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Research into Use

Sierra Leone Country Assessment Report

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Petty trading at Daru Kailahun district

Photo: D.S. Suale

5th March 2007

1. Executive Summary

- 1.1 The RIUP has been established to maximise the poverty reducing impact of previous RNRRS (and other) research, and in so doing to significantly increase understanding of how the promotion and widespread use of such research can contribute to poverty reduction and sustainable economic growth
- 1.2 The key task of the RIUP Assessment Team has been to see whether arrangements can be put in place to add value to existing (and future) “new knowledge” from scientific and technological research in the agricultural/rural sector of Sierra Leone. The team was particularly looking for “windows of opportunity” to increase the demand for such knowledge by users of different types
- 1.3 The main organising principle is that of an *innovation system* which the RIUP has adopted as a major focus for its activities. Correspondingly the assessment has focused on identifying suitable *innovation platforms* to guide and manage interventions
- 1.4 The team began its mission on February 11th with a week’s round of interviews in the capital Freetown plus collection and review of relevant literature. Week 2 was spent up-country interviewing stakeholder groups in selected rural areas. Week 3 was spent back in Freetown on further visits and report drafting.
- 1.5 The team believe it important to recognise the special circumstances of the country. The recent civil war virtually destroyed its social, economic and institutional fabric. Major areas of rural society ceased to function economically, people migrated to the towns in large numbers (especially Freetown the capital) virtually halting agricultural production. Infrastructure like roads and energy supply were also destroyed. Corruption is endemic and the private sector and investment climate very weak.
- 1.6 In the rural areas the problems are fundamentally associated with poverty and feed upon each other in a vicious cycle of negative impact. Seeds, fertilizers, tools and other inputs are in short supply and subject to exploitative behaviour on the part of traders; access to markets is constrained by poor transportation, decrepit feeder roads (some impassable in the wet season); livestock was virtually wiped out and restocking is still only slowly taking place; capacity to engage in agro processing is limited. The capacity of government to help resolve these issues is weak.
- 1.7 Four windows of opportunities were identified. These are prioritised as follows:
 - Livestock enhancement and provision of complementary veterinary capacity
 - Assistance in post-harvest arrangements

- Establishment of micro credit and related facilities in rural areas
- Assistance in developing the operations of farmer field schools

Each of these show evidence of reasonable innovation platforms and all map on to each other quite closely, the difference lying in the main field of focus and perhaps on the most appropriate institutional entry point.

- 1.8 The opportunities that have been identified should start at very basic levels, focus on operations within rural communities and concentrate on improvements in incomes, empowerment, employment and market access
- 1.9 The lead agencies for innovation platforms should be INGOs and/or local NGOs or CBOs so as to ensure that drivers of change operate at rural levels. This is partly due to lack of adequate capacity at local government level and weak private sector activity.
- 1.10 Partnerships should include key RNRSS technology suppliers, CBOs,¹ research/academic bodies, private sector operators and local government agencies.
- 1.11 RIUP interventions should be subject at all times to close financial scrutiny with regular reporting and auditing arrangements in place.
- 1.12 Base line data should be collected in all cases to ensure effective M&E work.
- 1.13 For innovation platforms to be able to operate well all RIU programmes/projects should include a strong capacity building element. This will enable stakeholder groups to be brought up to speed as soon as possible.
- 1.14 In particular there is need to integrate the university and research sectors into innovation systems as an integral part of interventions. However, this should be done as much as possible by drawing such bodies in on the operational side rather than simply providing resources directly for R&D and related work.

2. Background and Country Specific Considerations

(i) Background

- 2.1 The RIUP was established to maximise the poverty reducing impact of previous RNRSS (and other) research, and in so doing to significantly increase understanding of how the promotion and widespread use of such research can contribute to poverty reduction and sustainable economic growth. It has collated outputs from DFID's previous Renewable Natural Resources Research Strategy (RNRSS), and other

¹ There may be instances where CBOs might be suitable lead partners. The team across a small number of instances where this could work but further investigation would need to be done before a decision was made

research based on their potential to contribute to sustained growth and poverty reduction. These comprise some 300 or so “best bet” technologies that could have generic applicability in sub-Saharan Africa and South Asia.

- 2.2 The key task of the Assessment Team has been to see whether arrangements can be put in place to add value to existing (and future) “new knowledge” from scientific and technological research in the agricultural/rural sector of Sierra Leone. The team was particularly looking for “windows of opportunity” to increase the demand for such knowledge by users of different types. In other words there has been a strong focus on innovation to assess whether and to what extent new DFID funds (managed by the RIUP) can promote innovation and in this way contribute to sustainable development, particularly in rural areas.
- 2.3 Central to this process is the notion of an *innovation system* which the RIUP has adopted as a major organising focus for its activities. The innovation systems model has increasingly come to be used in relevant policy circles in order to understand better the complexities of knowledge-led development. Its main message is to broaden the institutional context of “knowledge generation and use” beyond formal research infrastructures to include also the wide range of stakeholder groupings that play key roles. These potential “*innovation platforms*”² include particularly the private sector, LNGOs, INGOs, public sector agencies, research bodies, community organisations and related groups. The assessment team sought to identify potential innovation platforms and related entry points that would allow the RIUP suitable opportunities for investment over the coming 4 years.

(ii) *Methodology*

- 2.4 The Sierra Leone Team used a recently completed World Bank study as a basic methodological source³. This study showed that it is how well such groupings are networked that often determines the success of innovations in the agricultural sectors of very poor countries. In particular the methodology specifies the:
- (a) Actors, roles they play, and activities in which they are involved:
 - (b) Enabling environment (policies and infrastructure):
 - (c) Attitudes and practices of the main actors:

² An “innovation platform” has been defined by NR International as “A network of partners, working on a common theme and using research knowledge in ways it has not been used before to generate goods/services for the benefit of the poor”.

³ See World Bank (2006). See also Arnold and Bell (2001). For a detailed account of the development of innovation systems approaches in the RNRRS CPHP see Barnett (2006)

(d) Patterns of interaction among them;

2.5 The team began its visit on 9th to 11th February when it met up in Freetown along with a representative of the RIU management team. He had been part of an earlier scoping visit in November 2006. The first week was spent reviewing literature and in identifying and visiting a range of organisations and individuals whose views would be important to the assessment. Details of these may be found in the Annex.⁴ In its interviews the team explained the nature of the mission and explored what are the likeliest “windows of opportunity” for productive engagement on the part of sectors/groupings that are likely also to create jobs and have long-term development effects. Environmental and poverty considerations were also be important criteria.

