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Synthesis of Peri-Urban Interface Knowledge

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Abbreviations and Acronyms

EKW	East Kolkata Wetlands, West Bengal, India
H D	Hubli Dharwad, Karnataka State, India
IGA	income generating activity(ies)
K	Kumasi, Ghana
NR	natural resource
PU(I)	peri-urban (interface)

1 Executive Summary

This project generated new knowledge of peri-urban production, livelihoods and poverty by synthesising findings from a number of individual NRSP-funded studies. Three opportunities to learn more from projects already completed had been identified, requiring very different levels of resources. This project combined them into one, because their common concern with the peri-urban interface suggested a potential for mutual enhancement. Moreover, a combined project could be more efficiently managed than several separate undertakings. The three opportunities were:

1. The findings of separate lines of 10 years of NRSP research on the peri-urban interfaces (PUIs) of 3 city-regions – Kumasi, Ghana, Hubli-Dharwad, India and Kolkata, India – had not been linked or compared.
2. Studies regarding the Kumasi PUI had ended before their full potential to produce significant findings was realised. The final Kumasi PUI project carried out trials of alternative livelihood activities. A number of key questions about the trials and their outcomes were not answered, although a large amount of relevant information was produced.
3. Findings of seven NRSP projects on the use of urban wastes had never been brought together.

Previous to these NRSP studies, little was known about the impacts of a peri-urban interface on production, livelihoods and poverty. The project brings together this knowledge for the first time. Although it is about the vast numbers who are living close to cities and towns at any moment, it may also tell us about the problems and opportunities of the masses that are migrating to urban places from greater distances. This gives immense value to this knowledge of the peri-urban interface, and therefore attaches considerable importance to the NRSP's years of research of the PUI. Consequently, the purpose of this project was to achieve the use of knowledge of the peri-urban interface that they do not have by policy makers and advisers, particularly in DFID. The project was able to extract potentially useful new knowledge from all three opportunities. Although the studies of Kumasi and of urban waste reuse produced individual outputs for their own audiences, their conclusions were incorporated, wherever relevant, into the overall synthesis of knowledge about peri-urban production, livelihoods and poverty.

This overall synthesis – which commanded the largest portion of the project resources – has a good deal to say that deserves the attention of policy makers, practitioners and academics. Few of them seem to recognise the existence of a peri-urban interface as a distinct event or phenomenon, with features and consequences that can bear significantly upon their concerns for economic growth, social equity, rural-urban migration, poverty, and local or regional development. Taken together, the findings of the overall synthesis report that, at the peri-urban interface there is the opportunity to help people – particularly the poorest of them and women – manage the transition from rural to urban and successfully exploit new and diverse opportunities. However, circumstances are created that give a special character to production, livelihoods, poverty and natural resource management, and this must be taken into consideration. The full report of these findings is Annex B of this Final Technical Report.

The additional knowledge obtained about livelihoods tested at the Kumasi peri-urban interface focused on crop farming and trading, as well as three factors that determine the adoption of livelihood activities - gender, location and space. The chief conclusions of this study tended to support the overall synthesis on matters of the loss of land, the roles of trading and agriculture, rapid returns on investments, individual efforts, and the situations of

women. These are reported in full in Annex C of this Final Technical Report.

The investigation of urban wastes utilised only a very small portion of the project resources. It concluded that most of the findings synthesised from the seven projects is no longer new knowledge. Nevertheless, valuable details were assembled, illustrating how these wastes are obtained and used. Much more importantly, viewed together these projects showed how the re-use of urban wastes occurring in the livelihoods of some poor peri-urban people is being threatened by changes in waste composition and in management practice. Even though this is happening, the livelihoods of these peri-urban people rarely, if ever, figure in the waste management thinking of cities or towns. The full synthesis is Annex D of this Final Technical Report.

Uptake of findings from each of the three parts of this project was promoted separately. Full reports, summary documents, office visits, power point presentations, and a website were all used. In addition, policy briefs were prepared and delivered to selected individuals world wide who are known to have strong interests in rural-urban linkages, urban and peri-urban agriculture, and the peri-urban interface itself, or the Kumasi peri-urban interface in particular, or urban environmental management in general. Staff of DFID were included among these. Downloadable versions of all reports, summaries, and briefing documents were placed upon a dedicated website.

Because duration of the project was less than a year, the impacts of its new knowledge are not yet discernable. Expectations for future impacts were first heightened when Kumasi local government officers took findings for use in a proposal for pro-poor action. Then DFID London staff followed receipt of a requested summary of the overall synthesis report with a second request for help in converting the summary into briefs for country and region desks.

All of the OVIs for the project's Outputs were achieved, except the completion of journal articles that are still being drafted. The project has generated new knowledge that can help poor people improve their livelihoods, largely by informing urban and rural development policy. However, at this early date there can be no evidence of this knowledge in policy, and so it is not possible to demonstrate that a contribution to the NRSP's Purpose has been achieved.

2 Background

This project sought to contribute to the realisation of improved livelihoods – partly through better NR management – for poor people of peri-urban interfaces in general by generating new knowledge that cross-cuts individual NRSP research projects. Three opportunities to generate new findings about the production systems and the livelihoods of peri-urban poor people were taken up. These were that:

1. The separate lines of NRSP research over 10 years on the PUIs of 3 city-regions (Kumasi, Ghana, Hubli-Dharwad, India and Kolkata, India) had produced findings individually, without these being linked to one another. Moreover, if other RNRRS research had extracted findings regarding the same aspects of peri-urban interface knowledge, these had not yet been combined with NRSP findings.
2. Studies regarding the Kumasi PUI had ended before their full potential to produce significant findings was realised. The project team neglected a number of key questions about the research trials and their outcomes. Unfortunately, the team became overly absorbed in the implementation of successful trials until there were insufficient resources available with which to broaden their studies to include these key questions.

