

# CEDRA Report: Partner Consortium for the Diocese of Aru, Democratic Republic of Congo (DRC)

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## PART 1a: Background information - Science

The scientific and community data was collected over a period of two months in early 2010. Collecting local scientific data was challenging as our region has no meteorological office. However, information was given to us by the Agriculture, Fishing and Rearing Inspectorate, the Department of the Environment, INERA (the National Institute for Agricultural Research and Study) and some of the tobacco companies in the area. We also researched scientific information from online documents and tools. The government has produced a National Communication (NC) and a NAPA, which we accessed on-line. The National Communication describes the struggles to make accurate projections in the DRC given the size of the country, the diversity of ecological conditions and the lack of relevant data throughout the country. It goes into more detail about certain towns or areas, but unfortunately, non in Orientale Province. However, it does give more detailed information on the North West of Congo, and we therefore assume this will bear some relevance for our Diocese. As we are very close to the Ugandan border, we have also used some data for northern Uganda from some good and reputable sources.

**Deforestation:** Gallery forests are disappearing rapidly<sup>1</sup> and scrub savannah is becoming grass savannah. This is particularly the case in Zaki, Aluru and Lu chiefdoms, the eastern part of Kaliko and Kakwa, and the eastern part of Ndo district. The scrub and trees are gradually disappearing because the wood is used for firewood, making bricks and charcoal, and for drying many tonnes of tobacco. Many wild plant species are also disappearing as land is cleared.<sup>2</sup> There is no government initiative for reforestation. Some actors, such as the churches and some tobacco companies, are engaging in reforestation. However, the species used for reforestation by the tobacco companies is mostly eucalyptus. These trees impoverish the soil by consuming too much water, and their leaves make the soil acidic. In addition, this reforestation is based purely on economic objectives and not the sustainability of the ecosystem. Deforestation and clearance data for the period 2008–2009 shows that 103,617.76 hectares have been emptied of forest and plant species and 227,025m<sup>3</sup> have been felled.<sup>3</sup>

**Soil & water pollution:** The tobacco-growing companies, mining operators and major urban centres are causing extensive soil pollution<sup>4</sup> through: chemical fertiliser use (NPK) in tobacco growing, contravening national standards; bush fires (farmers) and poor waste management (urban centres). An average of 8,968 ha per year is used for growing tobacco, with six bags of chemical fertiliser (NPK) applied to each hectare, totalling 53,808 bags per annum.<sup>5</sup> This leads to contamination of the water table and river and drinking water.

**Solid waste:** More than six tonnes of solid waste are produced daily throughout the district, in Ingbokolo, Ariwara, Ondolea, Atsinia, Aru town and other trading centres.<sup>6</sup> However, no waste treatment facilities exist, apart from some direct-to-ground burial or open-air burning.

**Rainfall:** A gradual reduction in the rainfall measured has been observed since 2004.<sup>7</sup> The March-to-November rainy season and December-to-February dry season have changed, with the rainy season now generally starting around mid-April and ending in mid-November.<sup>8</sup> Streams have dried out due to prolonged drought, as in the case of the Okeleeneve stream in the Panduru district in the Lu chiefdom. Others that flow during the rainy season see their flow reduced, or completely dry up during the dry season, as is the case of the Andruvu spring developed as a water supply with the support of the Aru Diocesan Development Office. The flow diminishes year on year.

According to the National Communication (2009),<sup>9</sup> a summary of the range of projected variations for precipitation in 2010, 2025, 2050 and 2100 throughout the entire country is as follows:

	2010	2025	2050	2100
Precipitation	0.3 to 2.5	0.4 to 4.2	0.3 to 7.5	0.8 to 11.4

(%)				
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However, it is important to note that despite the increases in annual rainfall, the rainy season is likely to become shorter, with more rain falling in heavy rainfall events. More detailed information in the National Communication for the North West of DRC show an increase in average annual precipitation from 1758.1mm to somewhere between 1758.1 and 1810.8mm in 2025, from 1810.8 to 1866.8mm in 2050 and from 1866.8 to 1925.8mm in 2100.