2.6 However, it quickly became clear that whatever we were being told in Freetown would need to be tested by visits to the field. This was partly because we were assessing mainly the agricultural sector. But it also reflected a growing concern about the validity of some expressed views. Accordingly the team split into two, one visiting the south and east of Sierra Leone, and the other the north and west. These visits took place over the second week. The objectives of the field trip were to:

- Collect first hand information on and from agencies (international, civil society organizations and ‘grass root’ community based organizations); working at regional, district and village levels, in the areas of poverty reduction, food security and natural resources management
- Verify the track records of major agencies working with a randomly selected targeted community groups in the areas of crop and livestock production, research – extension – farmer – input supply – processing & marketing linkage systems, the farmer field school programme, micro credit, and capacity building; and
- Assess the prevailing situation of the poor, hungry and marginalized (voice of the underprivileged) and to identify the windows of opportunity for RIUP engagement/collaboration.
- Focus on identifying key stakeholder groups and assessing the extent to which they could form suitable innovation platforms.

2.7 The team used a combination of participatory methods; key informant interviews (KIIs) and focus group discussions (FGDs), which facilitated the full participation of all partners/stakeholders in the review process. Accordingly the team split into two, one

⁴ Preliminary work had been done on this by the pre-assessment visit in November 2006 and a range of people/organisations identified.

visiting the south and east of Sierra Leone, and the other the north and west. These visits took place over the second week. They focused on identifying key stakeholder groups and assessing the extent to which they could form suitable innovation platforms. In some cases it was possible to pre-arrange interviews either through District Agricultural Co-ordinators or through the equivalent officers of CBOs such as women's groups and farmers associations. In these cases the meetings were quite large (in one case over 300 people were present) since most stakeholder representatives appeared from some distance around. In other cases visits were *ad hoc* and smaller in scope. The team then re-convened at the end of week two to assess its evidence and plan out the rough first draft of the report. A final round of visits took place during the re-drafting period in week three.

(iii) Country Context

- 2.8 The team believe that it is important for the RIUP to recognise the special circumstances of the country. Sierra Leone has recently come out of a devastating civil war that virtually destroyed its social, economic and institutional fabric. Major areas of rural society ceased to function economically, people migrated to the towns in large numbers (especially Freetown the capital) virtually halting agricultural production. Infrastructure like roads and energy supply were also destroyed.
- 2.9 Since 2002 therefore, the country has been starting virtually from scratch. A recent DFID report maintains that some progress appears to have made on fundamentals. For example, there is peace and security in the country, national and local elections have been held and improvements have been made in primary health and education areas. In addition the government has begun a process of resuscitating the rural areas through establishing a decentralization policy designed to boost the local economic activity. Nevertheless, the contextual conditions are poor. Corruption is widespread and this combined with stultifying bureaucracy, an inadequate judiciary, poorly developed financial institutions (there is very limited commercial banking outside Freetown) is having a strong negative impact on normal drivers of economic change, particularly foreign direct investment.
- 2.10 In contrast Sierra Leone has good natural resources and a favourable climate for sustainable production including a long coastal stretch from Kambia in the north to Sulima in Pujehun district in the south. A large stretch of grazing land is available for livestock production; Seventy five percent (5.36 million hectares) of the country's 72,000 square kilometers land area is arable land, comprising:

- Uplands – 4.30 million hectares (80.2%), suitable for cultivation of a variety of crops under rain fed conditions.
- Inland Valley Swamps – 0.63 million hectare (11.8%) with possibilities for irrigation and multiple cropping.
- Mangroves – 0.20 million hectares (3.7%), subject to sea water flooding and suitable for rice cultivation.
- Riverain Grasslands – 0.12 million hectare (2.2%) suitable for mechanical cultivation of rice.
- Bolilands – 0.11 million hectare (2.1%) seasonally flooded and also suitable for mechanical cultivation
- Three to four thousand millimeters annual rainfall, spread over six months. The temperature is tropical (23 – 28 degrees centigrade);

2.11 A wide range of food crops are grown under the upland bush fallow system. Sorghum, millet, maize, cassava, beniseed and beans are the associated crops grown with rice. Most farmers sow a first crop of rice after clearing the bush, while the other crops follow. There are regional differences: with the south and east growing a wider range of crops and the north relying mostly on rice, cassava, some millet and sorghum. Lowlands are generally cultivated to crops, particularly rice, in pure stands.

2.12 There are clearly many opportunities for major innovation in Sierra Leone such as in tourism for example, but so difficult is it to break through the bureaucratic system that incentives for risk-taking are weak. Entrepreneurs tend to seek soft international loans as a means of minimizing such risks. The private sector more generally is confined to the import, trading, diamond and construction sectors most of which is tightly controlled by “non-indigenous” communities like those of the Lebanese and other Asian groupings (with high-level political support), virtually excluding African communities from participation in meaningful economic progress. As a result most Sierra Leoneans rely on petty trading, small scale agriculture and diamond digging, most of this informal. In consequence the major donors such as the World Bank, the EU and DFID are presently concentrating their efforts on macroeconomic support and institutional reform, particularly on governance structures.

2.13 In the rural areas the problems are fundamentally associated with poverty and feed upon each other in a vicious cycle of negative impact. Seeds, fertilizers, tools and other inputs are in short supply and subject to exploitative behaviour on the part of traders; access to markets is constrained by poor transportation, decrepit feeder roads (some

impassable in the wet season); livestock was virtually wiped out and restocking is still only slowly taking place; capacity to engage in agro processing is limited. The capacity of government to help resolve these issues is weak. For all of these reasons the opportunities for RIU intervention must start from the lowest possible level.

- 2.14 The assessment team's visits to the rural areas broadly confirmed this diagnosis. Wherever it went it came across examples of ruin, destruction and neglect. For example, the Rice Research Institute at Rokupr in the north of the country is now virtually moribund⁵. All the laboratories are denuded of equipment; these and other office buildings are blackened and empty shells. There remains one scientific officer on site conducting some residual field trials but it is hard to avoid the conclusion that virtually no serious research is being done since no results of this research have been published. Nor is it likely that they ever will be. A similar story can be told of the large animal research station at Makene, which we were told was at one time the main institute for livestock research and enhancement for West Africa. Again there remains just one livestock veterinarian assisted by a technician. But the facility has practically no funds and appears to be eking out an existence assisting local farmers deal with their livestock problems. Similarly the agricultural university at Njala in Moyamba district has very limited laboratory facilities and although things are now beginning to improve, students conduct practical work mainly in the field.
- 2.15 In the industrial sector conditions are no different. The team was told of a palm oil factory in the bush near Rokupr in the north. It spent some 1½ hours finding its way to the plantation but again the factory is a burned out shell. Its contents may be useful for scrap metal but even this may be hard to extract because the feeder road is in poor condition with bad gullying and surface drainage. It is probably impassable in the wet season. The plantation functions by selling palm fruit to local people who use it to make products like palm oil using open cooking pans⁶. A major iron ore mining complex at Rogbere, some 100 miles north of Freetown is in a similar state although the team has been told that a British company (London Mining Company) has just recently been granted the rights to exploit the deposit. Again the amount of investment and lead time needed look considerable and it is likely that complementary funding will have to be forthcoming from an international source such as the World Bank.