3. The findings of seven NRSP projects on the use of urban wastes had never been brought together.

As cities expand, places and people that were peri-urban become urban and others that were rural become peri-urban. One strange result of this process is that, without moving their residence, ever-larger numbers of rural people enter into urban life and an urban economy, where they then help or hinder the performance of urban areas as engines of economic and social development. There are both differences and similarities here with the general movement of rural people to cities and towns. Thus, to learn about the way livelihoods and poverty are affected by a peri-urban interface would seem to illuminate, not only the possibilities for vast numbers of people who live close to cities and towns, but also the opportunities and challenges for the masses who have yet to migrate to urban places from greater distances. This lends an immense value to our knowledge of the peri-urban interface, and attaches considerable importance to the extraction and synthesis of general learning from the NRSP's research into the PUI. During the final years of the NRSP, the Programme's management recognised that the three situations enumerated above gave additional opportunities to provide knowledge about the PUI that would not otherwise be extracted from the Programme's unique research. DFID was identified as chief among recipients of new knowledge arising, as it had funded the studies. Later, this view was reinforced by a demand from DFID's Research Division for cross-cutting synthesis studies of this kind.

3 Project Purpose

Project Purpose: new knowledge of the peri-urban interface production and livelihoods from NRSP and other RNRRS programmes incorporated into DFID and other potential users' research and policy.

Part of the aim was to extract from existing documentation and other information important new knowledge that could otherwise remain unrecognised in the three situations noted above. Although the NRSP had clearly given the greatest attention in its research to the specific matters of concern - peri-urban production systems, livelihoods and poverty - there was an expectation that other RNRRS programs could make contributions.

The second major aspect of the purpose justified the first: to deliver this new knowledge to key potential users of it, most particularly to DFID. DFID was not only likely to welcome delivery because it had financed the research and asked for such syntheses, but also because the scale and depth of its engagement with social and economic development world-wide generates an internal need for better understanding of matters of economic growth, migration, and governance to which this knowledge relates.

The purpose, then, was to have DFID and other policy makers and advisers possess useful knowledge they could not have possessed before.

The OVIs for the Purpose were achieved to the following degrees:

Relevant to OVI 1. *By January 2006, DFID urban-rural team have considered new knowledge from project and reviewed their research agenda and policy statements to identify priorities for adjustment.* Following meetings and exchanges of communication, a shortened version of the full synthesis report, requested by the Urban Rural Change Team of DFID, was delivered and its key points discussed. Members of the URC Team indicated their determination to use this summary to create policy briefs for others in DFID by commissioning additional documentation from a member of this Project's team, even though they were moving to new positions in DFID following the break-up of the Urban Rural

Change Team in January.

Relevant to OVI 2. *By November 2006, one article reporting findings published in a professional journal.* Three papers for publication are planned for submission to academic journals, but work has begun on only one of them.

Relevant to OVI 3. *By November 2006, one citation to the new knowledge location on the website appears in development literature.* A description of the project exists at <http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html> with downloadable electronic versions of research products.

4 Outputs

Output 1. A foundation for achievement of the other Outputs established.

Three particular lines of investigation were integrated in this project. Scoping studies and review work assessed the potential of each investigation to produce new knowledge and to define the primary foci. Potential key users and the nature of the findings in which they would have particular interest had to be identified from the start in order to select what issues were most important to pursue and how these would be communicated to users. In early June, an inception report was produced containing assessments of potentials and study foci as well as strategies for uptake that included an initial communication plan these. The data in Kumasi was assessed, a local research partner was secured, waste reuse projects were reviewed quickly and the possibilities for new findings from all three parts of the project were identified.

In all three of its components, the project was able to provide potentially useful new knowledge.

Output 2 New knowledge, in addition to that provided by R8090, of the livelihoods of peri-urban poor people generated from the data of R8090.

The additional knowledge obtained of livelihoods tested at the Kumasi peri-urban interface dealt with two key livelihood activities within the Kumasi PUI, crop farming and trading, as well as with three factors that determine the adoption of livelihood activities - gender, location and space. The full report is Annex C of this Final Technical Report.

The key findings about crop farming were:

- Crop farming was threatened by urbanisation but remained a key source of income for Kumasi PUI inhabitants, either as a main or supplementary source of income.
- Crop farming seemed to serve as a safety net to buffer shocks in other livelihood activities. It also served as a bridging activity allowing the uptake of new income generating strands with long gestation periods such as the non-farm, natural resource based activities tested by the research.
- Despite widespread loss of agricultural land as a consequence of the competing demands for land for urban growth, Kumasi PUI farmers managed to access land in a variety of ways.
- Although crop farming declined as peri-urban communities became more urbanised, traditional crop cultivation remained important especially for women.
- A farmer's choice of crops was determined by the availability of land, the length of the production cycle and marketing opportunities.

- However, farmers tended to produce crops that were in greatest demand, thus cultivating similar crops and causing seasonal gluts and appreciable market fluctuations.
- Vegetables, both traditional and exotic, ideally meet a number of important livelihood requirements and consequently were more widely cultivated than traditional food crops.
- Men were more dominant in vegetable cultivation sometimes displacing women who had traditionally grown these crops.
- Farmers cultivating vegetables had lower outstanding debt than traditional crop cultivators.
- Outstanding debt was lower amongst farmers in more urban locations compared with those in the more rural parts of the Kumasi PUI.

