before/after project)	Before v now, NR v non-NR; men v women, poor v non poor
Has there been a change in the use of natural resource by-products? Has natural environment been improved as a result of the project activities?	c) Change in use of by-products? Perceptions about rates (and nature) of changes on: a) wildlife b) land quality (and erosion) c) no. public/ private trees d) fallow land area e) water availability and quality (for crops, livestock, humans) f) fuel g) fodder	H-D: agro forestry? TBC K: use of manure from livestock planned H-D: improvements in water quality? SWC some land reclamation K: possible reduction in sand mining?	HHQ (resource flow maps) FGD FGD (Village maps as basis for discussion)	Before v now Project v control, Men v women
6. Impact on social capital (and institutional sustainability) Has dependence on city changed in terms of access to labour and commodity markets? <ul style="list-style-type: none"> Has market access improved? And, how? why? Is it a long-term 	a) proportion of income based on work in city	H-D/K: TBC	HHQ	Before v now, NR v non-NR; men v women, poor v non poor

Study questions	Variable	Likely impact	Method	Disaggregation/ comparison
change/process? (sustainability) (NB: Access to markets is more usually captured as part of the 'PIP's box in the SLF)				
Has social capital been changed due to participatory planning and/or project intervention? <ul style="list-style-type: none"> Which stakeholders have been most affected by the project? 	<p>b) Change in HH membership of formal/informal groups</p> <p>c) Average change in score for social cohesion reported</p> <p>a) Average change in score for cooperation, empathy and unity</p> <p>d) Cumulated savings</p> <p>e) % members got credit</p> <p>f) average loan per member</p>	H-D/K: increase in membership of SHG, mixed results for cooperation and empathy	FGD (group members/ non-group members) HHQ	Project v non-project, before v now, Men v women, poor v non-poor
Will project supported SHG (<i>sangha</i> , livelihood groups) be financially sustainable?		H-D: some sustainability, some projects on 2 nd round K: individual livelihood activities likely to payback, group activities limited likelihood (rabbits died, input problems with mushroom)	SHG/ <i>sangha</i> records KII	Project v non-project (where there are SHG)
Will project supported SHG be sustainable as an organisation?	<p>b) Number of non-project activities by SHG (current/ planned)</p> <p>c) Perceived benefits to the community from project (short or long-term)</p>	H-D/K: Maybe for specific purposes (such as raising credit, approaching resource persons)	KII	Before v now, men v women, poor v non poor
Has the process improved linkages by group members to local institutions and agencies?	<p>d) Number (and type) of institutions/ individuals contacted</p> <p>e) Number (and type) of institutions/ individuals get help from (received/ plan)</p>	H-D/K: especially access to credit institutions & markets (plus access to key resource persons)	FGD (group members/ non-group members)	Project v non-project, men v women, poor v non poor
Have official attitudes changed towards project members?	f) Change in score for official attitudes to project related activities	H-D: TBC K: awareness at district level	KII	Project v non-project
7. Participation and empowerment				
Were project participatory processes at village level effective, pro poor and inclusive of women?	<p>a) Extent process was participatory (score)</p> <p>b) Number & % of poor people involved process</p> <p>c) Number & % of women involved in process</p>	H-D/K: participatory process expected K: but, number of poor people reached may not be as high as planned	FGD (and Project records)	Project v non-project, men v women, poor v non poor
Were project participatory processes at SHG/ <i>sangha</i> level effective, pro poor and inclusive of	d) Extent process was participatory (score)	H-D/K: started off participatory, but some land/labour issues becoming	FGD	Men v women, poor v non poor (project only)

Study questions	Variable	Likely impact	Method	Disaggregation/ comparison
women? Has the process helped empower the poor and women?	e) Score for role in decision making f) Number of local decision-making institutions/bodies to which individuals belong (membership)	apparent H-D/K: women status improved?	HHQ FGD	Men v women, poor v non poor
8. Vulnerability Have livelihoods been diversified (as a result of the project activities)?? <ul style="list-style-type: none"> Has there been any shift from farming to home-scale beekeeping, etc? Has the level or risk changed for people? Has food security improved (as a result of the project activities)?	a) Number (and type) of income sources per HH b) Proportion of income from main sources c) Months with one meal per day d) Self-sufficiency (3mths/ 6mths/ etc)	H-D: already impact K: potential impact H-D/K: TBC	HHQ (cross-check Q with above) HHQ	Before v now, men v women, poor v non-poor Before v now, poor v non poor, men v women, project v. non-project
9. Estimation of uptake potential Have local Target Institution (TI) attitudes and knowledge changed due to the project intervention?	a) Changes in participatory planning process b) Uptake ideas and plan of institutionalization of research findings	H-D: maybe some impact in non-collaborating NGOs K: maybe some change in other CEDEP projects & change in research institutions	KII (using elements of KAP surveys)	Before v now, Local government agencies, NGOs, research organisations
Have sub-national TI attitudes and knowledge changed?	a) Changes in participatory planning process b) Uptake ideas and plan of institutionalization of research findings	H-D: maybe limited to-date K: maybe some impact at district level	KII (using elements of KAP surveys)	Before v now, State level government agencies, NGOs, research organisations
How extensive an uptake may occur by 2015 in the likely domain (state and national PUIs)? <ul style="list-style-type: none"> What impacts could this uptake have? 	c) Future plan analysis (areas/extent and timetable – including questions of when would uptake take place?, how long will the process take until beneficiaries benefit?)	H-D: pathways maybe through NGOs K: pathways through district government and NGOs	KII (national statistics, key informant estimates) Workshop – with range of stakeholders (discuss future scenarios)	No. of expected beneficiaries (No of cities under expansion up to 2015, no of peri-urban villages, no. of households in the probable peri-urban villages, no. of male poor, female poor, other, expected gains by 2015)
10. Contribution to MDGs				

Study questions	Variable	Likely impact	Method	Disaggregation/ comparison
What is the contribution to MDG halving poverty?	a) Estimate of number of households expected to be brought above poverty line from approach and uptake		HHQ, key informants, secondary data	High v low impact scenarios
What is the contribution to MDG promoting gender equality?	b) Estimate of number of women expected to benefit from approach and uptake		HHQ, FGD, key informants, secondary data	High v low impact scenarios
What is the contribution to MDG promoting environmental sustainability?	c) Estimate number of villages where uptake would improve sustainability of environment and NR use (assuming pilot sites show this)		Key informants, secondary data	High v low impact scenarios
11. Economic return from PUI suite				
Has the project (& PUI suite) been a good investment?	d) Average direct benefit per household from IGAs, etc (assessment of financial value of benefits) e) Uptake estimate of number of households benefiting by 2015 f) Project implementation cost g) Scaling up cost estimates		HHQ (TIs plans/ TI estimates – if available) (Project documents)	Sensitivity analysis

Notes:

HHQ = Household Questionnaire (sample survey)

FGD= Focus Group Discussion

KII= Key Informative Interviews

KAP= Knowledge, Attitudes and Practice surveys

Appendix 6: Household questionnaires KPUI

HOUSEHOLD QUESTIONNAIRE: IMPACT ASSESSMENT OF KUMASI PERI-URBAN INTERFACE PROJECT

Interviewer:.....

Date of interview:

Identification

Questionnaire ID no.:

Village/Community:

District:.....

Characteristics of Interviewee (s)

- 1) Name of Interviewee:
- 2) Residency: 1=Native of the Study Area (indigenous) 2 = Settler (immigrant)?
- 3) Sex/Gender of Head of Household.....

4) Information on household members starting with interviewee.

No. of HH member	Name of household member	Age	Educational level attained	Relationship to interviewee	Member of CEDEP/ Boafo Ye Na Project and date joining	Former CEDEP/ Boafo Ye Na Project Member and date left	If left, reasons for leaving

5) If any members of the household are involved in project activities, please complete details below:

HH member no.	Type of livelihood activity(ies) engaged in:	Dates: when started-when stopped	If stopped, reasons for stopping	Type of training received for each livelihood activity:	Have you put any of this training into practice? For each training	How confident are you in being able to put training/skills acquired into practice? Level of confidence:	How confident are you in being able to use training/ skills acquired in any way beyond the life of the project? Level of confidence:
(from 1 above)	1= Rabbit/ 2=grasscutter 3= snail farming 4 = bee-keeping 5 = pomade-making 6= Alata soap making 7 = petty trading 8= mushroom growing 9= Other (specify)			1=Planning e.g. business plans 2=Credit/savings activities 3=Livelihoods activity (process/procedure) 4=Other (specify)	1=Yes 2=No	1=very weak 2=weak 3=average 4=strong 5=very strong	1=very weak 2=weak 3=average 4=strong 5=very strong

Transfer of skills

6) Are you aware of passing any of these skills to any one else in your household and others? If so which of these? What skills have you transferred? Have these been used by those who received it and in what way? If yes, in what way?

<p>To whom have you transferred your training/skills acquired?</p> <p>0= no-one 1= 1 person 2= 2 people Member of your household</p> <p>Wider / extended family member Non-family member of your village Someone outside the village and not a member of your family</p>	<p>What training/skills have you transferred?</p> <p>1=Planning (e.g. drawing up business plan) 2=Credit and savings 3=Livelihood activity (Specify) 4=Others (Specify)</p>	<p>Have they used the training/skills you have passed on?</p> <p>1=Yes 2=No 3= Don't know</p>
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Participation in General Project activities

7) What project activities have you participated in, and in what ways and at what level of participation?	How often do you participate?	How would you rate your level of participation?
Type of project activity	Which household members participated? (HH member numbers)	
	0 = Never	
	1= up to fortnightly	1=very weak
	2= monthly	2=weak
	3= up to quarterly	3=average
	4= half-yearly	4=strong
	5= yearly	5=very strong
	6= less than yearly	

Workshops

Micro-lending

Use of Newsletters

Network

Training

Livelihood activities

Other (Specify)

8) Household economic activities: ranking of importance and impact on natural capital (before and after project)

Different HH economic activities	Season	Ranking of activities by importance	Ranking of activities by importance to HH income	Natural resources used in activity NOW	Natural resources used in activity BEFORE project started	By-products generated by the activity NOW
Own or individual land-based	1=major rains	importance to HH income	HH income BEFORE project started	NOW	used in activity BEFORE project started	
Community based	2=minor rains	NOW	1=most important	1=most important		
Non-land based local	3=harmattan	1=most important	2=2nd	2=2nd		
Non-land based City-based	n					

9) Have there been any changes in your household's use and sources of natural resources (on or off- your farm) since the start of the project?

Natural Resources	Changes in use and sources?	Description of changes :	How important has the project been in these changes?	Reasons for changes in use and sources
	1=yes 2=No	1=Increased quantity 2=Decreased quantity 3=Quality 4=Closer sources 5=Further sources 6=Other (Specify)	1-not at all important 2-not very important 3- quite important 4- important 5-extremely important	
Water for livestock				
Water for household				
Wood products/ thatch				
Soil fertility				
Drainage				
Sanitation				
Stones and sand				
Fodder and grazing (herbage?)				
Others specify				

Productive assets

10) What assets do you or your household have access to as a result of the project? Who owns these assets? What do you expect to happen to these assets on completion of the project?

Productive Assets	Owner of assets 1=Individuals 2=Households 3=several households 4=project 5= other	Perception of fate of assets
Buildings/sheds Equipment/tools		
Breeding stock		
Other (specify)		

Indicators of wealth

11) Have you or your household (state which) acquired any assets since the start of the project? How did you finance the (new) assets? How important has the project/livelihood activity been (e.g. generating income to finance these)?