⁵ Though this was not an obvious assertion of the senior scientists in Freetown

⁶ A similar defunct plant was visited in the east near Bo.

- 2.16 In fact the team came across only one example of large scale agro processing that is functioning. This is a sugar factory rehabilitated by a Chinese company which started operations in 2005. The firm employs some 200 staff. It sells brown sugar for export to Europe, white sugar on the local market and converts molasses to alcohol that is bought by people in the surrounding area. The bagasse is used to power the plant's steam boilers for sugar refining but there has been no attempt to engage in combined heat and power activity. Nor apparently are there any plans to engage in bio diesel manufacture. The plantation looks well organized, though the team was only able to spend a short time at the facility.
- 2.17 At a smaller scale level the team also came across an interesting agricultural engineering company operating on the edge of Freetown. This small firm is designing, manufacturing and supplying a range of agro processing equipment from rice hullers, gari processors and cassava presses to simple transport equipment like tricycle carriers. The owner was originally an automotive technician who went on to receive further mechanical engineering training in Germany. Most of his designs are based upon the use of automotive parts since these are easily accessible in Freetown and they are tailored to the special requirements of poor farming communities. His equipment is used by a variety of groups (particularly INGOs) and he accesses limited government funds (some \$6,000/ann) to provide technical training to youths (an intake of 40 students a year for a 3-year course). The team recommend that serious thought be given to incorporating this firm⁷ into whatever interventions are decided upon by the RIU.
- 2.18 A second major problem confirmed by the team is that of transportation. Some progress has been made on the main arterial roads to the north and east of the country but this still leaves large swathes of the country reliant on a network of dirt feeder roads that are in poor condition. Combined with inadequate transportation facilitation access to markets becomes a major constraint, a constraint that increases with distance from the main road network. The main issue here is one of how to deal with surpluses at the end of growing seasons that cannot be immediately consumed or stored since marketing becomes a big problem. A third issue is that of energy supply. Even in Freetown the electricity grid barely functions. In the rural areas such electricity as is used comes from generators. The Bombona dam near Makene will probably help to deal with some of the problem but it is unlikely to start operations before the beginning of 2008.

⁷ There are probably three to four similar operations around the country including that run by the Cotton Tree Foundation at Rogbere. See Annex 1/15

- 2.19 The other important factor that seems to be having a negative effect is the extent to which political and rent-seeking behaviour affects attempts to improve livelihoods. This is an endemic problem that pervades Sierra Leone society particularly where publicly administered resources are concerned.

3. Opportunities for RIUP engagement

- 3.1 Despite this relatively bleak picture there are a number of areas where innovations could make a big difference. More details of these are contained in the Annexes. Many of these opportunities should be classified not as introducing new knowledge in a global sense, but rather new to the communities concerned⁸. In addition they are areas where innovation platforms already exist at some level and show possibilities for enhancement. Hence in practice many of the initiatives suggested below would map on to each other since in all cases they would involve adding value to existing (if somewhat embryonic) platforms. The difference would tend probably to lie in the entry points at which RIUP could begin to get involved. In all cases this would involve further visits to establish partnerships (see discussion below).
- 3.2 In some cases the opportunities cut across lead stakeholders. For example, four INGOs act as a consortium (CORAD)⁹ focusing each on specific regions of the country. Presumably any one of the CORAD consortium could act as the main partner for opportunity 2¹⁰. Similarly there are two other groups¹¹ in the east who are doing similar work to the St Joseph's missionary group highlighted under opportunity 3. This group would also benefit from close linkage with the Cotton Tree Foundation (see Annex 1/15). Again many of the INGOs are making use of farmer field schools as "building blocks" for their subsequent capacity building activities. Indeed their approach to farmer field schools seems to be more community-led than those managed by the groups mentioned under opportunity 4.
- 3.3 The opportunities outlined below do not specifically include sectors that were originally envisaged by the team, like cocoa, fisheries, tourism and forestry for example. This is partly due to the highly restrictive overall investment climate alluded to above plus a

⁸ This point is stressed by the World Bank report as being an important feature of innovation systems interventions.

⁹ The two visited were Africare and World Vision International. See Annex 1/11&13

¹⁰ Indeed there is we believe a lead agency for the CORAD consortium

¹¹ Like ADDO or MIA for example. See Annex 1/3&4

very weak and circumscribed private sector. In fisheries, for example, with one exception production is almost completely artisanal and heavily circumscribed by illegal industrial fishing by foreign fleets. Local storage facilities are rare and what there are appear to be used for the sale of ice to street vendors of soft drinks. Most of the catch is either sold directly or smoked for later resale. In cocoa the team were not able to explore the sector due to lack of time.

3.4 *Opportunity 1---Livestock and Veterinary Services Interventions*

- 3.4.1 In all regions visited there were expressed wishes for help in re-establishing livestock as integral components of farming systems. This was simply wiped out during the war. There was special emphasis given to poultry and small ruminants but mention was also made of pigs, rabbits and cattle. The main animal breeding centre at Makene was destroyed during the war, as were most of the facilities at the Institute of Agricultural Research (IAR) at Njala. Indeed all research/teaching organisations abandoned in-country activities and relocated to Freetown, mainly to poorly furnished and unsuitable facilities. There are, however, efforts being made to re-establish facilities on the original campuses (see below) so that both the IAR and the university could form part of new RIUP-sponsored innovation platforms.
- 3.4.2 The agricultural university at Njala plans to restart operations on the original campus in September on the same campus and includes degrees in animal science¹² in its School of Agriculture. There are also new animal husbandry facilities planned to be established. However, there are still no facilities for veterinary training, treatment regimes, laboratories for storing vaccines and drugs, and research facilities needed to deal with new diseases. Nevertheless there are a range of initiatives taking place across the country, initiated and managed mainly by INGOs all of which could benefit from assistance of this kind. The partners would be research institutes, university departments, extension agencies, community groups (especially women's groups) and farmers.
- 3.4.3 The advantages of this opportunity would be to build appropriate capacities needed to backstop improvements for very poor communities. Currently for example, new diseases like PPR (a viral disease similar to rinderpest) and coxidisiosis are beginning

¹² Both the IAR and the university moved to Freetown during the war

to affect the introduction of livestock. Many of these diseases could be controlled with timely vaccination and drug administration but resources will be necessary to achieve this.

- 3.4.4 Potential RIUP outputs that will result include new capacities in veterinary practice, improved livestock production, a wider set of opportunities for poor farmers, and help to rebuild much needed capacity within the research and teaching sectors. It would also include capacity enhancement of community animal health worker (CAHW) provision and establish linkages with cognate groups across Africa.
- 3.4.5 Some of the technologies and processes developed by the RNRSS Animal Health Programme appear well-suited to rolling out in this area, particularly the e-learning scheme (AUVEC) and other livestock work summarised in the source CD. In the AUVEC case complementary resources will be needed for distance learning to take place. Perhaps an approach to a body like the UK Open University might pay dividends.