Projections of average rainfall in neighbouring Uganda are broadly consistent in indicating increases in annual rainfall (with central estimates projecting increases of 5mm to 11mm per month by 2060 and 9mm to 14mm per month by 2090).<sup>10</sup>

The droughts that periodically affect the western, northern and northeastern districts of Uganda are becoming more frequent. Uganda as a whole has experienced seven droughts in the 1990s, compared to just eight between 1911 and 1990.<sup>11</sup>

**Temperature:**

The NAPA refers to several studies by the Department of Hydrology and Climatology at the University of Kinshasa that have shown an increase in the temperature in DRC in recent years.<sup>12</sup>

According to the National Communication, this is a summary of the range of projected increases in temperature through DRC for 2010, 2025, 2050 and 2100:

	2010	2025	2050	2100
Temperature (°C)	0.45 to 0.52	0.91 to 1.03	1.72 to 2.08	2.69 to 3.22

Again, information for the North West region shows an increase in average annual temperature from 23°C to between 23.5 and 24°C in 2025, 24 to 24.5°C in 2050 and 24.5 to 25°C in 2100.<sup>13</sup>

A paper by the Global Environment Fund puts the projection even higher: According to the GEF, climate models show that the annual average temperature in the DRC is expected to increase from 2.5 to 3.7 °C by 2050, accompanied by more frequent and longer drought periods.<sup>14</sup>

The following data is for neighbouring Uganda, which the region of Ituri borders:

- Mean annual temperature has increased by 1.3°C since 1960, an average rate of 0.28°C per decade. This increase in temperature has been most rapid in January and February at a rate of 0.37°C per decade.<sup>15</sup>
- The average annual temperature is projected to increase by 0.9°C to 1.7°C by the 1930s, by 1.0°C to 3.1°C by the 2060s, and 1.4°C to 4.9°C by the 2090s. The range of projections by the 2090s under any one emissions scenario is 1.0°C to 2.0°C.<sup>16</sup>
- Projected rates of warming are greatest in the coolest season (June, July, August, September) increasing by 1.5°C to 5.4°C by the 2090s.<sup>17</sup>

**Socio-economic:** The population doubled in ten years, from 550,332 in 2000 to 1,211,722 in 2010.<sup>18</sup> This is mostly due to the displacement during the Ituri wars and LRA violence in Orientale province. This has resulted in overpopulated centres, creating a demand for household and livelihood food and energy that exceeds the market provision.

**References:**

- <sup>1</sup> Oli and Dhoya group in the Kaliko-Omi chiefdom (2009 Annual Report)
- <sup>2</sup> Interviews with the Department for the Environment and Sustainable Development, and dissertations from students at ISEAV/Aru (the Higher Institute of Agronomy and Veterinary Studies in Aru)
- <sup>3</sup> Annual Reports of the Environment Service 2007–2009
- <sup>4</sup> Interviews with the Agriculture, Fishing and Animal Rearing Department and the district and local chiefdoms
- <sup>5</sup> Interviews with tobacco companies
- <sup>6</sup> Interviews with the District Health and Sanitation Department, and Statistical Report from the District Health and Sanitation Department (2009)

<sup>7</sup> BBT's rainfall tables

<sup>8</sup> 2009 Annual Report of the district's Agriculture, Fishing and Rearing Inspectorate

<sup>9</sup> Ministry of the Environment, Nature Conservation and Tourism, DRC (2009) 2nd National Communication - <http://unfccc.int/resource/docs/natc/rdcnc2.pdf>

<sup>10</sup> Tearfund (2010) Uganda Climate Change Profile –

[http://tilz.tearfund.org/webdocs/Tilz/Topics/Environmental%20Sustainability/Uganda\\_Final.pdf](http://tilz.tearfund.org/webdocs/Tilz/Topics/Environmental%20Sustainability/Uganda_Final.pdf)

<sup>11</sup> *Ibid*

<sup>12</sup> Ministry of the Environment (2006) National Adaptation Programme of Action -

[http://unfccc.int/cooperation\\_support/least\\_developed\\_countries\\_portal/submitted\\_napas/items/4585.php](http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php)

<sup>13</sup> Ministry of the Environment, Nature Conservation and Tourism, DRC (2009) 2nd National Communication - <http://unfccc.int/resource/docs/natc/rdcnc2.pdf>

<sup>14</sup> GEF (2009) Renforcer la capacité du secteur agricole à se préparer à faire face aux menaces que la modification du climat fait peser sur la production alimentaire