Type of assets	Acquired	How financed	How important has the project been in these changes?
	0=none	1=own funds	1-not at all important
	1=1	2=project funds	2-not very important
	2=2	3=borrowing (non-project)	3- quite important
	-1=lost 1	4=gift	4- important
	-2=lost 2	5=other	5-extremely important

Livestock (Type= and Number=)

Bicycle

Radio/TV

Cooking pots

Others specify

12) Have you made any improvements (not just repairs) to your house since the start of the project? How did you finance this? How important has the

project/livelihood activity been with regards to e.g. generating income to finance these

Type of areas improved	Whether improved 1=yes 2=No	How financed	How important has the project been in improvement? 1-not at all important 2-not very important 3- quite important 4- important 5-extremely important
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New Buildings

Roof

Walls

Toilets

Floors

13) Which group do you consider yourself a member of at the start of the project? (E.g. Very poor, poor, average, better off, wealthy). Which group do you consider yourself to be a member of now? If there has been a change, what are the reasons?

Wealth group	Perception of wealth status before CEDEP / Boafo yena Project started	Perception of wealth status NOW.	Reasons for change, if so	Reason for no change
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Very poor

Poor

average,

Better off

wealthy

14) If there has been a change, how important has the project been changes?

0=No Change

1=Not at all important

2=Not very important

3=Quite important

4=Important

5=Extremely important

Vulnerability

15) For how many months a year does your household eat less than 3 meals a day NOW (has shortage of food)? What was the situation at the start of the project? What is the reason for the change? How important has the project been?

Number of months of food shortage NOW	Number of Months of food shortage at the start of Boafo Ye Na Project	If changes, what is the reason for the change	How important has the project been in this change? 1-not at all important 2-not very important 3- quite important 4- important 5-extremely important
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Social capital: Scorings

16) Co-operation

If an activity could affect the livelihood of all the people of the area, what proportion of people would cooperate/work together regarding that? Now and before the project started?

1 2 3 4 5

Now |__|__|

2001 |__|__|

- 1=nobody would work together
- 2=few would work together
- 3=some would work together
- 4=many would work together
- 5=all would work together

17) Empathy

In this village how much do people care about the interests of others.

1 2 3 4 5

Now |__|__|

2001 |__|__|

- 1=don't care at all
- 2=don't care much
- 3=quite caring
- 4=very caring
- 5=extremely caring

18) Unity

If you have a problem with your livelihood then is there always someone in the village who can help you, through social obligations?

1 2 3 4 5

Now |__|__|

2001 __|__|

1-never

2-not often

3-often

4-very often

5-always

19) Would you have to reciprocate in kind or cash?

Yes-1, No-0 |__|

20) Well-being (includes status, security contentedness etc.)

At what level of well-being (on scale 1-5) do you consider your household now?, and in 2001?

1 2 3 4 5

Now |__|__|

2001 |__|__|

24) At what level of well-being (on scale 1-5) do you consider the main woman in your household now? And in 2001?

1 2 3 4 5

Now |__|__|

2002 |__|__|

1 – extremely poorly off, 2- poorly off, 3- average, 4- better off, 5- very well off

25) If you had a livelihoods problem in the past (before the project started), which people, groups or networks could you go to for help?

1-People in my family of household

2-People who are not members of my the household

3-People who are members of the project group

4-People from other communities or villages

26)If you have a livelihoods problem now, what people, groups or networks can you go to for help?

1-People in my family of household

2-People who are not members of my the household

3-People who are members of the project group

4-People from other communities or villages

27)How has participation in the CEDEP / Boafo Ye Na Project enhanced your belonging to the group, enhanced your relationship with family members, friends or group members

28)Costs and returns of project activity (in Cedis)

Expected costs (from HH Livelihoods plan)	Expected returns (from HH livelihoods plan)	Actual costs (to date)	Actual returns (to date)
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Project inputs
(list)

Project outputs
(list)

29)Do you have any other comments on the project and its impact?

Appendix 7: Household Questionnaire Hubli-Dharwad

1. Family No. Village: Caste:

2. Name of Head of the family: _____

3. Main source of HH income: _____

4. Family background: (enclose additional sheet if necessary & take care to include the names of infants & very old)

Sl. No	Name of family member	Age	Education (no. of yrs)
Male			
1			
2			
3			
4			
5			
6			
7			
8			
9			
Female			
1			
2			
3			
4			
5			
6			
7			

4a. Is anyone in this household involved in any of these NGO/project supported interventions? what are the benefits?

	male	female	benefit
Self help group (adult)			
Self help group (children)			
Wadi			
Training			
Exposure trip			
Tank management			
IGA			
Other (specify)			
.....			

4b. Is anyone in this household a member of:

Organisation type	2004	2001
Federation		
Village council		
Youth club		
School committee		

Religious committee
VFS

5. Assessment of project activities

a) Did anyone from your household attend any meetings to plan future resource management here?

Y=1, N=0

If yes, when?
how many meetings

b) How many planned activities do you remember from the meetings?
How many of these activities have been implemented here?

c) How helpful for your household have the PUI project activities been?

1 2 3 4 5 6 7 8 9 10

Now
2001

1 = "not at all helpful"
10 = "as helpful as can imagine"

d) How helpful for this community/village have the PUI project activities been?

1 2 3 4 5 6 7 8 9 10

Now
2001

1 = "not at all helpful"
10 = "as helpful as can imagine"

6. What changes in the last 10 years (positive or negative) do you see from living close to city?

Types of change

Land use pattern

Livestock/ livelihood

Environmental hazard

Habits (social)

Health

Education

Access to resources - financial

Access to resources - natural

Access to markets

Communications

Services (electricity, water, etc)

Others (Specify)

Reason for change

Reason for change

7. Assets

Assets	2004	2001	Reasons for change
Land (ac)			
Own homestead			
Own cultivated			
Own non-cultivated			
Leased in			
Leased out			
Livestock (No)			
Cow			
Bullock			
Buffalo			
Goat/sheep			
Chicken			
Pig			
Fruit trees (No)			
Timber trees (No)			
Other assets (No)			
House (dwellings)			
Radio			
Television			
Bicycle			
Motorbike			
Auto (-rickshaw)			
Tractor			
Weeder			
Thresher			
Pump			
Type of home services			
House condition			
Type of toilet			
Source of drinking water			
<i>House condition: 1=very good, 2=good, 3=average, 4=poor, 5=very poor (self assessment of respondent)</i>			
<i>Type of toilet: 1=water sealed, 2=not water sealed, 3=use open space</i>			
<i>Source of drinking water: 1=piped, 2=well, others specify.....</i>			

8. Occupation of household members

Occupation code	Now			Before (2001)		
	No. of members	Months working	Annual income (Rs)	No. of members	Months working	Annual income (Rs)
Male		Rabi			Rabi	
Female		Summer			Summer	
Children		Khait			Khait	
Male						
Female						
Children						
Male						
Female						
Children						
Male						
Female						
Children						
Male						
Female						
Children						
Male						
Female						
Children						

(Note if income, expenditure, etc are for the household)

Reasons for change in occupation: _____

9. Farming practices

Present situation (2004)

Crop/ Variety ¹	Season ²	Area cultivated (ac)	Ownership pattern ³	Production cost (including Irrigation, seed/seedlings, tillage, pesticide, labour etc. (Rs)	Chemical fertilizer (Rs.)	Manure/organi c/compost (Rs.)	Transport cost (Rs.)	Total no. of labour days		Main product		By products	
								Own	Hired	(kg)	(Rs/kg)	(kg)	(Rs/kg)
1													
2													
3													
4													
5													
6													
7													
8													

Situation in 2001

Crop/ Variety ¹	Season ²	Area cultivated (ac)	Ownership pattern ³	Production cost (including Irrigation, seed/seedlings, tillage, pesticide, labour etc. (Rs)	Chemical fertilizer (Rs.)	Manure/orga nic/compost (Rs.)	Transport cost (Rs.)	Total no. of labour days		Main product		By products	
								Own	Hired	(kg)	(Rs/kg)	(kg)	(Rs/kg)
1													
2													
3													
4													
5													
6													
7													
8													

Notes: 1: complete for all field crops also for vegetables and orchards

2 season: 1=rabi, 2=summer, 3=kharif

3 Ownership pattern: 1=own; 2=leased-in

Wage rate for different seasons in 2004: Summer : Rs/pers day. _____ Rabi : Rs/pers day. _____ Kharif: Rs/pers day. _____

Wage rate for different seasons in 2001: Summer : Rs/pers day. _____ Rabi : Rs/pers day. _____ Kharif: Rs/pers day. _____

10. Income from livestock

Type	product	Now (2004)		2001		Who manages this	Who earns	Location of marketing
		No months earn	Rs/month income	No months spend	Rs/month income			

Cattle	Draft							
	power							
	Milk							
Buffaloes	Curds							
	Draft							
Goats	power							
	Milk							
	Curds							
Chickens	Meat							
	Milk							
Eggs	Eggs							
	Meat							

Who: 1=men only, 2=women only, 3=both men and women
Location: 1=within village; 2=to middlemen in the village; 3=in city

11. What are the reasons for any change in agriculture and livestock systems?

12. Household savings and credit

	Now (2004)	Before (2001)
Savings		
Personal savings		
(Amount - Rs)		
Where do you save?		
Use of savings		
Reason for change, if any		
Credit		
Credit (Amount - Rs)		
Credit source		
How did you get it		
Use of credit		
Reason for change, if any		

13. Training/Exposure visit/knowledge acquired

What events did you attend or knowledge gained? How many training/exposure visits did you attend?, how useful were they?

<u>Type</u>	<u>Times</u>		<u>Gain</u>		<u>How useful (scale of 1-10)</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>

14. Household food security

	Now (2004)	Before (2001)
Do you consider your household to be		
How many months a year can your household eat		
three meals a day		
two meals a day		

One meal a day

Category: 1=usually food deficit, 2=occasionally deficit, 3=break even, 4=surplus

15. Scorings for social capital and livelihoods:

a) **Co-operation**

If an activity could affect the livelihood of all the people of the area, what proportion of people would cooperate/work together regarding that?

1 2 3 4 5 6 7 8 9 10

Now

2001

1 = "nobody would work together"

10 = "all would work together"

b) Empathy

People in this village only care about themselves and do not care much about the interests of others.

1 2 3 4 5 6 7 8 9 10

Now

2001

1 = agree completely

10 = disagree completely

c) Unity

If I have a problem with my livelihood then there is always someone in the village who can help me through social obligations.

1 2 3 4 5 6 7 8 9 10

Now

2001

1 = agree completely

10 = disagree completely

would you have to reciprocate in kind or cash?

Yes-1, No-0

d) How is your household income now?, and in 2001?

1 2 3 4 5 6 7 8 9 10

Now

2001

1 = lowest income can imagine

10 = highest income can imagine

16. **How do you rate your household living standard (please tick)?**

Rich Medium Average Poor Poorest

Now (2004)

Before (2001)

Reasons for identifying yourself in this category

Appendix 8: FOCUS GROUP DISCUSSION CHECKLIST KPUI

ID

Village

Facilitator

Recorder

Date

Category of FGD:

Project: Male poor, Female poor, (non-poor farmers-K)

Non-Project: Male poor, Female poor, non-poor farmers

No. in group (6-15)

1. What project/livelihood groups are you involved in? (Table)

Livelihood group:

Type of livelihood activity e.g. rabbit/grasscutter rearing, snail farming, beekeeping, pomade making, Alata soap making, small-scale trading?

Formerly a livelihood group member?

Received training but not as group member?

2. Participation questions (Record range)

What type of project activities have you participated in? e.g. workshop, training, micro-lending, use newsletters, other (specify)

In what ways do people in the group participate?

How often do you participate?

How strong has your participation been?

1-very weak, 2-weak, 3-average, 4-strong, 5-very strong

What wealth groups participate in project activities? (poorest, poor, average, better off, well off?)

Do men and women participate equally?

3. Training (Record range)

What skills have you acquired from the project?

For each skill: are you confident in being able to use the skills acquired from the project? 1-very weak, 5-very confident

Planning (drawing up business plans)
Credit/savings
Livelihood activity
Other

Have you been able to put any of your skills into practice?

(How relevant do you feel the training(s) was to your needs? 1-very weakly, 5-very relevant)

Do you expect to put any of your skills into practice in future? 1- very weakly, 5- very strongly)

Why do you say so?