The key findings on petty trading were:

- Trading played a significant role in the livelihoods of Kumasi PUI inhabitants either as a main or supplementary source of income.
- The intensity of trading increased with greater urbanisation of the community.
- Women dominated trading mainly because this activity was associated with traditional gender roles.
- The choice of goods traded was determined by start up capital requirements, cost and availability of goods, market demand and space requirements.
- Food items, both cooked and uncooked, were the most important goods traded with the later being most widespread.
- Trading in non-food items had a potentially higher profit margin, indicated by the lower outstanding debt amongst those selling non-food items compared to those selling food items. Non food trading was most likely to be undertaken by men possibly due to higher capital demands.
- The bulk of the food items sold within the Kumasi PUI were derived from traditional food crops, showing how trading remains dependent on traditional food crop cultivation.
- Traders obtained their supplies from either urban retailers or rural producers reflecting the decline in farming activities within the KPUI
- Most Kumasi PUI traders sold their goods within peri-urban markets creating intense competition in sometimes declining markets.
- Access to appropriate trading spots was a concern for traders, especially in more urbanised communities where the activity was more widespread and competition for space more intense.

The key findings on impact of gender on the adoption of livelihood activities were:

- Gender roles are critical in determining men and women's participation in livelihood activities within the Kumasi PUI. For instance, women dominate trading activities whilst more men participated in non-farm, natural resource based livelihood activities.
- More women reported increased income as a benefit from participating in livelihood activities supported by the project, which could possibly relate to their dominance in trading.
- Women had higher mean percentage outstanding debt than men, which could possibly be associated with their responsibilities for household provisioning or their confinement to the less profitable income generating sectors.
- Men requested higher start up capital than women suggesting that they are not interested in small-scale livelihood activities.

The key findings on the influence of location and space on livelihood activities were:

- The adoption of livelihood activities was differentiated across the Kumasi peri-urban continuum. Most of the people who adopted crop farming lived in rural locations whilst trading was adopted throughout the continuum, although more intensively in urban locations.
- The outcomes generated by livelihood activities also varied according to location within the peri-urban continuum.
- Individuals in intermediate parts of the Kumasi PUI were worse off than those in both urban and rural locations in terms of outstanding debt and expected length of dependency on credit indicating that the ease of livelihood adjustment is differentiated by location within a continuum of change.
- Access to adequate space for production and storage affected the success of non-farm natural resource based livelihood activities.

The key findings on the impact of livelihood activities were :

- Speed of cash turnover was an important factor in the uptake of livelihood activities and also in the choice of crop variety grown.
- Those practising farming and petty trading reported more positive change in terms of the profitability of their livelihood activities and increases in their income relative to those engaged in other livelihood activities.
- By contrast, exposure to new technology and more spare time were identified as benefits by those who adopted non-farm, natural resource based activities.
- Loan recipients who did not adopt new livelihood activities identified the injection of capital into their existing livelihood activities as an important benefit.

Output 3. New knowledge, which is not specific to one research project, of the use of urban wastes in NRM as this affects the livelihoods of poor people generated.

Generally, the synthesis brings together new details about the way poor people re-use urban wastes. The findings support assertions in the literature that the opportunities to re-use urban wastes are not easily exploited by poor peri-urban people and that these difficulties are increasing. Most importantly, the investigation concluded that the re-use of urban wastes featuring in the livelihoods of some poor peri-urban people is being threatened by changes in waste composition and in management practice. The value of the link between peri-urban agricultural systems and the informal use of urban wastes is rarely made despite being amply characterized in many NRSP reports. Consequently, the key conclusion to be drawn is that an understanding of the value offered by the re-use of urban wastes as a livelihood resource, and the benefits that could be gained for urban waste management from activities based on waste reuse, rarely, if ever figures, in the waste management thinking of urban administrators. The study also brings together new details of how it is that poor people re-use urban wastes and how the difficulty for them to do so is increasing. Its report is Annex D of this Final Technical Report.

Output 4 New knowledge, which is not specific to one research project, of peri-urban interface production systems and of the livelihoods of peri-urban poor people generated.

The major conclusions of the synthesis about peri-urban production, livelihoods and poverty, contained in the full report which is Annex B of this Final Technical Report, were that:

1. The impacts of a peri-urban interface on livelihoods can push people from participation in a rural economy into a more monetised urban economy of which they may have little knowledge or understanding

2. Because the impacts of urbanisation affect locations differently, appropriate livelihood opportunities and constraints also vary spatially, yet without clear patterns.
3. A PUI creates conditions that can offer opportunities for new productive activities with potential to generate more income than previously.
4. At the same time, PU conditions can adversely affect existing livelihoods. The negative impacts disproportionately affect women and poor people
5. PUI inhabitants are aware of the emerging urban opportunities but the poorest of them may need support to be able to understand and access these opportunities.
6. Interventions that lead to PUI people trying something new can improve livelihoods.
7. There are actions and actors that interventions can support to this end. The research showed how actions that:
 - challenge changes in natural capital by rehabilitating natural resources,
 - change the financial capital context by promoting savings and improving access to credit for investment,
 - develop human capital by expanding information sources and providing training,
 - promote social and political capital by linking into wider institutional landscapes
 - develop community based action planning, community facilitators and more effective social networks,
 all support the move of poor peri-urban inhabitants into new productive activities
8. People who took part in an activity supported by an intervention gained confidence and were encouraged to believe they can make positive livelihood change.
9. Trading activity and traditional farming form valuable bridging activities supporting people's moves into new productive income generating activities. These activities often have particular importance for women.
10. Actions that enhanced or rehabilitated natural resources gave more positive economic outcomes than any other livelihood options. Where the natural resource base remains unprotected it continues to decline. This increases vulnerability for those poor people who frequently remain most dependent on it.
11. Peri-urban agriculture remains an important livelihood activity. It offers opportunities for the production of high value, perishable products to urban consumers and environmental benefits as a consequence of managing urban wastes as an agricultural resource.
12. More productive farming techniques, improved crop varieties and expanded production of perishable farm products (such as vegetables, mushrooms or milk), novel animals (such as bees, grass cutters and snails), niche based manufacture (such as soap or incense making), or scaling up and diversifying existing activity (such as trading) are illustrations of income-generating activities that people may take up when a PUI impacts on them.
13. Fast returns on new activities are needed because fewer non-cash based alternative livelihood strands are available to PUI people.
14. People did better as individuals than in groups in terms of earning more income, possibly because peri-urban circumstances reduce social capital.