3.5 *Opportunity 2—Assistance in post-harvest arrangements*

- 3.5.1 One of the major issues in Sierra Leone lies in an inability to deal with agricultural surpluses at the end of the growing season. For example the team were told of many instances where produce such as cassava that cannot be immediately consumed is left to rot. The problems are poor transportation, bad feeder roads, a lack of agro-processing facilities and ineffective marketing processes. The CORAD group of INGOs have formed themselves into a consortium to assist in these areas. Each partner focuses on a specific geographical region but they coordinate their work in a general food security drive in the Koinadugu, Kono and Kailahun regions. This approach emphasises improved market information, transportation such as the provision of tricycle trolleys, storage and processing facilities. In all these areas technologies developed by the RNRSS could be used as potential inputs to the work of the CORAD group.
- 3.5.2 Preliminary discussions indicate that these INGOs are well managed with good financial control and accounting arrangements and reporting structures. They are well funded and have been granted a further 3 years money by donors to roll out interventions to a wider group of communities in their respective areas. They also appear to have good working arrangements with central and local government

- 3.5.3 The advantage for RIUP would be that it would be partnering with a progressive on-going activity that has been sanctioned by donors and whose operations are well managed. Assistance at the technological end would certainly help to add value to what is already a progressive set of activities. In addition some of the assistance in transportation and processing get their inputs from local production sources (in Freetown). This will certainly help in capacity building backward linkages. The down side is that there are few links with the formal research sector. However, this is a generic problem in Sierra Leone. Indeed it could be seen as an opportunity for the RIUP to build relevant capacity and so improve innovation systems.
- 3.5.4 RIUP outputs would be mainly technological and capacity building both at the delivery end and at the R&D end. They would include levels of physical investment in crop management, storage and processing, increased acquisition (and lower prices) of locally sourced inputs and better linkages with the research/university sector.

3.6 *Opportunity 3---Establishment of micro credit and related facilities in rural areas*

- 3.6.1 A third entry point where the RIUP could make a difference is in the establishment and operation of micro credit facilities where the team came across a small number of initiatives. For example, a technical institute run by catholic missionaries in the north-west of the country has started operating a phased scheme of community-based development which is aimed at empowering rural groups (especially women and youths). The institute (which has been operational in some form since before and even during the war) employs 5 extension staff and one supervisor on this development scheme. It started 4 years ago, by sensitising communities to possibilities for seed rice loan recovery principles (so many bushels of seed rice lent and so many paid back), providing loans to agricultural household heads (FFHs) on a seasonal basis with pay back plus interest at the end of the season.
- 3.6.2 The system operates on the basis of monitoring FFHs over a 3-5 year period to ensure recovery and the response appears to have been very good. The interest is accumulated in a special account which is used both to extend the scheme to new FFHs and to build up common pool resources for the villages concerned (in a community fund). In fact most FFHs have been able to pay back at a rate of 50% and currently around 88 beneficiaries in 25 communities have benefited from the scheme. There are good networks with INGOs such as CRS and donors such as the Italian government. The

institute is reasonably equipped in terms of machinery and tools for training purposes but some of this could do with upgrading.

3.6.3 The advantages of this scheme are potentially many. Availability of good quality seed is a major problem in a country for which rice is a staple crop. Exploitation by unscrupulous agents has been a widely felt issue in recent years confining communities to an endless cycle of subsistence farming and poverty. The build-up of social capital through empowerment of marginal groups is a third advantage. In addition the scheme provides an opportunity for the institute's graduates to offer investment services to improve infrastructure (construction, irrigation etc) and agro processing facilities, thereby improving employment and income generating possibilities (and hence markets) in the rural areas. Another advantage would be that an RIUP input could make a difference with relatively limited inputs of resources. It might also help to re-establish the work of the Rice Research Institute (RRI) in nearby stations. As outlined above the RRI is in a moribund state and needs to be re-integrated into relevant innovation systems.

3.6.4 Potential RIUP outputs would be in helping to build up the technological basis for the empowered communities through improved crop management, rice intensification schemes, mechanised input provision, agro processing and other technologies that have been developed by the RNRRS (for example some of the rice research conducted by NRI). Quantitative measures would include improvements in income and common pool resources at community level (e.g. levels of bank accounts), marketed surpluses, and numbers of communities reached. Outputs would also include rebuilding relevant capacity in the research sector.

3.7 *Opportunity 4---Assistance in developing the operations of farmer field schools*

3.7.1 Considerable assistance is now being offered in the form of support for farmer field schools, a form of agricultural extension originally stated in rice growing areas in South Asia. The main actors here are the FAO, UNDP and some INGOs such as members of the CORAD group. Interviews were held with all three sets of actors and it is clear that here too is a potential entry point for RIUP activity. The farmer field schools programmes started soon after the ending of the war in 2003. They operate through a staged programme of training facilitators who then create the farmer field schools in collaboration with progressive community groups, backstopping operations through

field co-ordinators. Farmer field schools usually consist of around 25-30 members and schools engage in a wide range of activities, going beyond those originally envisaged (upland rice, lowland rice, vegetables, poultry and aquaculture).

- 3.7.2 They are now involved also in cassava, groundnut, sweet potato, beans and maize, thus covering most relevant rural activity. By mid-2006 there were over 500 such schools operational and according to a recent ODI evaluation report the indications are that they are economically successful.¹³ Relations with government appear good in the sense that district agricultural coordinators (the main local governance officials) leave the field staff to get on with the job without undue interference.
- 3.7.3 On the negative side there was some indication in our interviews that schools function more in a “teaching” rather than an “interactive” mode.¹⁴ They operate mainly on the technical side and do not have training on issues like community empowerment or organising communities for input purchase and marketing. Moreover there is also evidence that many farmer field schools do not link much to each other. For these reasons this opportunity represents the lowest in the team’s ranking. This incidentally is claimed not to be the case with the farmer field schools operated by the INGOs who appear to operate in a more holistic way. These schools are used as core building blocks of wider clustering arrangements through which communities are organised into bulk purchase, processing, marketing and micro credit operations (see discussion above).
- 3.7.4 The advantages of this opportunity for the RIUP are that it would partner with an on-going operation that is well organised and managed. There would also be opportunities to build capacity at research sector and extension training level at Njala University, the RRI and the IAR. The disadvantage is that many of the FAO/UNDP operations are already technological in orientation and are operating at a scale that may be beyond the efficient use RIUP resources. Very probably the RIUP would be advised to opt for one of the first three opportunities many of which also connect to farmer field schools in any case.
- 3.7.5 As before RIUP outputs would be mainly technological and capacity building both at the delivery end and at the R&D end. They might include increasing the number of farmer field schools established, improved productivity and incomes of existing farmer field schools, better trained extension staff, improved equipment provision for the

¹³ See Longley et al (2006) for an excellent summary of the position last year based on a sample evaluation in 3 regions.