4. Transfer of skills

Are you aware of passing any of these skills to anyone else in your household?

Your wider family?

Your village?

Someone outside the village?

Which skills are they?

Have they used them? Why do you say that?

5. Impact on natural capital

Do you use natural resources in your different activities?

Has your use changed since the start of the project?

Do you have any by-products from your livelihoods activities? Do you use these?
How?

Have there been any changes in your sources of, access to and use of natural resources (on or off- your farm) since the start of the project? Describe the changes, and reasons for changes: (Table)

Water for livestock (quantity and quality)

Water for HH

No. trees on-farm

Area and nos. of public/common trees

Wood products

Fuel use

Soil fertility

Drainage

Rain water use

Sanitation

Others

6. Impact on financial capital/productive assets

What assets do you or your households have access to as a result of the project: e.g.

Buildings/sheds

Equipment/tools

Breeding stock

Who owns these assets? (Individual, household, several households, project, other?)

What do you expect to happen to these assets on completion of the project?

7. Social capital

a) Co-operation

If an activity could affect the livelihood of all the people of the area, what proportion of people would cooperate/work together regarding that? Now and before the project started?

1 2 3 4 5

Now |__|__|

2001 |__|__|

1 - nobody would work together, 2-few would work together, 3-some would work together, 4-many would work together, 5-all would work together

b) Empathy

In this village do people how much do people care about the interests of others.

1 2 3 4 5

Now |__|__|

2001 |__|__|

1-don't care at all, 2-don't care much, 3-quite caring, 4-very caring, 5-extremely caring

c) Unity

If you have a problem with your livelihood then is there always someone in the village who can help you, through social obligations?

1 2 3 4 5

Now |__|__|

2001 __|__|

1-never, 2-not often, 3-often, 4-very often, 5-always

Would you have to reciprocate in kind or cash?

Yes-1, No-0 |__|

d)Well-being (includes status, security etc.)

How 'well off' do you consider your household now? and in 2001?

1 2 3 4 5

Now |__|__|

2003 |__|__|

How well-off do you consider the main woman in your household now? And in 2001?

1 2 3 4 5

Now |__|__|

2001 |__|__|

1 – extremely poorly off, 2- poorly off, 3- average, 4- better off, 5- very well off

If you had a problem in the past (before the project started), what people, groups or networks could you go to for help?

If you have a livelihoods problem now, what people, groups or networks can you go to for help?

8. Links with neighbouring communities and local government institutions

Determine the group’s interest in establishing links with outside organisations by asking the group “Are you concerned for what you could do to improve your livelihoods just by the community itself or are you thinking of involving / influencing / getting help from other organisations. (May use a diagram to help participants see the links from the community to their resource base and from different outside bodies)

Links with whom?	Have got help? (yes/no, how)	Expect to get help? (yes/no, how)
Village Development Committee		
UNIT COMMITTEE		
DISTRICT ASSEMBLY		

Neighbouring communities		
Other NGO help		
Government organisations		
Steering Committee		
Other projects		
Other (specify):		
Other (specify):		

9. Attitude of local government and elected representatives towards community activities

What is the intensity of the current attitude (1-highly negative, 2- moderately negative, 3-neither positive nor negative, 4-moderately positive, 5-highly positive), and attitude before the start of project activities?

Please explain any changes in attitude which have occurred?

Current attitude	/Local government K-equivalent?	Government Officials
Measure of the extent of attitude (score 1-5)		
Main reason(s) for above		

--	--	--

Attitude before the project	Gram Panchayat/Local government	Government Officials
Measure of the extent of attitude (give score 1-5)		
Main reason(s) for above		

How useful has the project been in improving links with people outside the community?

Role of CLFs etc.

10. What benefits have there been from the project?

Who has benefited?

Do you expect any benefits to continue after the project has finished?

Who do you expect to continue to benefit?

What are the constraints to benefits continuing?

11. Any other comments on the project and its impact?

Appendix 9: Focus Group Discussion in Hubli-Dharwad

Identification Number : Date of field visit:
.....

Facilitator's name: Recorder's name
.....

1. Background Information (to be noted shortly prior to FGD):

(a) Village: (b) If a PUI project village (circle answer): Yes / No

(c) Year & Month of starting partner activities here: Year..... Month

(d) Category of respondents in Focus Group (circle answer): SHG male (IGA) (1) poor male
(4) SHG female (IGA) (2) poor female
(5) NR (non-poor) (3) non-poor
(6)

2. Basic information concerning respondents:

No.	Type of person (occupation/main livelihood)	Gender m or f	Involvement in project activities ²³	Social Cohesion ²⁴
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

NOTE: When using this form for the poor groups, the first rows should correspond to those who were particularly invited to the meeting. Draw a line below these names in the table to indicate that those below the line are accompanying persons.

²³ Respondent's perception of involvement in PUI project as none, little, some, lots

²⁴ Perception of changes in social cohesion since start of project activities on a +5 to -5 scale (use arrow diagram in Field Instructions). Record this AFTER the discussion on the following page has taken place.

3. Measure of social cohesion / cooperation:

Responses to question: *“Consider the stakeholder group to which you belong, and think whether the social cohesion / cooperation has increased, stayed about the same or decreased **within that stakeholder group** since PUI project activities began in this area. If you think it has increased, give reasons for the increase. If you think there has been a decrease, give reasons for the decrease.*

“We would also like your opinions individually about the degree to which you think a change in social cohesion has taken place”.

Use arrow diagram to get individual opinions and note down the results in the last column of table on page 1.

Reasons for an increase in social cohesion in the village area (If reasons differ according to stakeholder, note stakeholder type).	Reasons for a decrease in social cohesion in the village area. (If reasons differ according to stakeholder, note stakeholder type).

4. Measure of community interests in sustainability of project initiated activities:

4.1 Determine the benefits that the group perceives for themselves, and the community (short term and long term), using the following questions.

“What benefits do you perceive for you and/or your family if you have better natural resource management and selfhelp groups?”

“What are the benefits to the community in ensuring sustainable natural resource management and selfhelp groups”. (Short-term and long-term).

4.2 After listing the three sets of benefits, use an inverted pyramid to score the **degree of contribution from sustainable natural resources/project activities** to each benefit

Own/family benefits	Score (out of 10) for own/family benefits	Short term benefits to community associated with project activities	Score (out of 10) for short term benefits	Long term benefits to community associated with project activities	Score (out of 10) for long term benefits

Additional comments:

4.3 Score also group’s views of any negative aspects associated with project activities and initiatives. High scores indicate the item is a really serious negative aspect. Record the information in the table format below.

List of negative aspects associated with project activities	Scores (out of 10)

5. Physical environment

Determine if and in what ways the physical environment of the village has changed since 2001, and if this is due to project activities?

Physical characteristic	Change if any	Reason for change
Water for livestock (quantity)		
Water for livestock (quality)		
Sanitation		
Soil fertility		
Numbers of private trees		
Area and extent of public/common forest trees		
Drainage		
Amount of fallow land		
Use of rain water		
Fuel use efficiency		
Others		
Others		

6. Changes in Natural Resource use and access since 2001

What changes have there been? How likely is this to continue in the future (and what reasons). In what percentage of these resources in the village have changed systems been adopted? How beneficial do you expect this to be? What are the returns in Rs/acre/year from new activities/changed uses compared with before?

Change in NR use	Change in access	Future continuation	% adopted changed system	Score ¹	Rs/acre/year now	Rs/acre/year in 2001
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Individual

Public/common

7. Links with neighbouring communities and local government institutions

Determine the group's interest in establishing links with outside organisations by asking the group "Are you concerned for what you could do for your resources just by the community itself or are you thinking of involving / influencing / getting help from other organisations. Use a diagram to help participants see the links from the community to their resource base and from different outside bodies.

Capture this information in the table format below.

Links with whom?	Have got help? (yes/no, how)	Expect to get help? (yes/no, how)
VFS		
Village Development Committee		
Maha Sangtha		
Gram Panchayat		
Neighbouring communities		
Other NGO help		
Zila panchayat		
Government organisations		
Steering Committee		
Other projects		
Other (specify):		
Other (specify):		

8. Attitude of local government and elected representatives towards project

Please indicate the intensity of the current attitude (+3 for highly positive, - 3 for highly negative, +2 moderately positive, -2 moderately negative, +1 positive, -1 negative, 0 = no change), and attitude at the start of project activities. Indicate reasons for the attitude.

Current attitude	Gram Panchayat	Government Officials
Measure of the extent of attitude (give score from +3 to -3)		
Main reason(s) for above		

Attitude at the beginning of the project	Gram Panchayat	Government Officials
Measure of the extent of attitude (give score from +3 to -3)		
Main reason(s) for above		

9. Awareness raising

Ask the participants whether they have performed any activity related to awareness raising in the *past year*. If “yes”, what are they? Check the lists below and tick the appropriate ones. Enter the number of times activity was done for the **formal** activities. Include any relevant additional comments made by the group.

Formal activities	Tick	Number of times	Any comment(s)
Meetings			
Meeting with local govt.			
Posters			
Signboard			
Leaflets			
Articles in the newsletters/newspapers			
Billboard/graffiti's			
Miking			
Annual fair			
Other:			

Informal activities	Tick	Any comment(s)
Discussion at the market place		
Discussion at the local club		
Discussion at the field		
Meet local government		
Drawing competition		
Other:		
Other:		

10. Project planning (not control villages) at village level

Find out what activities were planned by the community, what was implemented as planned, what was modified and the process and participation in such modifications – what was the role of the FGD participants in deciding on changes, and what was not implemented and why.

Activities planned	Implementation stage ¹	Changes from plan	Process change ²	for	If FGD people involved, how	Reasons for not implementing
--------------------	-----------------------------------	-------------------	-----------------------------	-----	-----------------------------	------------------------------

Additional activities after original plan

1 1=Fully achieved, 2=mostly achieved, 3=partly achieved, 4=a bit achieved, 5=not at all achieved
2 1=by NGO decision, 2=by government decision, 3=by our community decision, 4=by joint/consultative meeting; others – specify

11. Sangha (sangha groups only)

11a. Project planning at Sangha level

Find out what activities were planned by the sangha, what was implemented as planned, what was modified and the process and participation in such modifications – what was the role of the FGD participants in deciding on changes, and what was not implemented and why.

Activities planned	Implementation stage ¹	Changes from plan	Process change ²	for	If FGD people involved, how	Reasons for not implementing
--------------------	-----------------------------------	-------------------	-----------------------------	-----	-----------------------------	------------------------------

Additional activities after original plan

1 1=Fully achieved, 2=mostly achieved, 3=partly achieved, 4=a bit achieved, 5=not at all achieved
2 1=by NGO decision, 2=by government decision, 3=by our community decision, 4=by joint/consultative meeting; others – specify

11b. Sangha self assessment

What funding sources does the sangha have?

How do you decide on use of group funds/savings?

How do you decide your IGAs?

How do you assess your progress in implementing plans?

How do you check on repayments?

Overall how do you rate this system (1-10)

Are there any market opportunities sangha identified but did not take up, why?