[http://www.unclearn.org/sites/www.unclearn.org/files/inventory/GEF61\\_FRE.pdf](http://www.unclearn.org/sites/www.unclearn.org/files/inventory/GEF61_FRE.pdf)

<sup>15</sup> UNDP (2008) UNDP Climate Change Country Profile – <http://country-profiles.geog.ox.ac.uk>

<sup>16</sup> *Ibid*

<sup>17</sup> *Ibid*

<sup>18</sup> District Administration (2008–2009) Annual Report of Aru Territory

*Other sources accessed:*

(1992) Annual Report of INERA, Aru station

(2009) Statistical and narrative report of the Inspectorate for Agriculture, Fisheries and Livestock of Aru territory

(2009) Annual Report of the Department of Mines and Geology of Aru

(2009) Annual Report of chiefdoms and sectors of Aru Territory

World Bank Climate Portal <http://sdwebx.worldbank.org/climateportal/>

## PART 1b: Background information – Community experiences

Location	Findings
	<p><b>Background:</b> In order to gather the community experiences, the following techniques were used: field surveys, interviews, mapping, historical pictures, transect walks, seasonal calendars and focus groups - using separate groups for women, men and children. We consulted women in the village to advise on the time and location of activities that would best suit them, and tried to ensure that we heard the different views and perspectives of men, women and children, and of people belonging to different tribes, in all of the activities.</p> <p>We selected four villages, each in different Chiefdoms, in which to do our research. These villages represent approximately 10 per cent of the total area in which partners in the Consortium are working in the Diocese of Aru. A summary of the key issues arising is given below:</p>
<p><b>Village of Buta in the Lu chiefdom</b></p>	<ul style="list-style-type: none"> <li>• The scrub savannah and forest galleries are now over-populated. This is leading to savannah clearance and deforestation.</li> <li>• People have good knowledge of all the plants and trees in the area and the conditions they all need in which to grow well. They know which plant and tree species have already disappeared and which are under threat.</li> <li>• Because of the deforestation, the soil quality has degraded and it is also affecting water supply.</li> <li>• Plant diseases have increased in recent years.</li> <li>• Plant diseases, poor soil quality and lack of rains are resulting in lower crop yields, which in turn means less food is available for consumption. This is leading to an increase in malnutrition and hunger in communities. Young children and women are particularly badly affected.</li> <li>• Men and women both talked about the climate now being 'disturbed'. In particular, older people explained that temperatures have increased a great deal over the last 30 years.</li> <li>• The community is increasingly experiencing drought. Fresh water sources in the locality, such as wells and springs, are no longer providing sufficient water. This is leading to increased workloads for women as they have to walk further, sometimes up to two or three hours, to find water.</li> <li>• Villagers are seeing increases in diseases and infant mortality. The weakest people (in particular those living with HIV) are affected the most. However, there are strong extended family support networks in the village, and neighbours and villagers are supporting each other in caring for the sick.</li> <li>• Deforestation and population increase have led to the disappearance of wild animals. (This was cited as a bigger problem for men than for women.)</li> </ul>
<p><b>Village of Laibo in the Kaliko-Omi chiefdom</b></p>	<ul style="list-style-type: none"> <li>• Migration, over-population and tobacco company expansion have led to loss of forests and scrub land. Local churches have developed afforestation schemes. Some of the women in the village are volunteering with these churches to help plant new trees.</li> <li>• The river beds are shrinking, and communities are experiencing a shorter rainy season. There is less water available for drinking from local sources and therefore women are having to walk further to find water for drinking and household use. This is a major burden for women, and time that used to be spent on livelihood activities is often now spent walking in search of water.</li> <li>• Wild animals are scarce due to deforestation and over-population.</li> <li>• The agricultural calendar in the village has changed significantly. Before 1980, the rainy season was longer than the dry season. Now, however, the dry season is longer, substantially reducing agricultural yield. Men are working harder in the fields but the crops are reducing. Men have begun to harvest rainwater in containers in order to irrigate their fields. However, sometimes it does not rain for a very long time so they still lack water for irrigation.</li> <li>• Five tobacco companies are working in the area, cultivating large areas. They are using chemical fertilisers, which is polluting our soil and water. Children are becoming ill when they drink the polluted water. This in turn affects their education, and many are regularly having to miss school. Again, women are impacted as they have to work harder and walk further to find water that is</li> </ul>