¹⁴ A view confirmed by the ODI report cited above, p v.

research sector and improvement in linkages between the research sector and other partners.

4. Process and timetable to develop a strategic plan and detailed implementation proposals, including processes to ensure national and local ownership

4.1.1 The strategic plan for each opportunity would probably not vary much across the opportunities identified but might operate in the following way. In each case a lead partner would be selected to act as the focal point for the relevant innovation platform. Its function would be:

- Administer the resources supplied by the RIUP, ensuring proper financial management and reporting procedures.
- Liaise with UK “supply” partners on establishing the nature, location and management of project activities
- Be responsible for establishing a formal group (or groups) of stakeholders that would comprise that platform
- Establish operational linkages with collaborating partners
- Establish benchmarks and milestones for project activities. This would include especially base line data to enable M&E work to proceed efficiently as time went on.
- Identify areas where capacity building should take place and organise appropriate activities in collaboration with RIUP management.
- Maintain good relations with government infrastructures (probably through the District Directorates of Agriculture)

4.2 Timescale of operations

Stage 1 (say end May 2007): Choice of which opportunities to follow up. This would be done by RIUP management in the light of assessment team reports from all countries, having in mind other factors of relevance such as most suitable “best bet” technologies and lead UK institution(s). It might mean a follow-up visit but that would probably not be necessary (could it be handled by DFID country office, if it were?).

Probably this could be decided soon after the Advisory Committee meets and the inception report is agreed by DFID CRD.

Stage 2 (end July 2007): Choice of lead partners in Sierra Leone. It might be advisable at this stage to solicit proposals from candidate groupings. It would also mean a follow-up visit to ascertain in more detail capabilities in country and discuss the nature of the inputs local partners would wish to access from the UK partner, management/reporting procedures, budget levels, time scales, agreed benchmarks etc.

Stage 3 (end September 2007): Completion of agreements. This stage would include ensuring all necessary regulatory procedures are agreed with the relevant governance bodies in Sierra Leone. As outlined above project management would follow a normal reporting schedule with regular visits by the UK partner to backstop technology development.

5. Further investigations/visits required to develop implementation programme

- 5.1 In all cases outlined above the RIUP would probably need to establish a relationship with on-going activity and set up appropriate partnership arrangements. Such arrangements would include measures to ensure local ownership is maintained. Specific arrangements would certainly involve further visits.

6. Potential regional opportunities which would complement national opportunities

- 6.1 The recommendations made to the RIUP are entirely in keeping with the broad thrust of the CORAD/WECARD draft strategic Plan published in January this year. This document supports an aim of technology development that complements the innovation systems position adopted by the RIUP in terms of competitiveness, agricultural productivity, market access and related issues.¹⁵ It is also in keeping with the objectives of the NEPAD/CAADP process and cognate activity within FARA.
- 6.2 In addition the University of Njala has begun a series of arrangements with foreign universities (including three in Africa) that are designed to improve its facilities. These include especially split postgraduate training courses in which students carry out research components abroad, returning home to write up and submit.

¹⁵ See CORAD/WECARD (2007)

- 6.3 The Ministry of Agriculture and Food Security (MAFS) is beginning a partnership with the IFAD and the AfDB to enhance all aspects of rural development¹⁶. The project is worth some \$31 million and is focused on precisely the same areas targeted by this assessment team. For this reason it is recommended that the RIUP develops linkages with this project for all its interventions in Sierra Leone.

7. Conclusions and recommendations

- 7.1 This assessment report may well be rather different from those carried out in other African countries for the simple reason that the conflict which ended in 2002 virtually put a stop to most activity beyond the most basic of subsistence agriculture. Physical infrastructure, industry and social capital were destroyed, institutional structures seriously damaged and population migrated in large numbers to the capital Freetown. As a result Sierra Leone is only now beginning to recover. However, the team believe that there are now real opportunities for innovative change, not least paradoxically because it is often easier to start re-building from a low base.
- 7.2 The opportunities that have been identified should start at very basic levels, focus on operations within rural communities and concentrate on improvements in incomes, empowerment, employment and market access
- 7.3 The lead agencies for innovation platforms should be INGOs, CBOs¹⁷ and/or LNGOs so as to ensure that drivers of change operate at rural levels. This is partly due to lack of adequate capacity at local government level. Partnerships should also include key RNRRS technology suppliers, research/academic bodies, private sector operators and local government agencies.
- 7.4 RIUP interventions should be subject at all times to close financial scrutiny with regular reporting and auditing arrangements in place
- 7.5 For innovation platforms to be able to operate well all RIUP programmes/projects should include a strong capacity building element. This will enable stakeholder groups to be brought up to speed where necessary.
- 7.6 In particular there is need to integrate the university and research sectors into innovation systems as an integral part of all interventions. However, this should be

¹⁶ The two activities involved are named as (i) Rehabilitation and Community Based Poverty Reduction Scheme (RCPRP---IFAD/MAFS) and (ii) Agricultural Sector Rehabilitation Project (ASREP---AfDB/MAFS)

¹⁷ There may be instances where CBOs might be suitable lead partners. The team across a small number of instances where this could work but further investigation would need to be done before a decision was made

done as much as possible by drawing such bodies in on the operational side rather than simply providing resources directly for R&D and related work. The team came across significant evidence of *mode 1* approaches to research and teaching activities, so much so that it would probably be counter productive to channel funds directly through these institutions. Rather the team recommend that ways are found to channel funding directly to field operations and to encourage the research sector to buy into developing innovation platforms.

- 7.7 Having said this there is undoubtedly need for the sorts of facilities normally needed for research and teaching to function properly, but as emphasised above, provision of such facilities should be as an adjunct to operational needs driven by community and farmer demand. How to manage this will be a challenge to the RIUP but one that is well worth the effort in the team's view.
- 7.8 The opportunities for technology development will require complementary funding for facilities like feed mills (for livestock), processing plant (e.g. for gari), improved feeder roads for market access etc. It is clear that support for operations such as the private sector (and other) engineering firms mentioned earlier, could leverage significant improvements at field level. The RIUP will need, however, to make decisions about how far its budget will allow it to move beyond the purely technological arena. In some cases partner bodies will be able to provide this but we suspect that this will not always be the case. Perhaps the RIUP could approach other parts of DFID for complementary resources to assist technology development in this sense.
- 7.9 More generally whatever opportunities the RIUP eventually decide upon should recognise and plan to enhance the essential linked nature of interventions.

8. Annexes

Annex 1 Summaries of selected field visits

The following accounts have been selected to give the RIUP an indication of the kinds of data acquired during the team's mission. They are not comprehensive but give a reasonable flavour of what the team found.