11c Sangha performance criteria and assessment

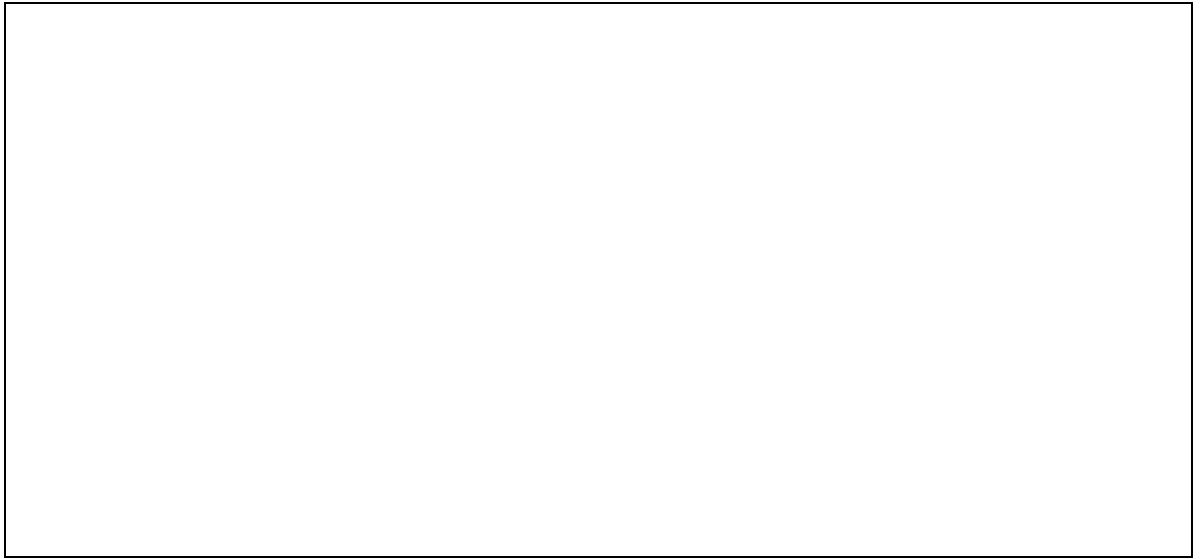
What characteristics would an ideal/perfect sangha have? How close is your sangha to this?

Characteristic	Score of achievement
----------------	----------------------

Scores: 1=Fully achieved, 2=mostly achieved, 3=partly achieved, 4=a bit achieved, 5=not at all achieved

12. Any additional comments

Note down any relevant comments that arose as part of the discussion.

A large, empty rectangular box with a thin black border, intended for the user to write any additional comments that arose during the discussion.

Appendix 10: Millennium Development Goals (1, 3 & 7)

Goal 1: Eradicate extreme poverty and hunger

The Millennium Development Goals call for reducing the proportion of people living on less than \$1 a day to half the 1990 level by 2015 - from 27.9 percent of all people in low and middle income economies to 14.0 percent. The Goals also call for halving the proportion of people who suffer from hunger between 1990 and 2015.

- **Target 1:** Halve, between 1990 and 2015, the population of people whose income is less than one dollar a day.
- **Target 2:** Halve, between 1990 and 2015, the proportion of people who suffer from hunger.

Goal 3: Promote gender equality and empower women

Women have an enormous impact on the well-being of their families and societies - yet their potential is not realized because of discriminatory social norms, incentives, and legal institutions. And while their status has improved in recent decades, gender inequalities remain pervasive.

- **Target 4:** Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015.

Goal 7: Ensure environmental sustainability

The environment provides goods and services that sustain human development so we must ensure that development sustains the environment. Better natural resource management increases the income and nutrition of poor people.

- **Target 9:** Integrate the principles of sustainable development into country policies and programmes and reverse the losses of environmental resources.
- **Target 10:** Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation.
- **Target 11:** Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers.

Appendix 11: Framework for assessing poverty impact, Kumasi PUI

Findings from Stakeholder workshop and KIIs

Impact on livelihoods and poverty to 2005* (poor/non-poor male/female groups)	Pathways by which this impact can be expanded to all sections of the community throughout KPUJ:		Changes needed to be made to ensure these pathways are in place	Likelihood of these changes being made
	Household assets/ livelihoods strategies	Institutions, Processes, Structures favourable, expanded		
1. Human capital Knowledge of: a. Livelihood activity <ul style="list-style-type: none"> • What level of competency has been achieved? • Is knowledge usable? 	<ul style="list-style-type: none"> • Livelihood skills acquired by more people, poorest • 	Support needed from resource people in government institutions: <ul style="list-style-type: none"> • MoFA • REP2 • Researchers orientate research towards problems identified at community level e.g. grass cutter feed (KNUST/UoG) • Links made with resource people in other communities 	<ul style="list-style-type: none"> • Assemblies allocate budgets to CEDEP groups to expand activities through similar projects e.g. REP2, CBAD • Boafo Ye Na livelihoods networks support needs to be continued • Develop research-development linkages between MoFA, Universities, other researchers • Test, demonstrate viability of livelihood activities, then enhance visibility 	<ul style="list-style-type: none"> • BAK has budgeted funds to livelihood groups through REP2
b. Entrepreneurial skills - Has skill increased? - Is knowledge usable?	<ul style="list-style-type: none"> • Planning skills (e.g. using business plans) • Groups/poor capacity to develop new livelihood skills 	<ul style="list-style-type: none"> • Identify institutions to expand communities' planning skills • Livelihoods activities need to be linked with markets • Regular, guaranteed supplies needed for markets 	<ul style="list-style-type: none"> • DA/KMA include planning skills in other programmes e.g. REP2 • CEDEP could assist other projects on planning skills • REP marketing component could identify marketers • Marketing skills needed (not included in project) • Build groups capacity to increase production and quality to market effectively (e.g. Grass cutter Cooperative Society) 	
2. Financial capital - Has access to capital improved?	<ul style="list-style-type: none"> • Credit to more borrowers, poorest 	<ul style="list-style-type: none"> • Support from FIs • Find ways of reducing interest 	<ul style="list-style-type: none"> • District Assembly to liaise with rural banks in disbursing loans, FIs rather than DAs to disburse loans 	<ul style="list-style-type: none"> • Rural banks have started microfinance activities • Some rural banks have reduced their

<p>Impact on livelihoods and poverty to 2005* (poor/non-poor male/female groups)</p> <ul style="list-style-type: none"> - Has amount of capital increased? 	<p>Pathways by which this impact can be expanded to all sections of the community throughout KPUJ:</p> <p>Household assets/ livelihoods strategies</p> <ul style="list-style-type: none"> • Larger loans • Savings and repayment culture promoted 	<p>Institutions, Processes, Structures favourable, expanded</p> <p>rates</p> <ul style="list-style-type: none"> • Political interference in determining beneficiaries needs to be eradicated 	<p>Changes needed to be made to ensure these pathways are in place</p> <ul style="list-style-type: none"> • Suggestions to increase credit to poor: <ul style="list-style-type: none"> - Part of fee given to banks for disbursement could be invested by the bank for the group (included in the interest) - Loan beneficiaries should pay some interest on soft loans to build a savings/investment culture and for sustainability - Rabbit scheme proposed for school children to build up capital stock (repay with kittens) • Banks, beneficiaries, project collaborate to identify best repayment strategies (may use Business Plan) • Rural banks regular Meeting: invite CEDEP to share ideas • Communities to patronise rural banks through saving • Changes in the way rural banks support communities? 	<p>Likelihood of these changes being made</p> <ul style="list-style-type: none"> • interest rates • Some rural banks have initiated formation of groups in communities for future loans (some based on Boafo Ye Na groups)
<p>3. Social capital</p> <ul style="list-style-type: none"> - Has membership of groups increased? - Are poor and non-poor men and women involved? - Are groups cohesive? - Is leadership strong? - Are non-project activities being initiated? - Linkages made with other 		<ul style="list-style-type: none"> - More groups formed - Strong groups established - More CLFs trained - Strengthen linkages made with other livelihoods groups - Seek linkages with other institutions (government, NGO, local) 	<ul style="list-style-type: none"> • DA/KMA to include existing Boafo Ye Na groups in other programmes e.g. REP2District • MoFA promoting group formation: AEAs could be trained to link up with CLFs to support existing groups • Project/CLFs/MoFA to share experiences and look at possibility of CEDEP collaborating with/training MoFA AEAs • To institutionalise experiences between KMA and other DAs (BAK)/KMA: <ul style="list-style-type: none"> - CEDEP to share literature on activities, results, problems etc. - Propose 1 day workshop with RCC, MoFA, CEDEP, Banks, Research collaborators • Unit Committees could share 	<ul style="list-style-type: none"> • DEC agreed to come to community to appraise LA?

Impact on livelihoods and poverty to 2005* (poor/non-poor male/female groups)	Pathways by which this impact can be expanded to all sections of the community throughout KPUJ:		Changes needed to be made to ensure these pathways are in place	Likelihood of these changes being made
	Household assets/ livelihoods strategies	Institutions, Processes, Structures favourable, expanded		
- (service) institutions Official attitudes to communities favourable			<ul style="list-style-type: none"> experiences at Electoral Area Meetings Assembly policy decisions can be linked with Unit Committees (BAK has funds for such activities) TAs to promote awareness of DAs (?), persist in follow-up of DCE's visit to the community Religious bodies could take up mobilisation of youth and training in livelihoods activities 	
4. Natural capital				
- Have non-land based activities increased?		<ul style="list-style-type: none"> Research on by-products which have environmental impact and at the same time potential for fertiliser e.g. mushroom sawdust 		
- Has income from land-based activities increased?				
- By-products				

Statistical Annexes

Annex 1. Model for change in social cohesion¹ - Hubli-Dharwad

Annex Table 1a Overall model specification.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	220.12	5	44.02	47.86	0.000
Intercept	2032.97	1	2032.97	2210.02	0.000
NGO	9.35	1	9.35	10.16	0.002
Category	169.46	1	169.46	184.21	0.000
Type of respondents	28.06	3	9.35	10.17	0.000
Error	234.57	255	0.92		
Total	2750.00	261			
Corrected Total	454.69	260			

a Computed using alpha = .05

b R Squared = .484 (Adjusted R Squared = .474)

Annex Table 1b Mean change in social cohesion by location/NGO

NGO	Mean	Std. Error
IDS	3.03	0.09
BAIF	2.65	0.08

Annex Table 1c Mean change in social cohesion by whether project or control location

Whether project or control	Mean	Std. Error
Project	3.66	0.08
Control	2.01	0.09

Annex Table 1d Mean change in social cohesion by type of respondent

Category of respondent	Mean	Std. Error
SHG male (IGA)	2.71	0.12
SHG female (IGA)	2.42	0.13
NR male(non-poor)	2.88	0.11
NR female (non-poor)	3.35	0.12

¹ General linear model (developed in SPSS) using the individual response of participants in FGD concerning changes in social cohesion since the start of project activities in the project villages (see Appendix 9).

Annex 2. Kumasi – Economic Analysis

Table K1

Table KPUJ Estimation of incomes for SHG participants from different IGAs ('000 c

Survey and NG	2005 - Bafo Ye Na Project						Projections to 2015 - low case scenario				Projections to 2015- high case scenario			
	No hh participating at 2005 (est.)	Average group size (est)	HH share in group net returns Coefficient	Net returns 2005 per group	Net returns per HH 2005	Net total returns 2005	No. hh participating 2005-2015 (low scenario)	Net average returns per group 2005-2015	Net returns per HH p.a. 2005-2015	Total income 2005-2015 (low scenario)	No. hh participating 2005-2015 (high scenario)	Net returns per HH p.a. 2005-2015	Total income 2005-2015 high scenario	
Alata soap	34	6	0.2	1798	300	61132	547	2360	393	215077	2381	393	936784	
Snail rearing	39	6	0.2	-3169	-528	-123581	627	19803	3301	2069903	2750	3301	9075301	
Grasscutter	45	6	0.2	-3704	-617	-166669	724	3600	600	434212	3119	600	1871515	
Mushroom	50	6	0.2	1395	233	69750	804	2671	445	357978	3487	445	1552612	
Rabbit	15	6	0.2	-1204	-201	-18056	241	196	33	7886	1077	33	35206	
Cassava farmin	22	1	1.0	15601	15601	343222	354	13957	13957	4937763	1559	13957	21759181	
Plantain farming	22	1	1.0	16783	16783	369226	354	18078	18078	6395701	1559	18078	28183859	
Trading: food	89	1	1.0	1200	1200	106800	1431	1407	1407	2014060	6209	1407	8737693	
Trading: orange	89	1	1.0	1164	1164	103564	1431	1365	1365	1953032	6209	1365	8472932	
Total Livelihood	183	30	1	-4883	-814	-177424	2943	28631	4772	3085055	12814	4772	13471418	
Total individual	222	4	4.0	34748	34748	922812	3570	34808	34808	15300557	15536	34808	67153665	
total IGAs	405	34	5	29864	33934	745388	6513	63439	39580	18385612	28350	39580	80625082	