Efforts to involve local government institutions did not succeed, providing evidence that governments lack interest in or understanding of PUI problems and opportunities. A complex, heterogeneous and dynamic PUI requires policymakers to have a fine-grained understanding of the opportunities and challenges it presents.

Output 5. Findings of new knowledge communicated to potential users.

The project used summary documents, office visits, power point presentation, briefing documents, and a website to promote uptake of findings from all three of its parts. A description of this activity is presented below in section 7.2, the discussion of the achievement of the OVs for Output 5.

5 Research Activities

Project activities fell into three phases. Those of the first assessed the potential to produce new knowledge. These are discussed under Output 1. in Section 4. Several key challenges were faced in this inception phase. The first of these was to give a clear direction and scope to the overall synthesis. Although discussions with a variety of potential users of findings and with researchers on the peri-urban interface was intended, early rapport with DFID's Urban Rural Change Team provided guidelines which were compelling, not only because of the primacy of this as a target institution but also because initial contacts with other target institutions were far less able to clarify what was needed or would be useful. One consequence was the postponement of approaches to most of the other RNRRS programme managers until a clear Urban Rural Change Team agenda of topics was formulated to which those managers could respond when identifying possible contributions from their own projects to a synthesis.

The second challenge arose regarding further exploration of R8090 data regarding the Kumasi peri-urban interface. The team members for that project – virtually all based in Kumasi – had not been able to find time among the press of other commitments to realise the full potential of learning from pilot project implementation. Moreover, it had been heard that some socio-economic data was possibly of poor quality. Further findings therefore seemed to depend upon special staffing arrangements and a review of the potential of the available data. However, use of a full-time visiting researcher supported part-time by a former member of the R8090 team proved effective, and the findings of their collaboration bear witness to their correct initial assessment of data quality and quantity.

A third challenge faced all three lines of investigation during this inception phase. This was simply to assess the potential for findings that might be worth the efforts proposed for uncovering them. The test of this was realised in the preparation of an inception report – in which potentially important propositions of new knowledge were formulated for all three strands of research – involving critical evaluation by the entire team and the report's critical review by the Programme Manager.

During its second phase, the project involved the usual activities of desk studies working with existing documentation. Nearly all documentation for the extraction of additional knowledge from the final Kumasi PUI project was available in Ghana, so analysis of their contents and reporting of findings were performed there. Preliminary findings of each part of the project were circulated among all members of the research team as soon as they were drafted.

The activities of the third phase were those of promoting the uptake of findings. They are discussed in Section 7.2 which deals with the achievement of the OVIs for Output 5.

6 Environmental assessment

6.1 What significant environmental impacts resulted from the research activities (both positive and negative)?

There were no significant environmental impacts resulting from the research activities.

6.2 What will be the potentially significant environmental impacts (both positive and negative) of widespread dissemination and application of research findings?

If urban waste management policy is changed in any particular situation because it is informed by the findings of the synthesis, the resulting changes in the management of wastes could affect the urban and peri-urban environments. It is not expected that these impacts will be significant because they will arise from efforts to protect or increase the access of peri-urban users to urban waste. It is reasonable to presume that this need not be at the expense of environmental quality.

If the economic value of natural resources to the livelihoods for so many peri-urban residents is better understood by policymakers and planners and this leads to more sensitive or more careful natural resource management, then the negative environmental impacts of exploitative natural resource use and pollution of the natural resource base may be ameliorated.

6.3 Has there been evidence during the project's life of what is described in Section 6.2 and how were these impacts detected and monitored?

There has been no evidence during the project's life of the knowledge yet informing policy about urban waste or natural resource management.

6.4 What follow up action, if any, is recommended?

No follow up action is appropriate.

7 Contribution of Outputs

7.1 NRSP Purpose and Production System Output

This project contributes to the NRSP Purpose *To deliver new knowledge that enables poor people who are largely dependent on the NR base to improve their livelihoods* in that it provides policy makers and implementers with information, never before available, that could alert them to their neglect of poor people in peri-urban circumstances and give them knowledge of how to support improvements in the livelihoods of these poor people. The synthesis has shown this information to have some general applicability. It explains how a PUI can affect, both positively and negatively, the livelihoods of poor people who are largely dependent on the NR base. It also describes alternative productive activities – non-NR based as well as NR based – and aspects of their effectiveness at improving livelihoods. Moreover, it identifies elements of interventions through policy that can support livelihood improvements.

The above is a very limited contribution to the NRSP Purpose OVI, which is that *new knowledge from NRSP's research is in use by specified following target groups by March 2006*. Employment of this project's output cannot be expected to be apparent by March 2006, only a matter of months after production of the output. All that can be noted is that among the likely consequences of DFID's intention to distribute briefing notes to their country and regional desks will be that policy makers in contact with DFID use the new knowledge. This is expected to include policy makers and institutions that have not directly

participated in specific NRSP projects in targeted countries. The project's promotion of uptake of the new knowledge by a selection of other possible users amongst international development agencies could have the same effect, but it is less likely for not yet having achieved any reaction from them to receipt of findings. As a result of the uptake promotion performed, there is also the possibility that products of the synthesis will be used in the international research and development system, with evidence of use eventually appearing in programmes/projects of institutions in non-target countries.