1. Institute of Agricultural Research – Dr. Abdulai Jalloh

- The institute was established in 1984 after the phasing out of the ACRE project to continue with research and extension activities in the following mandated crops – cassava, sweet potato, maize, cowpea, yam, groundnut and soybean.
- The focus areas include research in crop improvement, nutrition, agronomy, natural resources management, extension and socio-economics.
- Participatory Varietal Selection (PVS) form the main basis of the varietal selection programme involving the farmers from the onset.
- The link with the FFS is very weak and needs considerable improvement;
- Research – Extension – Linkage found to be very weak i.e. areas of collaboration not formalised;
- Inputs, processing, marketing, savings and credit are key areas that influence farmers adoption of new technologies/research findings. These were found to be limited or even absent within several farming systems in the visited areas;
- The windows of opportunities mentioned include biotechnology; strengthening research – extension - farmer – input – processing/marketing – savings and credit linkage systems, soil analytical work, soil conservation, water harvesting and aquaculture,
- Most of the scientists are back to the research station and some limited work is in progress.
- The team took a drive around Njala University campus to see what progress is made on the rehabilitation work. Tremendous work has been done putting up the infrastructure to facilitate the immediate return of the students and the lecturers.

2. Farmer Field School – P.K. Masuba NAFSL Chairman, Kamajei Chiefdom Moyamba district.

- The FFS is established in Gbongeh with a membership of 25 – 9 females and 16 males. They are involved in vegetable gardening and fishpond. There was nothing much to see on the demonstration field. The team observed some deviation from the philosophy of the FFS, i.e. researchers at Njala, a few miles from the fishpond were not even aware of its existence.
- The fishpond established failed as a result of lack of knowledge in fishpond management, and shortage of water in the dry season. Poor feeding also contributed to the poor harvest realised (stunted fingerlings);
- Farmers of this area have identified livestock production, especially in the areas of small ruminant and swine production, as a window of opportunity. But the team feel feeding for these livestock must be adequately addressed before going into the enterprise.

3. Arch Diocesan Development Organization (ADDO) – Fr. Peter Konteh - Coordinator

- ADDO is the development wing of the Catholic Church providing humanitarian and development assistance to vulnerable communities.
- Have developed a 3-year strategic plan in a participatory manner focusing on the parish's catchment community.
- The major donor is Caritas Germany. This seems to be very risky (sole donor). Outsourced funding locally is through bilateral agreements with CRS and other donors.
- Partnerships with local Caritas organizations, CRS, UNHCR, Caritas West Africa regional office, CordAid and NaCSA.
- Provide communities with seeds and tools, cassava cuttings, sweet potato vines and post harvest support in the area of cassava processing. Support 1151 farm families and 248 groups.
- Limitations – human resource development, logistics (vehicles and office equipment).
- Needs more technologies to be able to reach the poor and very much interested in FFS activities.
- Windows of opportunities identified are in the areas of staff and farmer capacity building, outreach activities possible in all development areas, as agency has own extension agents, the provision of relevant technical and market information on major crops, and institutional building.

4. Manjama Institute of Agriculture (MIA) – John Bosco Musa Executive Director

- Established in 1985 in Bo with the aim of contributing to national development through the provision of skills for middle level manpower. Situated in a peri-urban area.
- Target 50 students per annual. 17 staff members employed with qualifications ranging from MSc., BSc., and HTC.
- The focus areas include agriculture, animal husbandry, food and nutrition, carpentry and metal work, the repayment rate of the loans is usually 90% on average.
- Limitations – lack of learning and teaching materials, equipment for practical work in carpentry, metal work and food and nutrition.
- Windows of opportunity – provision of settlement loans to outgoing students, feed mills (2-300,000 USD), micro credit facilities for farmer groups assisted by institute.
- Resource centre, aquaculture, livelihood activities, hatchery system to improve local poultry production.

5. Moamuwah Women's group (MWG)– Mamie Wai – Chairlady and executive members

- The Manjama Institute of Agriculture (MIA) largely supports this group.
- The name Moamuwah means “we came”. They are strangers and do not own land (landless women). The group comprise of 112 women representing different families.
- They are engaged in crop production, soap making, gari, tie-dyeing, backyard gardening.
- Limitation – Land acquisition
- Windows of opportunity –Land acquisition, small ruminants and vegetable production.

6. Farmer Field School – Daniel Koroma – Facilitator

- The name of the FFS is Mabohinanday located a mile outside Kenema (Bandama in the Small Bo chiefdom). Supported by Operation Feed the Nation (FAO and MAFFS)
- The group size is 18 members. The size is small because of the lack of interest from other community members.
- The size of the plots is 150 ft x 150 ft.
- They grow crops like maize, cucumber, tomato, okra, and cowpea. They also manage fish ponds.
- Fertilization – applied both organic and inorganic fertilizers.
- The women who were interviewed by the team indicated that they have not started applying the techniques or replicated the skills learned on their farms. They spend more time on the field school site because they do not own land.
- The fish grown in the fish ponds is tilapia and the yield is encouraging. The water control is perfectly done.
- Limitation – lack of access to micro credit facility.
- They also have 2 other FFS at Tanninahun and Fabaina all in the Kenema district.

7. The Lutheran World Federation – Holima A. Samai Regional Programme Officer

- The Lutheran World Federation Department of World Service (LWF/DWS) started its activities in Sierra Leone in 2000 following the invitation from the Evangelical Lutheran Church of Sierra Leone (ELCSL) and endorsed by the Government of Sierra Leone (GOSL). In the beginning of LWF/DWS operations in Sierra Leone, support was given to the ELCSL's relief operations, which were linked to relief and rehabilitation activities conducted by the Council of Churches in Sierra Leone (CCSL). The LWF/DWS programme in Sierra Leone was initially managed by the LWF/DWS programme in Liberia until 2002. The ELCSL is the host organization for LWF/DWS in Sierra Leone and strategic and management issues are discussed in a Joint Coordination Committee (JCC).
- A planning document for the period 2006-2008 has been developed referred to as Integrated Community Empowerment Project focusing on community empowerment, agriculture and food security, small micro enterprise development, advocacy and human rights, environmental management, peace building and conflict resolution, HIV/AIDS and adult literacy.
- Windows of opportunity – environmental management, swamp development for the cultivation of rice, sweet potato, maize and groundnut etc, partnership and micro credit support to women and youth groups.
- Will work with FFS in their new dispensation.

8. Finnish Refugee Council (FRC)– Rashid Bah – National Coordinator

- It was a very interesting meeting. FRC is a Finnish NGO focusing on development research and strategy.
- Implement through local non-government organizations. FRC provide funds to LNGOs in order to reach the poor rural for poverty alleviation and economic equity.
- The areas of support include education research e.g. traditional indigenous knowledge can augment modern knowledge, adult education (non formal), and transfer of technology.

- FRC provide support in the area of micro credit.
- Limitation – corruption practices of partners
- Windows of opportunity – Disease prevention, quality seed supply, study of farming systems to cater for more upland and lowland cultivation e.g. rice, groundnut, maize, cassava and sweet potato and indigenous languages.