Table K2

Stream of expected annual net returns from livelihood and selected non-livelihood activities in Cedis'000

YEAR	Livelihood Activities					Non Livelihood Activities				Total
	ALATA	SNAIL	G'CUTTER	MUSHROO M	RABBIT	Farming Systems		Trading		
						Cassava	Plantain	FOOD	ORANGE	
2005	1798	-3168.75	-3703.75	1395	-1203.75	15,601	16,783	1200	1163.64	
2006	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2007	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2008	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2009	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2010	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2011	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2012	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2013	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2014	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
2015	2416.5	22100.25	4330.681	2799	336.14	13,793	18,208	1428	1384.73	
Total net returns	25963	217833.75	39603.06	29385	2157.65	153531	198863	15480	15010.94	
Average net returns p.a.	2360.2727	19803.068	3600.2782	2671.3636	196.15	13957.364	18078.455	1407.2727	1364.6309	
Share of activity/ total	0.084	0.097	0.110	0.122	0.039	0.055	0.055	0.219	0.219	1.000

Table K3

Stream of expected annual net returns from livelihood and selected non-livelihood activities in Cedis'000 - Totals

Weighted by share	Livelihood Activities					Non Livelihood Activities				Tot. livelihood activities	Tot liv/HH	Total individual	Total HH net returns	
	YEAR	ALATA	SNAIL	G'CUTTER	MUSHROO M	RABBIT	Farming Systems		Trading					
							Cassava	Plantain	FOOD					ORANGE
2005	151.032	-307.3688	-407.4125	170.19	-46.94625	858.055	923.065	262.8	254.83716	-440.506	-73.418	2298.757	2225.340	
2006	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2007	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2008	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2009	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2010	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2011	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2012	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2013	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2014	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
2015	202.986	2143.7243	476.37491	341.478	13.10946	758.615	1001.44	312.732	303.25587	3177.673	529.612	2376.043	2905.655	
Total HH net returns	2180.892	21129.874	4356.3366	3584.97	84.14835	8444.205	10937.465	3390.12	3287.3959	31336.2207	5222.70345	26059.1859	31281.889	

Table K4

Group members/adopters: low case scenario KPUI villages and surrounding only (Total/11 years)

YEAR	ALATA	SNAIL	G'CUTTER	MUSHROO M	RABBIT	Cassava	Plantain	FOOD	ORANGE	Total livelihoods	Total individual	Total
2005	34	39	45	50	15	22	22	89	89	183	222	405
2006	43	49	56	63	19	28	28	111	111	229	278	506
2007	48	55	63	70	21	31	31	125	125	257	312	570
2008	51	58	67	75	22	33	33	133	133	273	332	605
2009	52	60	69	77	23	34	34	137	137	282	342	624
2010	53	61	70	78	23	34	34	139	139	286	347	634
2011	53	61	70	78	23	34	34	139	139	286	347	634
2012	53	61	70	78	23	34	34	139	139	286	347	634
2013	53	61	70	78	23	34	34	139	139	286	347	634
2014	53	61	70	78	23	34	34	139	139	286	347	634
2015	53	61	70	78	23	34	34	139	139	286	347	634
	547	627	724	804	241	354	354	1431	1431	2943	3570	6513

Note: increase at rate of 25 percent 1st year (based on transfer of skills HH survey data + 50% with 50% drop-out), declining by 50% each year for 5 years, then stable.

Table K5

Group members/adopters: high case scenario KPUI

YEAR	ALATA	SNAIL	G'CUTTER	MUSHROO M	RABBIT	Cassava	Plantain	FOOD	ORANGE	Total 2 Districts
% share	0.084	0.097	0.110	0.123	0.038	0.055	0.055	0.219	0.219	
2005	34	39	45	50	15	22	22	89	89	405
2006	79	92	104	116	36	52	52	207	207	945
2007	125	144	163	183	56	82	82	325	325	1485
2008	170	196	223	249	77	111	111	443	443	2025
2009	215	249	282	315	97	141	141	562	562	2565
2010	261	301	342	382	118	171	171	680	680	3105
2011	306	354	401	448	139	200	200	798	798	3645
2012	352	406	460	515	159	230	230	917	917	4185
2013	397	458	520	581	180	260	260	1035	1035	4725
2014	442	511	579	648	200	290	290	1153	1153	5265
2015	488	563	639	714	221	319	319	1271	1271	5805
	2381	2750	3119	3487	1077	1559	1559	6209	6209	34155

Note: based on assumptions of increase in no. groups via support from MoAF, REP2, rural banks, CEDEP at a rate of 810 HOUSHEOLDS per 3 years x 2 Districts in KPUI

Table K6

Impact on poorer groups

Uses poverty grouping as at 2001

0.65

Group members/adopters: low case scenario KPUI villages and surrounding only

YEAR	ALATA	SNAIL	G'CUTTER	MUSHROO M	RABBIT	Cassava	Plantain	FOOD	ORANGE	Total livelihoods	Total individual	Total	Total poor
2005	34	39	45	50	15	22	22	89	89	183	222	405	263.25
2006	43	49	56	63	19	28	28	111	111	229	278	506	
2007	48	55	63	70	21	31	31	125	125	257	312	570	
2008	51	58	67	75	22	33	33	133	133	273	332	605	
2009	52	60	69	77	23	34	34	137	137	282	342	624	
2010	53	61	70	78	23	34	34	139	139	286	347	634	
2011	53	61	70	78	23	34	34	139	139	286	347	634	
2012	53	61	70	78	23	34	34	139	139	286	347	634	
2013	53	61	70	78	23	34	34	139	139	286	347	634	
2014	53	61	70	78	23	34	34	139	139	286	347	634	
2015	53	61	70	78	23	34	34	139	139	286	347	634	411.962038
	547	627	724	804	241	354	354	1431	1431	2943	3570	6513	

Note: increase at rate of 25 percent 1st year (based on transfer of skills HH survey data + 50% with 50% drop-out), declining by 50% each year for 5 years, then stable.

Table K7

Group members/adopters: high case scenario KPUI

YEAR	ALATA	SNAIL	G'CUTTER	MUSHROO M	RABBIT	Cassava	Plantain	FOOD	ORANGE	Total 2 Districts	Total poor
% share	0.084	0.097	0.110	0.123	0.038	0.055	0.055	0.219	0.219		
2005	34	39	45	50	15	22	22	89	89	405	263.25
2006	79	92	104	116	36	52	52	207	207	945	
2007	125	144	163	183	56	82	82	325	325	1485	
2008	170	196	223	249	77	111	111	443	443	2025	
2009	215	249	282	315	97	141	141	562	562	2565	
2010	261	301	342	382	118	171	171	680	680	3105	
2011	306	354	401	448	139	200	200	798	798	3645	
2012	352	406	460	515	159	230	230	917	917	4185	
2013	397	458	520	581	180	260	260	1035	1035	4725	
2014	442	511	579	648	200	290	290	1153	1153	5265	
2015	488	563	639	714	221	319	319	1271	1271	5805	3773.25
	2381	2750	3119	3487	1077	1559	1559	6209	6209	34155	

Note: based on assumptions of increase in no. groups via support from MoAF, REP2, rural banks, CEDEP at a rate of 810 HOUSHEOLDS per 3 years x 2 Districts in KPUI

Table K8

Cost-Benefit Analysis of NRSP PUJ Projects KPUI Ghana 2 (£)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	
Project costs R8090																				
UK-based staff costs				0	5671	3600	3600	0	0	0									0	12,871
Overseas staff costs				0	53015	53958	86271	0	0	0										193,243
Overheads				0	5525	5524	5861	0	0	0										16,909
Capital equipment																				
Overseas travel				4500	0	0	0	0	0	0										4,500
Miscellaneous				0	2646	2646	2646	0	0	0									0	7,938
Sub-total NRSP				16187	27893	39989	31706	0	0	0									0	115,775
Overheads 20%				20687	94750	105717	130083	0	0	0										351,237
Total R8090				4137	18950	21143	26017	0	0	0										70,247
				24824	113700	126860	156100	0	0	0										421,484

Project costs R7995																				
NRSP				69070																
Overheads				13814																
Total R7995				82884																

Project costs R6448, R7269, R7330, R7549																				
NRSP				91325	51392	167898														
Overheads				0	18265	33580	0	0	0	0										
Total project costs				64690	0	109590	61670	0	0	0										

Table K8 – Continued

Total current project costs (low)	107708	113700	126860	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	676,078
Total current project costs (high)	107708	113700	126860	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	156100	1,362,918
Total PUI projects costs (low)	64690	0	109590	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	939,226
Total PUI projects costs (high)	64690	0	109590	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	169379	1,626,066
Total PUI costs (low)	75687	0	123837	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	1,191,928
Total PUI costs (high)	75687	0	123837	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	186317	1,878,768
Low case scenario																				
(000 Ceddis)																				
Total net returns/HH	2225	2225	2225	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	33,507
No. HH Low case	405	405	405	506	570	605	624	634	634	634	634	634	634	634	634	634	634	634	634	6,918
Total net returns low case	901125	1470988	1654861	1758290	1813237	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	1841569	19,549,037
£	53007	53007	53007	86529	97345	103429	106661	108328	108328	108328	108328	108328	108328	108328	108328	108328	108328	108328	108328	1,149,943
High case scenario																				
Total net returns/HH	2225	2225	2225	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906	0
No. High case adopters	405	405	405	945	1485	2025	2565	3105	3645	4185	4725	5265	5805	6345	6885	7425	7965	8505	9045	34,560
Total net returns high case	901125	2745844	4314898	5883951	7453005	9022059	10591112	12160166	13729220	15298273	16867327	18436381	20005435	21574489	23143543	24712597	26281651	27850705	29419759	99,868,105
£	53007	53007	53007	161520	253818	346115	438412	530709	623007	715304	807601	899898	992196	1084493	1176790	1269087	1361384	1453681	1545978	5,874,594
Low case scenario																				
Total net returns-costs	-107708	-113700	-126860	-103093	-70919	-81735	-87819	-91051	-92718	-92718	-92718	-92718	-92718	-92718	-92718	-92718	-92718	-92718	-92718	0
Benefit:																				
Cost ratio	1.70																			
NPV 8%	51555																			
NPV 12%	-42733																			
IRR	10%																			

Table K8 – Continued

High case scenario															
Total net returns-costs	-107708	-113700	-126860	-103093	-25043	83470	175768	268065	360362	452659	544957	637254	729551	821848	914146
Benefit:															
Cost ratio	4.31														
NPV 8%	1622215														
NPV 12%	971527														
IRR	31%			0											

PUI Suite of projects															
Low case scenario															
Total net returns - costs	-75687	0	-123837	-186317	-340391	-133203	-107776	37397	70919	81735	87819	91051	92718	92718	92718
Benefit:															
cost ratio	1.22														
NPV 8%	-346252														
NPV 12%	-370059														
IRR	0%														

High case scenario																		
Total net returns - costs	-75687	0	-123837	-186317	-340391	-133203	-107776	-25043	83470	175768	268065	360362	452659	544957	637254	729551	821848	914146
Benefit:																		
cost ratio	3.13																	
NPV 8%	900589																	
NPV 12%	804097																	
IRR	17%																	

£1=Cedis 17,000 (2005)	17							
Price index (2005=100)	1.17	1.15	1.13	1.1	1.08	1.05	1.03	1

Switching value low case															
%change NR/HH	0%														
Change no HH Low case	132%														
New total net returns/HH	-107708	-113700	-126860	-103093	2225	2906	2906	2906	2906	2906	2906	2906	2906	2906	2906
New HH low case					940	1176	1322	1405	1449	1472	1472	1472	1472	1472	1472
New total net returns £	-107708	-113700	-126860	-103093	123083	200920	226035	240162	247667	251537	251537	251537	251537	251537	251537
NPV 8%	803928														
NPV 12%	490497														