	<p>safe for drinking. This is impacting women's time availability for income generation activities. Soil pollution is an additional factor affecting crop yields adding to the problems in the point above.</p>
<p><b>Village of Azumba in Aluru chiefdom</b></p>	<ul style="list-style-type: none"> <li>• Villagers have experienced the gradual disappearance of wild animals due to deforestation and over-population.</li> <li>• Many men and women said that the climate has changed. This has affected agriculture: seeds are planted, but the rains don't come at the expected time and therefore the seeds don't germinate. Even when seeds do germinate, the growing seasons are still disturbed and therefore the community experiences low yields and poor harvests.</li> <li>• Low agricultural production has increased food prices. A sack of manioc roots is three times what it was in 2004. Men, women and children all talked about extreme poverty, persistent hunger and malnutrition becoming prevalent. The poorest people in the village are badly affected, with the children suffering the most. Many children are suffering due to malnutrition.</li> <li>• A women's group in the village are trying to learn new skills in order to make more income and therefore afford the higher food prices.</li> <li>• There is not enough land for cultivation or for livelihoods due to population increase.</li> <li>• Many people talked about experiencing increases in temperature. This is leading to an increased demand for drinking water by both people and animals. Population increase adds further to this demand. Women have to walk further and further to find water, adding to their workload and meaning less time for income generation activities.</li> <li>• There is a lack of sanitation facilities, especially in the market areas. (This was highlighted as a problem by women, but not by men.) Women talked about the problems of finding somewhere private and safe to relieve themselves. Some women have been attacked as they look for private places away from crowds of people. This lack of facilities means that the market areas are increasingly dirty and unsanitary.</li> <li>• There is a great amount of rubbish and waste around. Plastic bags are a particular problem and can be seen almost everywhere - scattered on the ground and caught in trees and bushes.</li> </ul>
<p><b>Village of Biringi in the Ndo chiefdom</b></p>	<ul style="list-style-type: none"> <li>• Deforestation is a major problem caused mostly by companies and large-scale operators felling vast areas of forest. It is also caused by population increases in the area and people's need for firewood. Deforestation is impacting soil quality and water availability.</li> <li>• Population increase in the village has been significant in recent years, and this is having a big impact on both land use and water availability, resulting in conflict at times. Both the established population and those who have recently moved to the village talked of the problems resulting from a lack of land and water.</li> <li>• The agricultural calendar is disturbed. It is very difficult to plan when to plant. If seeds are planted at the normal time, often the rains don't come and therefore the crops fail. This is a big problem.</li> <li>• Crop failure is leading to nutritional problems in the communities. Many women spoke of the problems of not being able to feed their children sufficient food. Some children are becoming ill and malnourished as a result.</li> <li>• Lack of drinking water is a significant problem caused by deforestation, pollution, population increase, temperature increase and reduction in rainfall at certain times of the year. All these factors contribute to women having to spend more time walking to sources of clean water. Children are also impacted as it is often their responsibility to help fetch water. Many are having to miss school because it is taking too long to walk to and from water sources. Lack of drinking water is also impacting health, particularly of children. This also in turn affects education as children are unable to attend school due to sickness.</li> </ul>
	<p><b>Conclusion</b></p> <p>The findings from the four villages are largely consistent, particularly in relation to deforestation, temperature increase and decreasing availability of drinking water. The problems of solid waste management and lack of sanitation facilities were raised most strongly by the village of Azumba in Aluru Chiefdom. This may be due to the fact that two women had very recently been attacked in the area due to that fact there were no safe and private latrines in the market place. There was some disagreement both within and between villages on the changes in rainfall. Some people perceived that annual rainfall was decreasing, others commented that it was only in certain seasons (most often</p>

the rainy season) that rainfall was decreasing. Others felt that the timing of rainfall was becoming less predictable but that the amount wasn't changing. As the communities are not yet doing any local record keeping of rainfall data it is difficult to verify the exact situation. However, from the scientific data researched, it seems that the wider area has experienced decreases in annual rainfall as well as changes to the timings of the rainy seasons. Projections actually indicate increases in annual rainfall, with the rainy season likely to become shorter, and with more rain falling in heavy rainfall events. However, droughts are also increasingly frequent in neighbouring areas. It is therefore clear that in planning for the future there is still a fair amount of uncertainty with regard to rainfall. However, it seems very likely that the area will continue to experience streams drying at certain times of the year, and, coupled with other factors such as deforestation, increased population and pollution, lack of access to safe drinking water will continue to get worse.