The potential use of the new knowledge is dependent upon its relevance and importance to policy issues. The implications for policy can be illustrated for the findings of each of the three parts of the project.

The overall synthesis study points out that the peri-urban interface is an important – yet overlooked – arena in which to fight poverty while promoting economic development. Better knowledge of the PUI could bring about policies and actions that exploit urbanisation positively in order that rural people enter the urban economy with less poverty than might otherwise occur. Research has identified barriers to better peri-urban livelihoods and that it is possible to overcome them but policies and actions utilising these findings need to have both urban and rural dimensions.

Helping the poorest at a city's peri-urban edge to take up new productive activities primarily requires an improvement in their access to resources such as financial capital, skills, and information (especially regarding market activity). Ongoing positive management of natural resources remains essential during the move from the farm to the city, even though land is being converted to urban use. But agricultural support will have to differ in some respects from that normally provided in rural areas. Encouraging trading and certain agricultural activities can play a strategic role in moving the peri-urban poor through the transition from a rural economy into a monetised urban economy. Although the lower transaction costs of working with groups may be attractive, the difficulties associated with group formation in some peri-urban situations suggest a need for a greater understanding of the consequences of peri-urban change on group-based action.

External intervention that supports certain actors (local NGOs and community-based facilitators) and actions (participatory planning and improved access to credit, training and information) has been shown to be effective. However, it was learned that both rural and urban policies do not show sufficient awareness of these research findings to respond adequately to the changes wrought by a peri-urban interface. Probably development agencies do not realise what happens at a peri-urban interface and what can be done about it. This knowledge contained in this synthesis is not yet in the body of development literature. The research from which it is drawn is unique.

Additional findings regarding the Kumasi peri-urban interface provide guidelines for pro-poor policy design and implementation affecting that city's peri-urban populations. Location within the peri-urban continuum must be kept in mind, for trading appears more appropriate for more urbanised communities of the Kumasi peri-urban interface (KPUI) whilst farming and certain natural resource based livelihoods are better suited to less urbanised parts of the KPUI. New livelihood activities are needed that generate income quickly. Vegetable cultivation has a particularly good potential for generating income for poor households within the KPUI because of the short production cycles and possibility of intensive cultivation on smaller plots of land. Encouraging women's acquisition of skills may

contribute to the sustainability of peri-urban livelihoods. It is important to support activities that make direct contributions towards household consumption, particularly in the light of the decline in subsistence. And finally, given that they are aware of opportunities arising from urbanisation, KPUI inhabitants could take advantage of them if provided with relevant information and with tangible assets.

The third part of this project concluded that peri-urban use of urban wastes should be taken into account when formulating local area policy. If there was a better understanding of the role already played by urban waste reuse in peri-urban livelihoods and in urban food security, then for the first time this reuse might be balanced against other waste management objectives. Policies that reduce the threats to peri-urban reuse of urban wastes could bring greater income and safety to poor peri-urban people as they move into an urban economy, while supporting continued production of low cost food for poor urban residents.

In relation to the PU production system output *Natural resources management strategies for peri-urban areas which benefit the poor developed and promoted*, there is no obvious contribution by this project to the achievement of its OVIs, which are:

- *By March 2002 appropriate knowledge of 2 target city-regions and appropriate strategy options created*
- *By March 2002, in 2 target city-regions, key stakeholders (including at least two target institutions) regularly participating in the formulation of plans of action for at least two aspects of natural resources management for peri-urban areas which will benefit the poor*
- *By March 2005, in 2 target city regions, programme generated strategies and new pro-poor approaches incorporated into the management approaches of at least two target institutions*
- *By March 2004, in at least one other city-region, key stakeholders (including at least two target institutions) regularly participating in the formulation of plans of action for at least two aspects of natural resource management for the PUI that will benefit the poor*
- *By March 2005, in at least one other city-region, at least two target institutions make approaches to donors to fund pilot projects for at least two aspects of natural resource management for the PUI that will benefit the poor*

Ignoring the fact that this project began after March 2005, the nature of the output (i.e. new knowledge) and the time required for it to be taken up by users prevents any impact to be visible at this moment through the implementation of pro-poor policies informed by the findings of this research. As with an assessment relative to the NRSP Purpose, one can only speculate that, given the uptake promotion achieved, there may be application to pro-poor policy of the better understanding achieved by the synthesis. This would be policy anywhere in the world affecting rural or urban aspects of peri-urban production, livelihoods and poverty, including natural resource management.

7.2 Impact of outputs

Given that the duration of the project was for less than a year and that its products of knowledge did not appear until late in that period, the impacts of the outputs will not be discernable for months or years. Even so, there are hints of future impacts in two events. First, at one presentation of the additional knowledge regarding Kumasi PUI livelihoods, the attending officers of sub-areas of the Kumasi Metropolitan Authority were sufficiently enthused to organise a future meeting at which a project proposal using the findings would be fashioned for submission to a new pro-poor program in Ghana.

Secondly, contact throughout the project with the Urban Rural Change Team of DIFD culminated in DFID buying into ownership of the PUI knowledge synthesis by requesting help – beyond the project – to disseminate selected findings within DFID.