Annex 3. Hubli-Dharwad Economic Analysis

Table HD1. Estimation of incomes for SHG participants from different IGAs

Survey and NGO data	IDS		BAIF		Net income per participant per day		NGO best estimates and survey data				If benefits are 50%			
	No hh by 2005	Extra hh in same villages by 2015 (low scenario)	Total hh in same villages by 2015 (high scenario)	No hh by 2005	Extra hh in same villages by 2015 (low scenario)	Total hh in same villages by 2015 (high scenario)	No days work /hh/yr	Net income per hh/yr	Total income 2005	Total income 2015 low scenario	Total income 2015 high scenario	Total income 2005	Total income 2015 low scenario at 50%	Total income 2015 high scenario at 50%
Type of IGA														
Poultry	22	50	72	36	86	365	625	36,250	62,500	98,750	18,125	31,250	49,375	
Vermi compost	0	0	0	41	131	3190	130,790	287,100	417,890	65,395	143,550	209,945		
Goats/sheep	60	110	170	47	167	365	3914	418,798	900,220	1,319,018	209,399	450,110	659,509	
Buffalo	30	50	80	14	39	365	3914	172,216	293,550	465,766	86,108	146,775	232,883	
Cow	19	30	49	8	28	365	3914	105,678	195,700	301,378	52,839	97,850	150,689	
Total livestock	131	240	371	146	451			863,732	1,739,070	2,602,802	431,866	869,535	1,301,401	
Tailoring	7	15	22	0	0	313	7088	49,616	106,320	155,936	24,808	53,160	77,968	
Petty trade	11	10	21	0	0	268.88	4910	54,010	49,100	103,110	27,005	24,550	51,555	
Veg selling	5	10	15	0	0	313	4910	24,550	49,100	73,650	12,275	24,550	36,825	
Grocery shop	0	0	0	1	6	313	21000	21,000	105,000	126,000	10,500	52,500	63,000	
Bangle selling (keriari)	1	4	5	0	0	268.88	11597.47	11,597	46,390	57,987	5,799	23,195	28,994	
Flower selling	1	3	4	0	0	268.88	11597.47	11,597	34,792	46,390	5,799	17,396	23,195	
Herbal medicine	0	0	0	2	7	268.88	11597.47	23,195	57,987	81,182	11,597	28,994	40,591	
Pappad	1	5	6	3	13	65	1690	6,760	25,350	32,110	3,380	12,675	16,055	
selling/making ice cream seller	1	3	4	0	0	268.88	11597.47	11,597	34,792	46,390	5,799	17,396	23,195	
Trade in equipt	3	4	7	0	0	268.88	11597.47	34,792	46,390	81,182	17,396	23,195	40,591	
Ready made garments	4	10	14	0	0	268.88	11597.47	46,390	115,975	162,365	23,195	57,987	81,182	
Potter	1	5	6	0	0	268.88	11597.47	11,597	57,987	69,585	5,799	28,994	34,792	
Fruit seller	1	10	11	0	0	268.88	11597.47	11,597	115,975	121,572	5,799	57,987	63,786	
Puncture repair shop	0	0	0	1	2	313	7718.1	7,718	7,718	15,436	3,859	3,859	7,718	
Photo frames	1	3	4	1	2	313	20866.67	41,733	83,467	125,200	20,867	41,733	62,600	
Screen printing	1	2	3	0	0	268.88	11597.47	11,597	23,195	34,792	5,799	11,597	17,396	
Nursery	2	5	7	0	0	268.88	11597.47	23,195	57,987	81,182	11,597	28,994	40,591	
Fodder trading	5	10	15	0	0	268.88	11597.47	57,987	115,975	173,962	28,994	57,987	86,981	
Milk selling	1	10	11	0	0	268.88	12140	12,140	121,400	133,540	6,070	60,700	66,770	
Soap making	10	30	40	3	13	313	19844.2	257,975	793,768	1,051,743	128,987	396,884	525,871	
Incense stick making	30	30	60	0	0	208	15808	474,240	474,240	948,480	237,120	237,120	474,240	
Bee keeping	1	5	6	0	0	268.88	11597.47	11,597	57,987	69,585	5,799	28,994	34,792	
Lime kiln	0	0	0	1	2	268.88	11597.47	11,597	11,597	23,195	5,799	5,799	11,597	
Chaff cutter	0	0	0	1	2	268.88	11597.47	11,597	11,597	23,195	5,799	5,799	11,597	
Total IGAs	87	174	261	13	47			1,239,678	2,604,090	3,843,769	619,839	1,302,045	1,921,884	

Table HD1. (Continued) Estimation of incomes for SHG participants from different IGAs -

Survey and NGO data	IDS		BAIF		NGO best estimates and survey data		If benefits are 50%			
	No hh by 2005	Extra hh in same villages by 2015 (low scenario)	Total hh in same villages by 2015 (high scenario)	Extra hh in same villages by 2015 (low scenario)	Total hh in same villages by 2015 (high scenario)	No days work /hh/yr	Net income per hh/yr	Total income 2005	Total income 2015 low scenario at 50%	Total income 2015 high scenario at 50%
Type of IGA										
Agric inputs										
Mango seedling	3	20								
Sapoda seedling	4	10								
Seed purchase	39	100								
Total ag inputs	46	130		0						
Overall total	264	544	632	159	339	498				
No SHG members	442	442	442	187	187	187				
Av supports/hh	0.6	1.23	1.43	0.85	1.81	2.66				
Opportunity cost - daily labour wage rate (Rs)										
male							40	102	4080	
female							25	102	2550	
average	87	174	261	13	34	47	30	102	3060	
Net increase in hh incomes/yr								1,797,410	306,000	636,480
2005	423	4,249	1,763							
2015 low scenario	629	5,893	2,441							
2015 high scenario	629	8,751	3,626							
Total income 2005									306,000	942,480
Total income 2015 low scenario at 50%									636,480	1,535,100
Total income 2015 high scenario at 50%									745,705	2,280,805

year	hh covered	Rs/hh extra income full	Rs/hh extra income 50%	% hh covered in SHG
2005	423	4,249	1,763	63
2015 low scenario	629	5,893	2,441	100
2015 high scenario	629	8,751	3,626	

Table HD2b. Estimation of impact of PUI project on reducing number of households in poverty - With WADI

Pilot villages	
IDS	BAIF
all hh	1762
SHG	442
	337
	187

Year	IDS				BAIF				H-D PUI IGA only				WADI							
	no hh in SHG	no hh supported	no hh supported other	% hh poor (Y >186/p/mt)	no hh supported	no hh supported other	no hh supported other	% hh poor (Y >186/p/mt)	no hh in PU area	Est no hh in PU with no PUI project	Total extra hh join in SHG by this year	% expected to move out of poverty by 2015	Est no hh poor in SHG without any change	Est no hh started help in this batch move out of poverty in SHG by 2015	% hh poor >186/p/mt	% hh poor own assessment	Av % poor	Total hh in WADI	Est no hh poor in WADI without any change	Est no hh move out of poverty in WADI
2001	442	0	1762	70	187	0	337	85	59,495	27,963	442	86	309	380	35	50	42.5	37	16	0
2005	442	264	1498	45	187	159	178	55	64,147	30,149	2,592	86	1,814	2,229	10	35	22.5	0	0	13
2010	442	442	1320		187	187	150		70,477	33,124	3,319	43	2,323	1,427	0	0	0	0	0	7
2015	442	442	1320		187	187	150		77,432	36,393	0	0	0	0	0	0	0	0	0	0
									total	6,353	4,447	4,036								

assumptions
 % poor (census) 47%
 population growth not included
 expansion of urban area and conversion of PUI to urban not included
 assume that reduction in incidence of poverty from project participants in 01-05 is repeated for other poor in each 5 year interval - ie 30/70 move out of poverty in 5 years of SHG support

from cens 2001
 1.9% pop growth of past decade continues
 assumes that 4-5 years needed for impact of IGAs to be effective fully effective
 and after that no further change ie present SHG members still poor remain so to 2015
 PUI project influence should reduce no poor households in HD by about 2,750 by 2015
 this is 10% of present number of poor households

no poor in SHG 2001 440
 no poor in SHG 2005 252 #
 43% of prev poor participants said moved out of poverty 2001-2005
 so assume double if 10 or more years in SHG
 % of 2001 poor brought above pove 14
 % of 2015 poor brought above pove 11

Table HD 3 . Economic analysis of the impacts of investment in R8084 & R7959

Summary table (all values in Rs at 2005 prices, rounded to nearest '000)

Cost scenario	Indicator	SHG benefits low uptake in project villages		SHG benefits high uptake in project villages		Wider uptake through SHG in other projects
		no WADI	with WADI	no WADI	with WADI	
No. households benefited		629	666	629	666	6,353
Benefit in 2015 (Rs/household)		5,944		8,826		5,151
PV of benefits (Rs)		11,871,000	32,286,000	14,915,000	35,330,000	32,138,000
Costs for SHG NGO support		7,831,000 na		10,876,000 na		na
	NPV (Rs)	42.55		47.78		
	IRR (%)	2.94		3.69		
	BCR					
Costs for all India activities/partners		1,077,000	21,492,000	4,121,000	24,536,000	na
	NPV (Rs)	13.86	26.29	18.18	28.00	
	IRR (%)	1.10	2.99	1.38	3.27	
	BCR					
Total project costs		-10,947,000	9,467,000	-7,903,000	12,511,000	28,098,000
	NPV (Rs)	1.11	16.11	5.01	17.33	16.47
	IRR (%)	0.52	1.41	0.65	1.55	1.41
	BCR					
R7959 & R8084 costs (pounds as of 2005)		not considered		-309,000	152,000	80,000
	NPV (£)			1.16	13.36	12.32
	IRR (%)			0.48	1.13	1.02
	BCR					
All HD PUI NRSP costs (pounds as of 2005)		not considered		-834,000	-373,000	-445,000
	NPV (£)			#NUM!	7.37	6.06
	IRR (%)			0.29	0.68	0.62
	BCR					

NPVs in 2001 except for all HD PUI NRSP which is for 2005

Benefit and cost flows only projected from 2001 to 2015

Wider uptake includes many SHG with few years of activities in 2015

Wider uptake compares N8084 costs with the net benefit from SHG expansion

(benefits less costs of supporting those SHG based on Sujala project costs and NGO field costs in N8084)

Table HDA. Economic assessment of NRSP support to HD PUJ research at 2005 prices - R7959 & R8084 Projects Only

Year	Discount rate 12%	Costs actual pounds				Benefits Rs actual				Benefits 2005 pounds					
		R6825	R7269	R7549	R7867	R7959	R8084	Total R7959 & R8084 only	Costs (2005 PV costs in pounds) 2005	Benefits in pilot-high uptake scenario	Total benefit WADI plus SHG uptake	Benefit (net of support costs from uptake)	Benefits in pilot-high uptake scenario	Total benefit WADI plus high SHG uptake	Benefit (net of Benefit from support costs) uptake plus WADI
1997	1.172	69,850					0	0	0	0	0	0	0	0	0
1998	1.149					0	0	0	0	0	0	0	0	0	0
1999	1.126		31,348	59,862		0	0	0	0	0	0	0	0	0	0
2000	1.104				42,820	23,173	23,173	25,585	40838.7438	0	0	0	0	0	0
2001	1.082				61,580	56,621	45,003	110,001	159907.331	0	0	0	0	0	0
2002	1.061						84,986	90,188	119399.211	0	0	0	0	0	0
2003	1.040						134,900	140,350	169218.56	906,325	531,522	-282,580	11,620	6,814	-3,623
2004	1.020						139,927	142,726	156718.475	1,812,650	1,547,650	469,595	22,378	19,107	5,797
2005	1.000							0	0	2,152,524	1,887,524	292,224	26,574	23,303	3,608
2006	1.000							0	0	2,492,397	2,227,397	1,277,725	30,770	27,499	15,774
2007	1.000							0	0	2,832,271	2,703,083	2,384,382	34,966	33,371	29,437
2008	1.000							0	0	3,172,145	3,314,582	5,017,610	39,162	40,921	61,946
2009	1.000							0	0	3,512,018	4,111,581	7,742,808	43,358	50,760	95,590
2010	1.000							0	0	3,851,892	4,782,704	10,559,975	47,554	59,046	130,370
2011	1.000							0	0	4,191,765	5,652,578	13,469,111	51,750	69,785	166,285
2012	1.000							0	0	4,531,639	6,373,389	16,470,217	55,946	78,684	203,336
2013	1.000							0	0	4,871,513	6,713,263	19,528,215	60,142	82,880	241,089
2014	1.000							0	0	5,211,386	7,053,136	22,643,105	64,338	87,076	279,545
2015	1.000							0	0	5,551,260	109,153,010	25,847,117	68,534	1,347,568	319,100
Total (rounded)										45,090,000	156,051,000	125,420,000	557,000	1,927,000	1,548,000
NPV @ 12%										509,000	646,000	125,420,000	117,000	277,000	252,000
IRR%										246,000					
BCR @12															