Other than the uncertainty with regard to rainfall, there are many similarities between community experiences and the scientific information gathered. This provides a clear basis on which to conduct the CEDRA risk assessment.

(Note: in order for the communities to gain a better understanding of the changes to rainfall, we are going to encourage the development of community environmental monitoring systems which will include rainfall monitoring. This will be included in our CEDRA Action Plan.)

## PART 2: Project risk assessment

**Sig** = Significance of impact: (4= high; 1= low)    **Lik**= Likelihood of impact: (4= high; 1= low)    **Rsk**= Risk = Significance X Likelihood (Multiply figures D and E)

A Locations or Sectors	B Projects (group by sector if you work in sectors)	C Climate Change and/or Environmental Degradation impacts	D Sig	E Lik	F Rsk	G Possible adaptive resilient development option to strengthen projects and communities
Health	Development of drinking water sources in 22 parishes in the Diocese of Aru	Reduction in water source flow due to deforestation and a shorter rainy season. This means less available drinking water and hence an increased workload for women	3	3	9	<p>Reforestation in the area around the water sources</p> <p>Introduce rainwater harvesting during the rainy season</p> <p>Raise awareness and understanding in the community of the impacts of climate change and environmental degradation and in particular how they affect the different roles of women and men. Encourage the whole community to conserve water</p>
		Pollution of the water table due to the use of chemical products in tobacco cultivation. Children are particularly vulnerable to the impacts of drinking polluted water	4	3	12	<p>Raise awareness among the population of the need to refrain from growing tobacco on the floodplain and around water sources</p> <p>Advocacy aimed at local government and tobacco companies to stop the irresponsible use of chemical products</p> <p>Create sharing and dialogue groups of men and women in the communities to share concerns and mobilise for action</p> <p>Rainwater harvesting to capture and use unpolluted rainwater</p>
		Hazards caused by the build-up of public waste means that limited district resources for sanitation are diverted to dealing with the impact of hazards rather than building latrines	2	4	8	Advocacy aimed at district authorities to develop and fund a comprehensive policy and strategy for dealing with all aspects of sanitation, including disposal of public waste and the provision of latrines in public places

A Locations or Sectors	B Projects (group by sector if you work in sectors)	C Climate Change and/or Environmental Degradation impacts	D Sig	E Lik	F Risk	G Possible adaptive resilient development option to strengthen projects and communities
		Women and girls are vulnerable to attack as they try to find discreet locations to use in the absence of latrines	4	2	8	Ensure separate sanitation facilities for women and men are built
		Reduction in rainfall leads to lack of water to provide hand-washing facilities	2	2	4	Awareness-raising and training among communities to address and tackle gender-based violence  Rainwater harvesting and provision of tippy taps in public places (While this risk was low, the Diocese of Aru decided that it was still worth carrying out this option)
Environment and sustainable development	Gradual reforestation of 22 hectares of land throughout the Diocese of Aru	Destruction of seedlings due to unpredictable growing seasons and an increase in uncontrollable harmful insects	4	2	8	Develop campaigns to raise awareness and provide education about protecting the environment and focusing on the importance of trees  Create a permanent environmental monitoring system in the community, setting up sharing and knowledge centres  Encourage the population to use local techniques for dealing with pest infestations  Introduce sapplings that are more tolerant to uncertain weather conditions
Food security and agriculture	Distribute seeds via 30 local agricultural groups	Trees do not grow due to an increase in temperature and a reduction in the amount of rainfall at certain times of year	3	3	9	Raise awareness of and promote cultivation techniques using organic and green fertilisers, leaving land fallow and organic agriculture
	Food security	Failure of food crops in the fields due to changed growing seasons and increased temperatures	3	3	9	Prepare a local agricultural selection calendar  Promote new improved and resistant varieties of seed suited to the climate and current season