That said, all of the OVIs identified for the Project Outputs were achieved:

1. A foundation for achievement of the other Outputs established. Three particular lines of investigation were integrated in this project. Scoping studies and review work were needed to assess their individual potentials to produce new knowledge and to fix the foci of each more definitely. Initially, key potential users of any findings and the nature of the findings in which they would have particular interest had to be identified in order to decide what issues were most important to pursue and to plan how the findings should be communicated. In early June, an inception report including an initial communication plan was produced containing these assessments of potentials, foci for study, and strategies for uptake. This provided evidence of the OVI, which was: *By June 2005, the existence of surveys of synthesis potentials of NRSP and other RNRRS projects and of the extra knowledge potential of R8090, plus the existence of a plan for communicating findings.*

2. New knowledge, in addition to that provided by R8090, of peri-urban poor people generated from the data of R8090 by bringing to Kumasi additional research capacity. By the end of August, the project succeeded in adding significantly to the findings of R8090 by focusing on the livelihoods of peri-urban poor people. Use of these findings was promoted with several development institutions operating in Ghana through meetings with individuals who had expressed an interest in poverty and the peri-urban interface. A full report of these findings is on the website

<http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html> and constitutes Annex C of this Final Technical Report. A briefing document and a power point presentation were created and used for uptake promotion in Ghana. These all provide evidence of new knowledge of the livelihoods of Kumasi peri-urban poor people that was not part of the output of R8090. This verified the OVI which was: *By November 2005, the existence of findings regarding the livelihoods of Kumasi peri-urban poor people that are not part of the output of R8090.*

3. New knowledge, that is not specific to one research project, of the use of urban wastes in NRM as this affects the livelihoods of poor people generated. The initial inspection of documents from the seven projects dealing with urban wastes concluded that there was only a little new knowledge to be obtained from a synthesis of NRSP research. Further study of the literature found that these few possibilities had been reduced by recent publications, some of which use NRSP research among their references. However, the general absence of a focus on the livelihoods of peri-urban poor people left room for several significant statements that were not conclusions of any of the individual studies examined. These were fed into the overall synthesis before November 2005, and the report containing them was placed on the website and attached to this FTR as Annex D. These comprise evidence to verify the OVI which was: *By November 2005, the existence of findings regarding the use of urban wastes in NRM as this affects the livelihoods of poor people that do not draw from only one of the specific cases studied.*

4. New knowledge, that is not specific to one research project, of peri-urban interface production systems and of the livelihoods of peri-urban poor people, generated. When put together, the individual lines of research on NR production and livelihoods of poor people reinforced one another on some important matters, provided challenging contrasts, and even yielded some understanding that was not readily apparent in the separated investigations of

the Kumasi, Hubli-Dharwad, and Kolkata peri-urban interfaces. Efforts to draw from the findings of other RNRRS programmes were almost entirely unproductive. In very few cases was information on peri-urban circumstances gathered, and only the Livestock Production Programme was successful in contributing knowledge of livelihoods and poverty linked to peri-urban production.

The indicator for this output is: *By November 2005, the existence of findings regarding peri-urban interface production systems and of the livelihoods of peri-urban poor people that do not draw from only one of the specific cases studied.* The indicator is verified by the contents of the report that exists on the website

<http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html> and in Annex B of this Final Technical Report.

5. *Uptake of findings of new knowledge by potential users promoted.* Each of the three components of the study produced findings for which there is a particular audience.

Additional knowledge drawn from data about Kumasi's PUI was promoted in Ghana with selected NGO, government and university institutions. An innovative approach was wanted in order to obtain a better response than earlier attempts to reach them with new knowledge. The Kumasi based collaborator, as a former R8090 team member working through CEDEP (the NGO home of that recent project), was able to generate invitations to present findings through visits to the offices of CARE (the Catholic relief organisation), and the office of the Kumasi Metropolitan Assembly responsible for urban and peri-urban agriculture, as well as with the head of her own department of development and planning at the Kwame Nkrumah University of Science and Technology. In response to requests made in these meetings, hard copies of the final report were delivered to those who were principals in them. The meeting with Kumasi Metropolitan Assembly officers launched an initiative to formulate a proposal for central government assistance to support improved peri-urban food production involving poor people.

Conclusions reached through a synthesis of studies involving urban waste re-use were delivered to an office in DFID which is known to have an interest in environmental management. A briefing note was delivered making reference to a full report which is to be found at <http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html>. This briefing note was also sent by e-mail to named individuals at the Resource Center on Urban Agriculture and Forestry (RUAF) network, at IDRC (the urban and peri-urban food security programme supported by the Canadian International Development Agency), and at UN HABITAT – all of which are concerned with urban and peri-urban food production – and to the UN Environmental Agency.

The principal target for promotion of the overall synthesis findings was DFID, particularly its Urban-Rural Change Team that advises on policy. Interaction with the URCT from the very beginning of this project identified current areas of DFID work which could be informed by research findings about peri-urban interface conditions. Agreement was reached on an agenda of topics and on a knowledge product that would be useful. This shortened version of the full synthesis report given to the URCT highlights about a dozen specific research messages. It is the basis for briefing documents that it is said will be prepared for DFID country and region desks. A much shorter summary was given to DFID's Central Research Department as requested by it for dissemination within DFID as one of several RNRRS synthesis reports. The first of these summaries is Annex E of this Final Technical Report and its existence verifies the first part of the OVI for this output, which was: *By January 2006, evidence of at least one delivery of knowledge products to DFID.*

Other probable users of the full synthesis findings were identified and each was sent another knowledge product. This was an individually tailored bundle of briefing documents, each document calling attention to a different research message arising out of the synthesis. Bundles were sent to named individuals in a selection of institutions around the world, accompanying an e-mail message of introduction. These briefing documents appear as Annexes G and H of this Final Technical Report. Briefing documents on the overall synthesis have been sent to nearly 20 persons known to have peri-urban interests in the UNDP, UN-Habitat, the FAO, DFID, the World Bank, the International Development Research Center (Canada), the International Institute for Environment and Development (IIED), the Resource Centre on Urban Agriculture and Food Security (RUAF), and the Urban Harvest (the CGIAR Strategic Initiative on Urban and Peri-urban Agriculture), as well as academics and researchers in the UK, Denmark, USA, India, Ghana, and Thailand. Also, bundles of briefing documents were sent blind to a number of relevant institutions, including the 8 regional offices of UN-Habitat.