Table HD4. Economic assessment of NRSP support to HD PUI research at 2005 prices - R7959 & R8084 Only - Continuation

Year	Net return 2005 pounds				PV of benefits 2005 pounds			
	Pilot-high uptake scenario	WADI plus high SHG uptake	Uptake (net of support costs)	Uptake plus WADI	Benefits in pilot-high uptake scenario	Total benefit high SHG uptake	Benefit (net of support costs) from uptake	Benefit from uptake plus WADI
1997	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0
2000	-25,585	-25,585	-25,585	-25,585	0	0	0	0
2001	-110,001	-110,001	-110,001	-110,001	0	0	0	0
2002	-90,188	-90,188	-90,188	-90,188	0	0	0	0
2003	-128,730	-133,536	-143,973	-148,778	14,576	8,548	-4,544	-10,572
2004	-120,347	-123,619	-136,928	-140,200	26,028	22,223	6,743	2,938
2005	26,574	23,303	3,608	336	27,596	24,199	3,746	349
2006	30,770	27,499	15,774	12,503	28,530	25,497	14,626	11,593
2007	34,966	33,371	29,437	27,842	28,947	27,627	24,369	23,049
2008	39,162	40,921	61,946	63,704	28,947	30,247	45,788	47,087
2009	43,358	50,760	95,590	102,992	28,615	33,500	63,086	67,971
2010	47,554	59,046	130,370	141,862	28,021	34,793	76,821	83,592
2011	51,750	69,785	166,285	184,320	27,227	36,715	87,486	96,974
2012	55,946	78,684	203,336	226,074	26,281	36,962	95,517	106,197
2013	60,142	82,880	241,089	263,827	25,225	34,761	101,117	110,653
2014	64,338	87,076	279,545	302,282	24,093	32,608	104,684	113,199
2015	68,534	1,347,568	319,100	1,598,134	22,915	450,569	106,693	534,347
Total (rounded)	48,000	1,418,000	1,039,000	2,409,000	337,000	798,000	726,000	1,187,000
NPV @ 12%	-128,000	32,000	7,000	167,000	-309,000	152,000	80,000	541,000
IRR%	1.16	13.36	12.32	17.64				
BCR @12	0.476	1.126	1.024	1.675	0.522	1.235	1.124	1.837

Table HD5. Economic assessment of NRSP support to HD PUI research at 2005 prices - All Projects

Year	Discount rate to 2005	Pound inflator to 2005 base	Costs actual pounds										Benefits Rs actual				Benefits 2005 pounds				
			R6825	R7269	R7549	R7867	R7959	R8084	Total	Costs (2005 PV costs in pounds)	2005	Benefits in pilot-high uptake scenario	Total benefit WADI plus high SHG uptake	Benefit (net of support costs) from uptake	Benefit (net of Benefit from support costs) uptake plus from uptake WADI						
1997	1.172	2.47596	69,850								69,850	81,840	172,946,028	0	0	0	0	0	0	0	
1998	1.149	2.21068									0	0	0	0	0	0	0	0	0	0	
1999	1.126	1.97382		31,348	59,862						91,210	102,717	180,032,367	0	0	0	0	0	0	0	
2000	1.104	1.76234			42,820	23,173					65,993	72,862	116,302,215	0	0	0	0	0	0	0	
2001	1.082	1.57352			61,580	56,621	45,003				163,204	176,657	256,804,654	0	0	0	0	0	0	0	
2002	1.061	1.40493					84,986				84,986	90,188	119,999,211	0	0	0	0	0	0	0	
2003	1.040	1.25440					134,900				134,900	140,350	169,218,56	906,325	531,522	-282,580	11,620	6,814	-3,623	-8,428	
2004	1.020	1.12000					139,927				139,927	142,726	156,718,475	1,812,650	1,547,650	469,595	22,378	19,107	5,797	2,526	
2005	1.000	1.000									0	0	0	2,152,524	1,887,524	292,224	26,574	23,303	3,608	336	
2006	1.000	0.89286									0	0	0	2,492,397	2,227,397	1,277,725	30,770	27,499	15,774	12,503	
2007	1.000	0.79719									0	0	0	2,832,271	2,703,083	2,384,382	34,966	33,371	29,437	27,842	
2008	1.000	0.71178									0	0	0	3,172,145	3,314,582	5,017,610	39,162	40,921	61,946	63,704	
2009	1.000	0.63552									0	0	0	3,512,018	4,111,581	7,742,808	43,358	50,760	95,590	102,992	
2010	1.000	0.56743									0	0	0	3,851,892	4,782,704	10,559,975	47,554	59,046	130,370	141,862	
2011	1.000	0.50663									0	0	0	4,191,765	5,652,578	13,469,111	51,750	69,785	166,285	184,320	
2012	1.000	0.45235									0	0	0	4,531,639	6,373,389	16,470,217	55,946	78,684	203,336	226,074	
2013	1.000	0.40388									0	0	0	4,871,513	6,713,263	19,528,215	60,142	82,880	241,089	263,827	
2014	1.000	0.36061									0	0	0	5,211,386	7,053,136	22,643,105	64,338	87,076	279,545	302,282	
2015	1.000	0.32197									0	0	0	5,551,260	109,153,010	25,847,117	68,534	1,347,568	319,100	1,598,134	
Total (rounded)			70,000	31,000	60,000	104,000	80,000	405,000	750,000	807,000	1,171,000	45,090,000	156,051,000	125,420,000	557,000	1,927,000	1,548,000	2,918,000	252,000	412,000	
NPV @12%											460,000				117,000	277,000					
IRR%																					
BCR @12																					

Table HD5. Economic assessment of NRSP support to HD PUJ research and action research at 2005 prices - All Projects - Continuation

Year	Net return 2005 pounds			PV of benefits 2005 pounds			
	Pilot-high uptake scenario	WAD) plus high SHG uptake	Uptake (net of support costs)	Uptake plus WAD)	Benefits in pilot-high uptake scenario	Total benefit (net of WAD) plus high SHG uptake	Benefit from uptake plus WAD)
1997	-81,840	-81,840	-81,840	-81,840	0	0	0
1998	0	0	0	0	0	0	0
1999	-102,717	-102,717	-102,717	-102,717	0	0	0
2000	-72,862	-72,862	-72,862	-72,862	0	0	0
2001	-176,657	-176,657	-176,657	-176,657	0	0	0
2002	-90,188	-90,188	-90,188	-90,188	0	0	0
2003	-128,730	-133,536	-143,973	-148,778	14,576	8,548	-4,544
2004	-120,347	-123,619	-136,928	-140,200	26,028	22,223	6,743
2005	26,574	23,303	3,608	336	27,596	24,199	3,746
2006	30,770	27,499	15,774	12,503	28,530	25,497	14,626
2007	34,966	33,371	29,437	27,842	28,947	27,627	24,369
2008	39,162	40,921	61,946	63,704	28,947	30,247	45,788
2009	43,358	50,760	95,590	102,992	28,615	33,500	63,086
2010	47,554	59,046	130,370	141,862	28,021	34,793	76,821
2011	51,750	69,785	166,285	184,320	27,227	36,715	87,486
2012	55,946	78,684	203,336	226,074	26,281	36,962	95,517
2013	60,142	82,880	241,089	263,827	25,225	34,761	101,117
2014	64,338	87,076	279,545	302,282	24,093	32,608	104,684
2015	68,534	1,347,568	319,100	1,598,134	22,915	450,569	106,693
Total (rounded)	-250,000	1,119,000	741,000	2,111,000	337,000	798,000	726,000
NPV @ 12%	-342,000	-182,000	-207,000	-47,000	-834,000	-373,000	-445,000
IRR%	#NUM!	7.37	6.06	11.01			
BCR @12	0.254	0.602	0.548	0.896	0.288	0.681	0.620
							1.014

Table HD6. Economic analysis for PUJ support in Hubli-Dharwad: Uptake through other SHG and project

exchange rate	2004	2003	2002	2001
pounds->Rs	81	78	76	74

actual prices discount rate: 12%

Scenario	No SHG	No farm SHG	No farm hh	Cost (Rs/hh)	Extra benefit from IGAs (Rs/hh)		Av cost in yr 2 (Rs/hh)		Av cost in yr 3 (Rs/hh)		Totals
					after 12 yr	yr 1	Rs/hh	Rs/hh	Rs/hh	Rs/hh	
Sujala SHG of Shri Shokli	440	5911	11505	8291	5944	1352	3689	2670	2670	8291	
	140	2800	0	7500							

NB Sujala farm hh not poor and not due to adopt WADI so not included here
 NB BAF has own large WADI project but started WADI before PUJ project

year	No project SHG/hh		No other SHG/hh		No farm project WADI rest each of villages year		No farm project uptake start SHG		No hh start in SHG by year and benefits for each of these batches														
	active	No hh project WADI	No other SHG/hh	No farm hh project WADI	No farm hh project WADI	No farm hh project WADI	No farm hh project WADI	No farm hh project WADI	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
2001	0	0	0	0	0	0	0	0	212	212	555	555	555	555	555	555	555	555	555	555	555	555	6540
2002	212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	423	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	440	0	37	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	457	37	40	555	976,480	73,563	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	475	1075	37	80	976,480	76,410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	492	1612	37	80	1,046,538	79,257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	509	2,149	37	80	1,066,535	82,104	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287	2,468,256	2,376,287
2009	526	2,687	37	80	1,116,790	84,951	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226	2,652,195	2,560,226
2010	543	3,224	37	80	1,167,900	87,799	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165	2,836,134	2,744,165
2011	560	3,762	37	80	1,186,945	90,646	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104	3,020,073	2,928,104
2012	578	4,299	37	80	1,222,023	93,493	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043	3,204,012	3,112,043
2013	595	4,836	37	80	1,222,023	96,340	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104	3,390,083	3,298,104
2014	612	5,374	37	80	1,222,023	99,187	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165	3,576,154	3,484,165
2015	629	5,911	37	80	1,222,023	99,187	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165	3,764,165	3,678,165
Total	629	5,911	37	80	14,307,806	13,085,784	962,937	27,901,486	24,697,484	21,565,441	18,565,367	15,637,264	12,801,129	10,056,964	7,404,769	4,844,543	2,376,287	0	174,227,272				
NPV					5,402,123	4,623,985	318,920	8,675,565	7,225,396	5,941,819	4,872,556	3,819,288	2,947,444	2,184,013	1,517,381	937,177	434,139	0	61,262,144				
IRR%																							
BCR																							