A Locations or Sectors	B Projects (group by sector if you work in sectors)	C Climate Change and/or Environmental Degradation impacts	D Sig	E Lik	F Rsk	G Possible adaptive resilient development option to strengthen projects and communities
						Create a permanent environmental monitoring system in the community, setting up sharing and knowledge centres
		Low agricultural yields lead to less food being consumed and increased food prices in the markets. This leads to malnutrition and other health problems. Women and children are likely to be particularly affected	3	2	6	Promote new improved and resistant varieties of seed suited to the climate and current season
						Support the diversification of income-generation measures, particularly for women. (The Diocese of ARU decided this was so important that they planned to develop a new livelihoods project focused on women (see Part 3 CEDRA Assessment, page 72)
	Promotion and spread of improved stoves, and training in the development of vegetable gardens through 25 socio-professional and literacy training centres	The scarcity of raw materials to make stoves due to environmental degradation	2	1	2	(The Diocese of Aru decided that this risk was too low and there was no need to adapt the project in the light of it)
		Gardens fail due to unpredictability of rain	3	3	9	Use drought-resistant plant and vegetable varieties
						Encourage re-use of domestic water (eg after washing dishes) to water gardens

**PART 3: Any decisions made to work in new zones or with new beneficiaries**

A Sectors/ Locations	B Projects (group by sector)	C Climate Change and/or Environmental Degradation impacts	D Sig	E Lik	F Rsk	G Ways to strengthen these projects
Livelihoods	Income-generation skills for women – focusing on tayloring and soap-making	Lack of water and food means that women have no time to take part in groups or lessons to develop skills	3	3	9	<p>Ensure integration of the income generation project with water and food security projects</p> <p>Ensure full participation of women in the design of the project, to know when and where would suit them best for training sessions to be held</p>
Climate change	Advocacy for more government action on climate change	Climate and environmental pressures on other projects mean lack of resources for advocacy	3	3	9	Join an advocacy network to share the workload and to develop a stronger voice

## Part 4: Action Plan

Proposed Action	Who	Where	When	How
<b>Proposed strategic / organisational actions</b>				
Each partner organisation in the Consortium to develop an Environmental Policy (EP)	All partners set up an environmental policy group and ensure the policy covers all main organisational activities	HQ, but ensuring field offices are involved.	To begin immediately, complete within 2 months.	Form EP groups – develop a plan and timeline. Ask other NGOs for EP examples and advice. Consult Tearfund's ROOTS 13 EP guidance. Assign roles in each agency.
Establish a monthly networking meeting of Consortium members to share learning on the implementation of the CEDRA action plan	Administrative Officer in Diocesan office for community development to organise.	Meetings will take place in the Diocesan office in Aru	Beginning next month and then monthly	Arrange dates and times. Email invitations. Book room and resources.
Add updating the CEDRA Assessment into next year's planning cycle	CEOs of each organisation	HQs	At beginning of planning process	Ensure sufficient time is added to planning process for this. Assign responsibility for leading on the update.
All staff to read CEDRA Assessment conclusions and use in their decision-making and planning	CEOs, all team managers, all project staff	All officers	To begin immediately and then ongoing	Distribute copies to all offices. Cancel one regular meeting to free up time for reading. Add to job descriptions and monitor through appraisal process. Each office to assign a 'CEDRA champion' to encourage staff to read and use CEDRA findings.
Join a national climate change advocacy network to share the workload and to develop a stronger voice	HFC's Advocacy Officer	Kinshasa	Meetings every 3 months	Add to Advocacy Officer's job description. Develop budget – cost to be shared by all agencies. Develop process for Advocacy Officer to get input from, and feed back to, all agencies.
<b>Proposed project actions</b>				
Reforestation in the area around the water sources	ACC, working through local churches	Starting with Zaki, Kalikomi and Kakwa and moving on to other Chiefdoms	November 2010 – October 2012	Visit communities where churches are already involved in afforestation. Arrange for other churches to visit these communities. Distribute saplings and encourage churches to assign tree planting leaders and begin afforestation work.
Introduce rainwater harvesting during the rainy season	WASH project managers in ACC and BDDC	Zaki, Kakwa and Nio-Kamule	March 2011	Train communities in basic principles of RWH and in construction of ferro cement tanks. Establish RWH demonstration sites in each village.