In addition, complete bundles of briefing notes were sent to principle members of teams that researched the peri-urban interface for the NRSP, so that they can use these findings in future work and can pass synthesis knowledge on to colleagues and local users. These included researchers at departments in four universities and one consultancy in the UK; two ministerial offices, three departments of one university, and one NGO in Ghana; three NGOs, one engineering college, one business school, and one agricultural university in Karnataka State, India; and two State ministries in West Bengal, India.

All of the documents, including all briefing notes prepared by the project, make clear reference to the website addresses where the supporting full reports and summaries can be read and downloaded.

Given that relatively little is known about peri-urban interfaces and particularly about associated livelihoods and poverty, the need to reach a general audience of potential users is substantial. Academics and staff of international development agencies – governmental and non-governmental – were seen as the major targets. All were assumed to draw heavily upon internet searches and professional journals to keep themselves informed. Consequently, all knowledge products of all three parts of the research were placed on <http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html> in downloadable forms.

Although three journal articles are intended, only one has reached draft stage. This is “Wasted Waste – Disappearing Reuse at the Peri-Urban Interface”, which will be proposed to *Society & Natural Resources*, *Third World Quarterly*, or *EPC: Government & Policy*. The other two are “The Consequences of Urbanisation for Livelihoods in the Peri-Urban Continuum (PUC)” which will be proposed to *Environment and Planning*, *Environment and Urbanization*, *Development and Change*, or *Development in Practice*, and “Barriers to Change: Factors Influencing Livelihood Change for Poor People in PU areas of Kumasi, HD and Kolkata”, perhaps in *World Development*. The project gave priority to other modes of communicating and disseminating findings that were thought to be more effective in reaching policy makers and advisors. Consequently, project researchers are writing articles in their free time for their own satisfaction. As none have yet been submitted for publication, it is not possible to verify the second part of the OVI for this output, which was: *By January 2006, evidence of acceptance of two articles for journal publication.*

7.3 Uptake Promotion

Uptake promotion was one of the Outputs of the project and is reported in Section 7.2 above. The project has pursued the most obvious promotion pathways that might have significant impact upon its target institutions. Uptake promotion beyond the activities of the project would heighten the possibilities for substantial impact, of course. With the demise of the NRSP and the RNRRS, there is no longer an identifiable source of support from DFID. Nevertheless, project staff are continuing to promote uptake with unfunded actions that could not be completed within the scope of the project or that were not anticipated at the beginning.

Beyond the project, more uptake by the development community in general could be served by the publication of journal articles based on the findings. The project findings are rich in opportunities. Those articles begun by project staff may not be accepted for publication, even if they are completed. The number of articles drafted might be increased if honoraria were offered to any of the many NRSP researchers of the peri-urban interface who are willing.

In the course of uptake promotion, it was suggested by a potential user that a comprehensive CD to key users of the new knowledge might be prepared and distributed. Such a CD would contain all of the R8491 project documentation, linked to the relevant documentation of the individual projects to which the texts are referenced. It was said this would provide a ready and easily accessible tool for delving deeply into the full scope of available information about the peri-urban interface. However, the likely users could not be identified on a scale that would justify the costs.

8 Publications and other communication materials

8.7 Extension leaflets, brochures, policy briefs and posters

Mattingly, M, Gregory, P, and Walls, M 2006 *titled with 11 different messages* Development Planning Unit, University College London 22 pp.

Aberra, E. and King, R.. 2005 *Livelihoods in the Kumasi Peri-Urban Interface (KPUI)*. Development Planning Unit, University College London 7pp

Hofmann, P, Mattingly, M and Walls, M 2006 *Peri-Urban Livelihoods Are Overlooked in Urban Waste Management* Development Planning Unit, University College London 2pp

8.10 Reports and data records

8.10.1 Project technical reports including project internal workshop papers and proceedings

Gregory, P. 2005. *A Synthesis of Peri-Urban Research of Kumasi, Hubli-Dharwad and Kolkata PUIs, Final Report.* Development Planning Unit, University College London. 131 pp.

Gregory, P. 2005. *A Synthesis of Peri-Urban Research of Kumasi, Hubli-Dharwad and Kolkata PUIs, Summary Report.* Development Planning Unit, University College London. 38pp.

Aberra, E., and King, R. 2005 *Additional Knowledge of Livelihoods in the Kumasi Peri Urban Interface (KPUI), Ashanti Region, Ghana.* Development Planning Unit, University College London. 65pp.

Hofmann, P. 2005 *The Challenges of Urban Waste Use as a Means to Enhance the Livelihoods of Peri-Urban Poor People.* Development Planning Unit, University College London. 15pp.

8.10.5 Project web site, and/or other project related web addresses

<http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html>

9 References cited in the report, sections 1-7

None

10 Project logframe

LOGICAL FRAMEWORK

Project Number (leave blank)	Log frame and Production System reference number (complete from tender document)
R8491	NRSP 2.1.3(a)