629.00
1,530.90
629.00
34,317.08

5.151

Table HD6. Economic analysis for PUJ support in Hubli-Dharwad: Uptake through other SHG and project - Continuation

year	No. hlt start in SHG by year and costs of support for each of these batches												2015 Total	Net benefit (Rs)	PUJ project all costs (Rs)	Benefits minus costs (Rs)			
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013					2014	2015	
	212	212	17	555	555	555	555	555	555	555	555	555	555	555	6540				
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,330,222	-3,330,222
2002	408,576	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,458,936	-6,458,936
2003	780,328	408,576	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,522,200	-10,522,200
2004	564,642	780,328	33,163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,339,676	-10,870,081
2005	0	564,642	63,336	1,071,243	0	0	0	0	0	0	0	0	0	0	0	0	0	292,224	292,224
2006	0	0	49,600	2,045,937	1,071,243	0	0	0	0	0	0	0	0	0	0	0	0	3,103,010	1,271,125
2007	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	0	0	0	0	0	0	4,597,611	2,384,382
2008	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	0	0	0	0	0	4,597,611	5,017,610
2009	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	0	0	0	0	4,597,611	7,742,808
2010	0	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	0	0	0	4,597,611	10,559,975
2011	0	0	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	0	0	4,597,611	13,469,111
2012	0	0	0	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	0	4,597,611	16,470,217
2013	0	0	0	0	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	0	4,597,611	19,528,215
2014	0	0	0	0	0	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	0	4,597,611	22,643,105
2015	0	0	0	0	0	0	0	0	0	0	0	1,480,431	2,045,937	1,071,243	0	0	0	4,597,611	25,847,117
Total	1,753,547	1,753,547	142,329	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	4,597,611	48,807,766	125,419,506	31,651,034	93,768,472
NPV	1,239,977	1,107,122	80,233	2,314,059	2,066,124	1,844,754	1,647,102	1,470,626	1,313,059	1,172,374	1,046,763	934,610	592,983	195,712	16,699,784	32,138,000	22,818,000	9,320,000	16.47
IRR%																			16.47
BCR																			1.41

Table HD7. Economic analysis for PUJ support in Hubli-Dharwad - only for existing project supported SHG

Base scenario actual prices
 All costs inc. UK exchange rate pounds->Rs
 2004 2003 2002 2001
 81 78 76 74
 12% discount rate:

year	IGA only, all India costs										IGA+WADI, all India costs																	
	BAIF		IDS		Community		Total cost		Benefits (Rs) scenario		net return (Rs) low uptake		net return (Rs) high uptake		All project costs (Rs)		UK cost pounds		net return (Rs) low uptake		net return (Rs) high uptake		WADI net benefit (Rs) 66.25 ac		Total benefit SHG uptake (Rs)			
2001	275,932	0	275,932	0	0	0	0	-275,932	0	0	-275,932	0	0	0	3,330,222	-3,330,222	0	24,831	1,492,728	-1,492,728	0	0	0	0	0	0	0	0
2002	720,033	688,677	1,408,710	0	0	0	1,408,710	-1,408,710	0	0	-1,408,710	0	0	0	6,458,936	-6,458,936	0	33,078	3,945,008	-3,945,008	0	0	0	0	0	0	0	0
2003	797,708	1,093,052	1,890,760	0	0	0	1,890,760	-1,890,760	906,325	906,325	-1,297,468	906,325	906,325	0	10,522,200	-9,615,875	0	73,150	4,816,500	-3,910,175	0	0	0	0	0	0	0	0
2004	740,874	992,666	1,733,540	0	0	0	1,733,540	79,110	1,812,650	1,812,650	79,110	1,987,737	1,987,737	0	11,339,676	-9,527,026	0	83,894	4,544,262	-2,731,612	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	2,152,524	2,152,524	2,152,524	2,152,524	2,152,524	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	2,162,825	2,162,825	2,162,825	2,162,825	2,162,825	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	2,337,912	2,337,912	2,337,912	2,337,912	2,337,912	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	2,512,999	2,512,999	2,512,999	2,512,999	2,512,999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	2,688,086	2,688,086	2,688,086	2,688,086	2,688,086	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	2,863,174	2,863,174	2,863,174	2,863,174	2,863,174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	3,038,261	3,038,261	3,038,261	3,038,261	3,038,261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	3,213,348	3,213,348	3,213,348	3,213,348	3,213,348	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	3,388,435	3,388,435	3,388,435	3,388,435	3,388,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	5,211,386	5,211,386	5,211,386	5,211,386	5,211,386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	5,551,260	5,551,260	5,551,260	5,551,260	5,551,260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,534,547	2,774,395	5,308,942	0	0	0	5,308,942	39,467,810	45,085,785	45,085,785	28,591,910	39,467,810	13,438,751	13,438,751	31,651,034	-10,947,000	2,562,851	214,953	14,798,498	19,415,387	30,291,287	110,961,635	145,175,520	110,961,635	145,175,520	110,961,635	145,175,520	
NPV@12%	4,040,000	4,040,000	8,080,000	0	0	0	8,080,000	10,876,000	14,915,000	14,915,000	7,832,000	10,876,000	-7,993,000	-7,993,000	22,816,000	-10,947,000	1,077,000	10,794,000	1,077,000	4,121,000	4,121,000	20,414,000	20,414,000	20,414,000	20,414,000	20,414,000	20,414,000	
IRR%	11.871%	11.871%	11.871%	0%	0%	0%	11.871%	42.55%	47.78%	47.78%	42.55%	47.78%	5.01%	5.01%	1.11%	1.11%	13.86%	13.86%	13.86%	13.86%	13.86%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	
BCR@12%	1.24%	1.24%	2.94%	0%	0%	0%	2.94%	3.69%	3.69%	3.69%	2.94%	3.69%	0.65%	0.65%	0.52%	0.52%	1.11%	1.11%	1.11%	1.11%	1.10%	1.10%	1.38%	1.38%	1.38%	1.38%	1.38%	
NPV@12%	5,621,975	5,621,975	11,243,950	0	0	0	11,243,950	629,000	8,937,960	8,937,960	629,000	629,000	629,000	629,000	50,319,610	50,319,610	629,000	629,000	629,000	629,000	629,000	629,000	629,000	629,000	629,000	629,000	629,000	629,000
IRR%	8.937%	8.937%	8.937%	0%	0%	0%	8.937%	8.937%	8.937%	8.937%	8.937%	8.937%	8.937%	8.937%	5.943%	5.943%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%	3.422%
BCR@12%	1.24%	1.24%	2.94%	0%	0%	0%	2.94%	3.69%	3.69%	3.69%	2.94%	3.69%	0.65%	0.65%	0.52%	0.52%	1.11%	1.11%	1.11%	1.11%	1.10%	1.10%	1.38%	1.38%	1.38%	1.38%	1.38%	1.38%

Total 2,534,547 2,774,395 5,308,942 0 0 0 5,308,942 39,467,810 45,085,785 45,085,785 28,591,910 39,467,810 13,438,751 13,438,751 31,651,034 -10,947,000 2,562,851 214,953 14,798,498 19,415,387 30,291,287 110,961,635 145,175,520 110,961,635 145,175,520

NPV@12% 4,040,000 4,040,000 8,080,000 0 0 0 8,080,000 10,876,000 14,915,000 14,915,000 7,832,000 10,876,000 -7,993,000 -7,993,000 22,816,000 -10,947,000 1,077,000 10,794,000 1,077,000 4,121,000 4,121,000 20,414,000 32,286,000 20,414,000 32,286,000

IRR% 11.871% 11.871% 11.871% 0% 0% 0% 11.871% 42.55% 47.78% 47.78% 42.55% 47.78% 5.01% 5.01% 1.11% 1.11% 13.86% 13.86% 13.86% 13.86% 13.86% 18.18% 18.18% 18.18% 18.18%

BCR@12% 1.24% 1.24% 2.94% 0% 0% 0% 2.94% 3.69% 3.69% 3.69% 2.94% 3.69% 0.65% 0.65% 0.52% 0.52% 1.11% 1.11% 1.11% 1.11% 1.10% 1.38% 1.38% 1.38% 1.38%

NPV@12% 5,621,975 5,621,975 11,243,950 0 0 0 11,243,950 629,000 8,937,960 8,937,960 629,000 629,000 629,000 629,000 50,319,610 50,319,610 629,000 629,000 629,000 629,000 629,000 629,000 629,000 629,000 629,000 629,000

IRR% 8.937% 8.937% 8.937% 0% 0% 0% 8.937% 8.937% 8.937% 8.937% 8.937% 8.937% 8.937% 8.937% 5.943% 5.943% 3.422% 3.422% 3.422% 3.422% 3.422% 3.422% 3.422% 3.422% 3.422% 3.422%

BCR@12% 1.24% 1.24% 2.94% 0% 0% 0% 2.94% 3.69% 3.69% 3.69% 2.94% 3.69% 0.65% 0.65% 0.52% 0.52% 1.11% 1.11% 1.11% 1.11% 1.10% 1.38% 1.38% 1.38% 1.38%

Assumptions

Benefits flow from 3rd year of investment at 1/2 of level of that measured for 2004

Adoption in rest of SHG as predicted by NGO and with no further project/NGO investment

Adoption to NGO predicted level takes 10 years (to 2015)

In Rs at 2001-2004 prices

Only costs associated with direct support to the pilot communities considered

Only benefits in the pilot communities considered

Table HD8. Projected benefits from WADI to 2015

year	initial batch	costs/ Rs/ac	fruit value Rs/ac	wood value Rs/ac	Net return Rs/ac	Total return Rs	Net return Rs/hh
hh	37						
area (ac)	66.25						
ac/hh	1.79						
no trees	36		193	229			
	df						p/ac
2001							
2002	0	5,657	0	0	-5,657	-374,803	-5657.4
2003	1	4,000	0	0	-4,000	-265,000	-3636.363636
2004	1	4,000	0	0	-4,000	-265,000	-7,162
2005	2	4,000	0	0	-4,000	-265,000	-7,162
2006	3	4,000	0	0	-4,000	-265,000	-7,162
2007	4	5,200	3,250	0	-1,950	-129,188	-3,492
2008	5	5,200	7,350	0	2,150	142,438	3,850
2009	6	5,200	14,250	0	9,050	599,563	16,204
2010	7	5,200	19,250	0	14,050	930,813	25,157
2011	8	5,200	27,250	0	22,050	1,460,813	39,481
2012	9	5,200	33,000	0	27,800	1,841,750	49,777
2013	10	5,200	33,000	0	27,800	1,841,750	49,777
2014	11	5,200	33,000	0	27,800	1,841,750	49,777
2015	12	13,200	33,000	1,544,000	1,563,800	103,601,750	2,800,047
Total return/hh						2,998,963	537529.7654
Total return/ac						1,674,893	

potential uptake hh

ie extra hh =

ie extra acres =

173

136

244

who paid for the trees/saplings
what cultivation and harvesting costs

costs:

trees

opp cost lab

planting

harvest

falling trees

other cash costs reported to be 4000/ac

Rs

2

40 men

30 days

30 days

200 days

discount rate

10%

	as % all hh	as % farm	as % SMF
Total hh in vill	246		
Landowning hh	173	70	
Small/marg hh	117	48	68
WADI adopting hh	37	15	21
			32

Table HD9. Costs in present project (Rs) of implementing with Sanghas

year starting	IDS - community (Rs)		IDS proj (Rs)	Total	Cost/hh SHG of SHG of		Cost of BAIF SHG at IDS rate	Cost/hh WADI of BAIF by deduction	proportion of SHG costs by year
	BAIF - proj (Rs)	IDS - community (Rs)			IDS	BAIF			
No vill	2	4	6						
Total no hh	337	1,762	2,099						
No partic->	187	442	629						
% hh in SHG/project	55	25	30						
No men		150							
No women		292							
No SHG->		31							
2001	275,932	0	275,932	0	0	0	7,458	0.000	
2002	720,033	688,677	1,408,710	1,558	1,948	364,204	9,617	0.223	
2003	797,708	313,033	2,203,793	3,181	3,976	743,603	1,462	0.455	
2004	740,874		1,733,540	2,246	2,807	524,968	5,835	0.322	
Total	2,534,547	313,033	5,621,975	6,985	8,731	1,632,774	24,372		

Cost/participant 11,315 708 6,277 8,441 including WADI 37

% women 66.06334842 av SHG member cost 7504.29638

BAIF gives 50% higher grant per SHG member than IDS assume that half of NGO support per SHG member is directly for IGAs