Raise awareness and understanding in the community of the impacts of climate change and environmental degradation and in particular how they affect the different roles of women and men. Encourage the whole community to conserve water.	BDDC, Community Development Section	In 30 villages across Nio-Kamule, Lu, Kakwa and Zaki	Dec 2010 – Dec 2011	Mobilisation of churches to host climate change and environmental degradation hearings. Use of drama and song to get messages across. Churches to demonstrate water conservation.
Raise awareness among the population of the need to refrain from growing tobacco on the floodplain and around water sources	BDDC, Community Development Section	In 30 villages across Nio-Kamule, Lu, Kakwa and Zaki	Dec 2010 – Dec 2011	Do this as part of the climate change and environmental degradation hearings above.
Awareness-raising and training among communities and companies to address and tackle gender-based violence	HFC and ACC	Zaki and Ndo-Kebo	February – May 2011	Write training materials. Participatory activities with women and men separately and then together.
Develop campaigns to raise awareness and provide education about protecting the environment	BDDC, Community Development Section	In 30 villages across Nio-Kamule, Lu, Kakwa and Zaki	Dec 2010 – Dec 2011	Do this as part of the climate change and environmental degradation hearings above.
Set up farmer field schools to test different agricultural crops and growing methods eg chemical / organic fertilisers	Agricultural field officers from all organisations	Eventually through all current agricultural projects	From September 2010	Integrate into current agricultural projects. Train all agricultural field officers to train and support farmers.
Use drought-resistant plant and vegetable varieties	Led by Agriculture Project Manager in ACC and implemented by agricultural field officers from all organisations, with local government agricultural adviser	Throughout all current agricultural projects	Mid 2010 until July 2012	Project Manager to research the most appropriate drought-resistant varieties and consult communities. Source seeds and sapplings. Develop parish germinators and nurseries.
Develop advocacy strategy to stop the over-intensive use of chemical products by tobacco companies	Led and coordinated by Project Officer from Anglican Church Development Office – but to involve all project managers	Advocacy strategy will include analysis of where advocacy should focus	September 2010	Project officers to be released from 50% of normal responsibilities to focus on developing advocacy strategy
Develop new project focussed on income-	Head of ACC community	Kakwa, Zaki, Ndo-Kebo	Proposal submitted	Write project proposal and budget and submit to donors.

generation skills for women – focusing on tailoring and soap-making	development department	and Kaliko-Omi	by August 2010. Aim for project run Jan 2011 – Jan 2014	
<b>Proposed community actions</b>				
Create a permanent environmental monitoring system in the community, setting up sharing and knowledge centres	Traditional chiefs, civil society leaders, school teachers	Three arch-diaconates: Mahagi, Aru and Kakwa	March – Sept 2011	Leaders trained and resourced to set and run the centres. Involve local schools.
Encourage the population to use local techniques for dealing with pest infestations	Farmers' groups	Kakwa, Zaki, Kaliko-Omi, Ndo-Kebo	From October 2010	Exchange visits to learn pest control techniques. Farmers to share learning on success of techniques with each other.
Prepare a local agricultural selection calendar	Agricultural extension officers and farmers' groups	Kakwa, Zaki, Kaliko-Omi, Ndo-Kebo	From October 2010	Train farmers' groups in the development and use of agricultural calendars.
<b>Personal actions</b>				
Ensure re-use of plastic bags or use of cloth bags	All staff members	Throughout all partner offices	Immediately	Awareness-raising session at all staff meetings in April 2010
Develop a plan to reduce, re-use and recycle waste	Environmental policy team	Head office	Immediately	Develop plan with staff input at team meetings Implement plan.
<b>Proposed district actions</b>				
Advocacy for district authorities to develop and fund a comprehensive sanitation policy and strategy, including disposal of public waste and the provision of latrines in public places	Sanitation and Hygiene Programme Officer	Aru Town	October 2010	Meetings with local government officials. Use CEDRA Assessment Report to develop briefing paper outlining the problem and our recommendations.
Ensure separate sanitation facilities for women and men are built	District authorities	Aru Town and other urban centres	As soon as possible	Allocate budget and personnel. Consult men and women in the design. Build the facilities.