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumption
Goal			
Contribute to realising improved integrated NR-management strategies for specific groups of the poor identified, tested and promoted with target institutions that are stakeholders in the various projects in NRSP's portfolio	Options and programmes for improving integrated NR management relevant to the poor in at least two target audiences or institutions enhanced as a result of engagement with study products	Project FTRs and peer-reviewed publications NRSP Annual Reports Target institution reports	
Purpose			
New knowledge of the peri-urban interface production and livelihoods from NRSP and other RNRRS programmes incorporated into DFID and other potential users research and policy.	<p>1. By January 2006, DFID urban-rural team have considered new knowledge from project and reviewed their research agenda and policy statements to identify priorities for adjustment.</p> <p>2. By November 2006, one article reporting findings published in a professional journal.</p> <p>3. By November 2006, one citation to the new knowledge location on the website appears in development literature.</p>	<p>1. DFID documentation.</p> <p>2. Copy of journal.</p> <p>3. Published document using the citation.</p>	
Outputs			
1. A foundation for achievement of the other Outputs established.	1. By June 2005, the existence of surveys of synthesis potentials of NRSP and other RNRRS projects and of the extra knowledge potential of R8090, plus the existence of a plan for communicating findings.	Inception report. Communication plan.	
2. New knowledge, in addition to that provided by R8090, of the livelihoods of peri-urban poor people generated from the data of R8090.	2. By November 2005, the existence of findings regarding the livelihoods of Kumasi peri-urban poor people that are not part of the output of R8090.	FTR The knowledge products used to communicate the findings.	
3. New knowledge, that is not specific to one research project, of the use of urban wastes in NRM as this affects the livelihoods of poor people generated.	3. By November 2005, the existence of findings regarding the use of urban wastes in NRM as this affects the livelihoods of poor people that do not draw from only one of the specific cases studied.	FTR The knowledge products used to communicate the findings.	
4. New knowledge, that is not specific to one research project, of peri-urban interface production systems and of the livelihoods of peri-urban poor	4. By November 2005, the existence of findings regarding peri-urban interface production systems and of the livelihoods of peri-urban poor people that do	FTR The knowledge products used to communicate the findings.	

people generated.	not draw from only one of the specific cases studied		
5. Uptake of findings of new knowledge by potential users promoted.	5. By January 2006, evidence of at least one delivery of knowledge products to DFID and of acceptance of two articles for journal publication.	DFID documentation. Correspondence from journal publishers.	Any papers submitted are accepted for publication
Activities		Milestones (and budget if budgeting by Activity)	
Output 1. A foundation for achievement of the other Outputs established.			
O1 Activity 1 Review of NRSP PUI project documents, guided by interviews with Principal Investigators.			
O1 Activity 2 Interview DFID and IIED staff concerned with rural-urban change.		MS 1.a Meetings at DFID and IIED by 31 May	
O1 Activity 3 Assess R8090 extra knowledge potential, including data base quality, and contract local collaborator		MS 1.b Initial visit to Kumasi by 31 May	A suitable local researcher is willing and free to collaborate
O1 Activity 4 Interview managers of other RNRRS programmes and review their project literature		MS 1.c Interviews with other programme managers by 31 May.	
O1 Activity 5 Review general literature on livelihoods and production of PUI poor people.			
O1 Activity 6 Establish the scope of potential contributions from teams of current and past NRSP PUI projects.			Possibly relevant findings will be identified that projects have not extracted or will not otherwise extract.
O1 Activity 7 Produce an inception report		MS 1.d Submission of a draft inception report before 1 June	
O1 Activity 8 Revise project plan in reaction to the above activities		MS 1.e Meeting of project team with Programme Manager by 14 June	
Output 2 New knowledge, in addition to that provided by R8090, of the livelihoods of peri-urban poor people generated from the data of R8090.			
O2 Activity 1 Analyse R8090 data for additional findings regarding the livelihoods of PUI poor people		MS 2.a Period(s) of collaborative work in Kumasi by 31 August	
O2 Activity 2 Distinguish those research messages suitable for local target institutions.		MS 2.b Production of an internal report contributing to uptake promotion by 31 August	
O2 Activity 3 Produce a report of findings		MS 2.c Submission of report of findings by 31 August.	
Output 3. New knowledge, which is not specific to one research project, of the use of urban wastes in NRM as this affects the livelihoods of poor people generated.			
O3 Activity 1 Review the literature of the relevant NRSP projects.		MS 3.a Draft of a report of findings by 14 August	
O3 Activity 2 Identify the major research messages and key potential users of them.		MS 3.b Production of an internal report contributing to uptake promotion by 31 August	
Output 4 New knowledge, which is not specific to one research project, of peri-urban interface production systems and of the livelihoods of peri-urban poor people generated.			
O4 Activity 1 Review project (NRSP and other RNRRS programmes) and non-project literature in order to develop the potentially important syntheses identified during the inception period.		MS4a Report by 31 August	Initial investigations indicate that synthesising will produce findings of sufficient significance to justify a full study.
O4 Activity 2 Integrate into the overall synthesis the cross-project findings regarding re-use of urban wastes and any relevant additional findings from R8090.		MS 4.b Documentation of the synthesis findings by 30 September	

O4 Activity 3 Identify the implications of synthesis findings for research or policy regarding the PUI.	MS 4.c Documentation of the implications of synthesis findings. by 30 September	
Output 5. Findings of new knowledge communicated to potential users.		
O5 Activity 1 Identify the potential users of synthesis findings in DFID and IIED and in domain Y generally, along with their interests in PUI knowledge.	MS 5.a Submission of a draft Communication Plan before 15 May.	
O5 Activity 2 Create synthesis research products targeted at DFID, IIED, and other specific development agencies.	MS 5.b Creation of research products by 31 October	
O5 Activity 3 Create synthesis research products targeted at unspecific potential users in domain Y	MS 5.c Creation of research products by 31 October	
O5 Activity 4 Create additional R8090 research products targeted at local users.	MS 5.d Creation of research products by 30 September	
O5 Activity 5 Deliver research products to targeted potential users	MS 5.e Present synthesis findings to a DFID staff seminar before 1 January 2006.	
	Pre-condition	

11 Keywords

rural urban link, urban rural link, poverty, livelihoods, participation, markets, land, urban wastes