9. Movement for Assistance and Promotion of Rural Communities (MAPCO) – Abdul Karim Kamara – Admin/Finance.

- We were very much impressed during the interviewing with the well grounded knowledge on the activities undertaken by the programme.
- MAPCO was established in 1986 in the form of cooperative organization to provide assistance to Malen chieftdom hence previously named Malen Producers Cooperatives.
- The programme is now upgraded targeting more communities in the country.
- The objective is to render assistance to marginalized communities.
- The key areas of intervention include skills empowerment in the fabrication of local tools, weaving, tailoring, food processing, capacity building through training, micro credit etc.
- Limitation – funding and civil society challenges on issues like child abuse and GBV.
- Windows of opportunity - marketing, market research, feeder roads, micro credit, fisheries etc.

10. Leleima Women Development Association (LWDA)– Kadiatu Jusu Programme Coordinator

- This is a CBO with the following motto “to work for the less privileged”.
- The group is categorised into three wings the women, youth and micro credit wings. The number in the group is 450 from seven communities including Mano, Samie, Koribondo, Bendu, Gbangama and Kakua. 70% of these are widows.
- Received support from FAO, ROPPA (Peasant farmers for the production of cotton in West Africa) and CEDA (Community Empowerment and Development Association).
- They are involved in the following activities farmer field school, adult literacy, seed rice production, vegetable garden, maize, groundnut etc.
- They cultivate 10 acres of cotton as raw material for weaving. Required more capacity building for cultivation and processing. They lack the appropriate processing equipment.
- Have established over 500 acres of oil palm plantation.
- The cassava processing equipment (grater machine) was loan to the group by FINIC a private sector company based in Freetown.
- Limitations – lack of tools and equipment for the cotton industry, palm nut cracker, power tiller for swamp rice cultivation, training in food processing, late supply of inputs, lack post harvest facility, lack support for the rehabilitation of tree crops, rodents etc.
- The micro credit is supported by CEDA targeting 49 members at Le 300,000 per person for 6 months duration. The interest rate is 2.5%. The repayment rate is 100%. Just started in January 2007. With more credit and saving facilities, the group can do a lot. This group could be a very good partner for RIUP engagement.

11. World Vision International (WVI)--Dr Tom Roberts, Agricultural Economist,

- WVI is a Christian humanitarian organisation which has traditionally provided relief support to the very poorest groups. In recent years in Sierra Leone it has begun to move into development mainly because of a perceived need to empower people and to help remove the dependency syndrome. The way this has been managed is to use farmer field schools as the building block for a livelihoods strategy that promotes capacity and institution building in the rural areas.
- Since 2004 they have been operating in chiefdoms (communities) in Kono, Bo and Bonthe districts and the programme has a 15 year time horizon since WVI believe that the process is a long-term one.
- The farmer field schools work in the following ways. In each community an assessment is made (through dialogue with communities) of the major production and related issues. These are then prioritised leading to specific FFS projects. The starting point is to train facilitators. This is done by WVI training staff (20) who are themselves agricultural graduates from Njala University. The facilitators then run the farmer field schools in each community using a selection of technologies that have been developed by the NARS (IAR) and tailored to local requirements and conditions. So far 700 farmer field schools have been established and 50 facilitators trained in the three districts. Facilitators are not paid but are given tricycle transport.
- The focal areas are agriculture, health, water/sanitation, micro enterprises and education (the schools are an important focal point). Technologies involved include seeds, agronomy, control agents, fertiliser, small transport systems (local fabricator is FINIC in Freetown) gari processing (automatic feeder) and rotary driers for crops. Most technologies used are adaptations of existing technologies.
- The focus crops are gari, rice, palm oil and cocoa. Farmer field schools are then clustered into input shops in each community. These act as marketing associations and multi-purpose co-operatives and are designed to create economic units for efficient buying and selling of inputs and produce.
- Finance is handled by micro-credit facilities started with small WVI grants but then managed by local micro finance (MFI) banks on a commercial basis. It seems to be the hope that many of these initiatives will mature into genuine private sector activities. The overall assessment could be as follows though many should be followed up in the field:
 - There are still considerable gaps for example in livestock provision and post-harvest developments which need filling
 - There is a premium on building up trust, relationships and mechanisms of accountability
 - Local MFIs appear to be willing to lend after seeing the start.
 - There may well be evidence of local trade development in rural areas arising from the multiplication of farmer field school based activities though that will need to be tested. This may help to deal with the marketing problem that is country-wide
 - Corruption is minimised by ensuring that authority figures are kept in an overall judicial position
 - There is a strong focus on the development of the private sector
 - There appears to be evidence of innovation platforms being established, albeit with weaknesses. For example, the NARS are reluctant to engage directly with farmers. Also though there is co-operation with the FAO farmer field schools the latter tend to be research sector driven.
 - Communities form local committees to manage affairs and these are linked into local councils and chieftainships

12. European Union-- Mr Andreas Laggis, Head of Operations

- This meeting was interesting mainly because it has confirmed the impression we have of a major set of obstacles to foreign direct investment. This involves many aspects but important factors include difficulties in obtaining licenses (290 days for one was quoted), local partnership requirements for all FDI regardless of local capacities and inability to own land.
- The EU is handling this in collaboration with other donors through the IGAP initiative. This is a phased programme of tying EU aid to benchmarks of good governance. There are many of these and we were given an embargoed paper with their specifications albeit at a rather general level. The implementation should begin in April and thereafter will proceed as well as can be expected.
- In terms of windows of opportunity he emphasised mining, agriculture (including cocoa), fisheries and tourism. In fisheries assistance is being provided to ease possibilities for export into the EU market in the longer term. In all cases there are huge opportunities that are compromised by the institutional context.
- Timber is not really a viable option just now.
- The EU is also helping to develop transport and energy infrastructure. A dam will be ready by the end of the year and assistance is being made available to the main local bauxite company to facilitate the development of local facilities in renewable energy and aquaculture.

13 Africare---Casimir Chipere-Country Representative

- Africare has been operational since 1970. It is currently part of the CORAD consortium that has been operating a Development Relief programme (DRP) funded by USAID since 2004 and due soon to come to an end. The other groups are WVI, CARE (focus) and CRS. They all do roughly the same thing but in different regions in the country
- The focus is on agriculture and health and they work through local groups (community, farmer field schools, family and women)
- There are also good links with FAO/UNDP etc
- Within this they are active in the following areas:
 - Agricultural input provision (improved seeds)
 - Storage facilities
 - Establishing market linkages
 - Building/repairing feeder roads
 - Establishing tree crops
 - Processing (Vitagoat)
- In addition they have developed ancillary projects that map on to core activity. One of these is the HEART programme where they act as facilitators for Ministry of Health outreach clinics (e.g. transport of vaccines, training of para-medics)
- Other activities in the pilot phase (or planned) are as follows:
 - Minimising post harvest losses (rice huller)
 - Improving poultry and small ruminants through breeding (need for vet services-coxidiosis)
 - crop diversification (soya)
 - Building feeder roads (youth programmes)
 - Establishing MFIs (mainly through women's groups)
 - Safety net scheme for the vulnerable groups (10% levy)

- Revitalising swamp areas (possibilities for multi-cropping and aquaculture)
- They will shortly embark on a new project which is a rolling out of the DRP to other villages and regions. This programme will be fully funded by USAID for 3 years.

14. Okeke Agencies Ltd.----Melvin Link, Manager Director

- This company started operations in 1972 and has concentrated on trawler fishing for export (60%) and the home market (40%)
- The firm is a joint venture with a Chinese company (16 boats)
- It is the only substantial fishing firm in Sierra Leone
- The exported fish are loaded on to large foreign trawlers off shore
- The landed catch is stored in deep freeze facilities before being sold around the country
- Claimed constraints are as follows:
 - Piracy from Guinea (loss of \$2 million last year)
 - Big increases in taxation with little return from government
 - Poor harbour facilities in Freetown

15. Cotton Tree Foundation Sierra Leone---Michael M. Kamara, Managing Director

- The Cotton Tree Foundation Sierra Leone was set up to establish centres of excellence in formal, non-formal, vocational, agricultural forms of education committed to provide quality knowledge and skills. It operates near Rogbere.
- Its support includes school furniture and equipment, learning and teaching materials, uniforms and medicare facilities
- It is supported by Cordaid and Woorden Daad, both Netherlands operations
- It began by organising local growers of ginger as out-growers for the export market and has since moved into the production of groundnut, hot pepper (chill), poultry and livestock (small ruminants) for domestic consumption.
- Livestock activity is in its pilot phase, and 250 farmers are currently benefiting. 65% of this represents women and 35% male. It is believed that the per capita of households in rural poor areas can be increased if women are given preference, because they are heavily involved in agricultural production.
- Its rice mechanization project started in May 2006, and so far has serviced 90 farmers with ploughing facilities for 180 ha, as well as 450 bushels of seed rice, and fertilizers. Of the Ploughing service 50% goes as benefit to farmer from Cotton Tree and farmers pay 50% tractorization cost. Seed rice, fertilizers are distributed on loan basis with no interest.
- It also has a plan to target 1000 sesame and cashew out growers in the Marampa and Buya Romende chiefdoms in the Port Loko district.

Annex 2. Analysis framework for potential opportunities

Opportunity in order of priority	Category of beneficiary ¹⁸ (primary/secondary)	Potential partners	Category of partner ¹⁹	Geographical/sectoral focus	Type of intervention	Possible RNRRS outputs	advantages	disadvantages
Opportunity 1	Poor/medium	CORAD Njala U IAR MIA MWG MAFS	INGO Research Research CBO CBO Extension	Kenema, Bo	Livestock enhancement and vet service capacity building	Vet/paravet capacity, Livestock improvement Univ equip, research Income gen.	Intgr. farm systems, Begin new livestock activity, cap building at uni.	Need to involve UK group centrally
2	Poor/medium	CORAD	INGO	Kenema, Bo	Assistance in post-harvest	Income gen, input	Markets food	Need to integrate research bodies

¹⁸ Poor, medium, well off etc

¹⁹ NGO, CBO, Public/Private sector research, SME, larger enterprises, information service provider (public/private), policy makers, etc.

Njala U	Research		arrangements	provision,	security, gd.
Finic	Private			Processing,	Management
LWDA	CBO			Water	
MWG	CBO			management	
MAFS	Extension				

3	Poor	St Josephs, ADDDO, FINIC, Cotton Tree Foundn.	CBO CBO Private	Port Loko, Kambia Bamboli, Kenema	Micro credit etc, inputs and processes, employment gains	Productivity, market access, 	Technical training, empowerment, good linkages	Not many
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4	Poor/medium	Various FFS, MAFS	FFS Extension	Kenema, Bo	FFS	Productivity,	Technical training, empowerment	Style of working, FAO/UNDP dominance Poor linkages
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Annex 5 Abbreviations

ADDO	Arch Diocesan Development Organization
AUVEC	African Universities Veterinary Education Consortium
AfDB	African Development Bank
CAHW	Community Animal Health Worker
CARE	
CBO	Community Based Organisation
CEDA	Community Empowerment and Development Association
CORAD	Consortium for Rehabilitation and Development
CORAF	Conseil Ouest et Centre Africain pour la Recherche et le Developpment Agricoles
CRS	Catholic Relief Services

DFID	Department for International development
DRP	Development Relief programme
ELCSL	Evangelical Lutheran Church of Sierra Leone
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organisation
FARA	Forum for Agricultural Research in Africa
FDI	Foreign Direct Investment
FFS	Farmer Field School
FGD	Focus Group Discussions

FRC	Finnish Refugee Council
GOSL	Government of Sierra Leone
IAR	Institute of Agricultural Research
INGO	International NGO
IFAD	International Fund for Agricultural development
IFPRI	International Food Policy Research Institute
IGAP	
ISNAR	International Service for National Agricultural Research
KII	key informant interviews
LNGO	Local NGO
LWDA	Leleima Women Development Association
LWF/DWS	Lutheran World Federation/ Department of World Service

MIA	Manjama Institute of Agriculture
MAFS	Ministry of Agriculture and Food Security
MAPCO	Movement for Assistance and Promotion of Rural Communities
MFI	Micro Finance Institution
MWG	Moamuwah Women's group
NAFSL	National Association of Farmers of Sierra Leone
NARCC	National Agricultural Research Coordination Council
NARS	National Agricultural Research System
NEPAD	New Partnership for African Development
NRI	Natural Resources Institute
ODI	Overseas Development Institute
PVS	Participatory Varietal Selection
RIUP	Research into Use Programme

RNRRS	Renewable Natural Resource Research Strategy
ROPPA	Peasant Farmers for the Production of Cotton in West Africa
RRI	Rice Research Institute
UNDP	United Nations Development Programme
UNHCR	United Nations High Commission for Refugees
USAID	United States Agency for International Development
WECARD	West and Central African Council for Agricultural research and Development
WVI	World Vision International

Beside the rebel war in which the agriculture sector was the hardest hit, several constraints plagued and still plague this sector, among which are:

- Low investment in the sector
- Lack of effective institutional arrangements for agricultural credit
- Poor pricing policy and marketing arrangements

- Poor transport facilities and infrastructure for delivery of inputs to farmers and transmission of farm produce to consumers
- Inadequate agro-processing facilities and high post harvest losses in crops
- Weak Research-Extension-Farmer linkages, resulting in information gaps
- Inadequate support for research, technology generation and extension services
- Scarcity of labour because of rural-urban migration of active youths
- Low morale of agricultural extension workers

Low extension worker – farmer ratio