

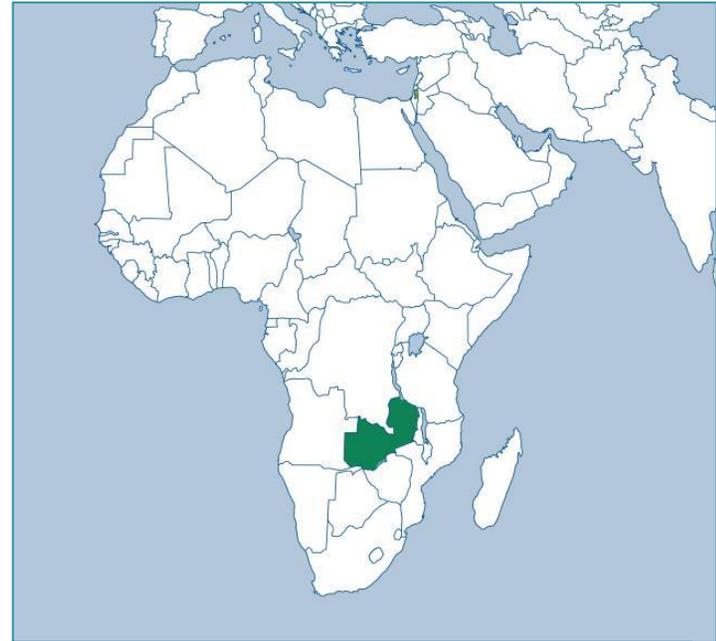
## **Ireland's Bilateral Climate Finance Zambia - 2013 Report**

Zambia is a landlocked country located in Southern Africa with a population of approximately 14.5 million. The territory of Zambia covers 752, 618 square kilometres. The average annual temperature in Zambia has increased by 1.3°C degrees from 1960 to 2006 and is projected to increase by 1.2 to 3.4°C degrees by the 2060s with more rapid warming in the southern and western regions (McSweeney et al. 2010). In 2013, Ireland provided a total of €1,277,782 in climate finance.

# Zambia

## Country Statistics

<b>Population<sup>1</sup></b>	14,538,640
<b>Income per capita<sup>2</sup></b>	\$2,898
<b>HDI Rank<sup>3</sup></b>	141 <sup>st</sup>
<b>Vulnerability Rank<sup>4</sup></b>	34 <sup>th</sup>
<b>Extreme Events Rank<sup>5</sup></b>	125 <sup>th</sup>



Map of Zambia, Irish Aid

1 Population in 2013: World Bank (2014) <http://data.worldbank.org/indicator/SP.POP.TOTL> Available at 18th July 2014.

2 Gross National Income per capita in 2013, 2011\$ PPP; UNDP (2014) International Human Development Indicators; <http://hdr.undp.org/en/countries> Available at 25th July 2014.

3 ibid

4 ND GAIN (2013) <http://index.gain.org/ranking> Available at 20th June 2014. The rank quoted is an inversion of the ND GAIN vulnerability index which gives a higher rank to the least vulnerable. We have inverted so that 1st place is most vulnerable and 183rd place is least vulnerable.

5 Average over 1993-2012. Higher rank denotes greater losses from extreme events; Germanwatch (2014); Global Climate Risk Index 2014, <http://germanwatch.org/en/download/8551.pdf> Available at 20th June 2014

	<b>Bilateral Programme 2013 EUR<sup>6</sup></b>
<b>Climate Finance; Adaptation<sup>7</sup> (UNFCCC)</b>	€886,295
<b>Climate Finance; Mitigation<sup>8</sup> (UNFCCC)</b>	€1,277,782
<b>UN Convention on Biological Diversity (UNCBD)</b>	€1,316,488
<b>UN Combat Desertification and Degradation (UNCCD)</b>	€710,416
<b>Disaster Risk Reduction (DRR) (UNISDR)</b>	€775,000
<b>Irish Aid Support for Irish Civil Society Programme Partners in Zambia</b>	€497,531



Mildred Malanga and son Kwamas, Polo Village, Mbala District Irish Aid 2009

<sup>6</sup> These figures should not be aggregated as some disbursements have multiple co-benefits and are therefore marked for multiple environmental impacts. Total climate finance in 2013 is €1,277,782.

<sup>7</sup> Climate relevant disbursements where the principal climate marker is applied are counted at 100% whereas climate relevant activities to which the significant marker is applied are discounted by a coefficient factor of 50%. The principal marker indicates that the specified cross-cutting theme, in this case, climate adaptation, was a main objective of the activity. It implies that the activity may not have gone ahead if not for the climate dimension. The significant marker indicates that the activity had other principle objectives which were the focus of the activity but that co-benefits were planned or mainstreamed into the activity. The application of the 50% coefficient to significant expenditures is a proxy representation of this lesser role of the environmental dimension in the disbursed amount

<sup>8</sup> As above.

## **Zambia, Climate Change and the UN Framework Convention on Climate Change (UNFCCC)**

Zambia is a member of the Least Developed Countries' Group and holds the LDC seat on the Green Climate Fund board.

### **Recent Climate Trends in Zambia**

Average annual temperature has increased by 1.3°C from 1960 to 2006. The warming has been more rapid in winter. The frequency of hot days and hot nights has increased significantly with the average number of hot days and nights per annum having increased by 43 each from 1960 to 2003. Average annual rainfall over Zambia has decreased by an average rate of 1.9mm per month per decade since 1960 primarily due to decreases from December to February. There is no significantly discernable trend in the frequency of heavy rainfall events in recent years (McSweeney et al, 2010). Farmers in the east and south of Zambia have already noticed a generally shortened growing season (MTENR, 2007).

### **Projections of Future Climate in Zambia**

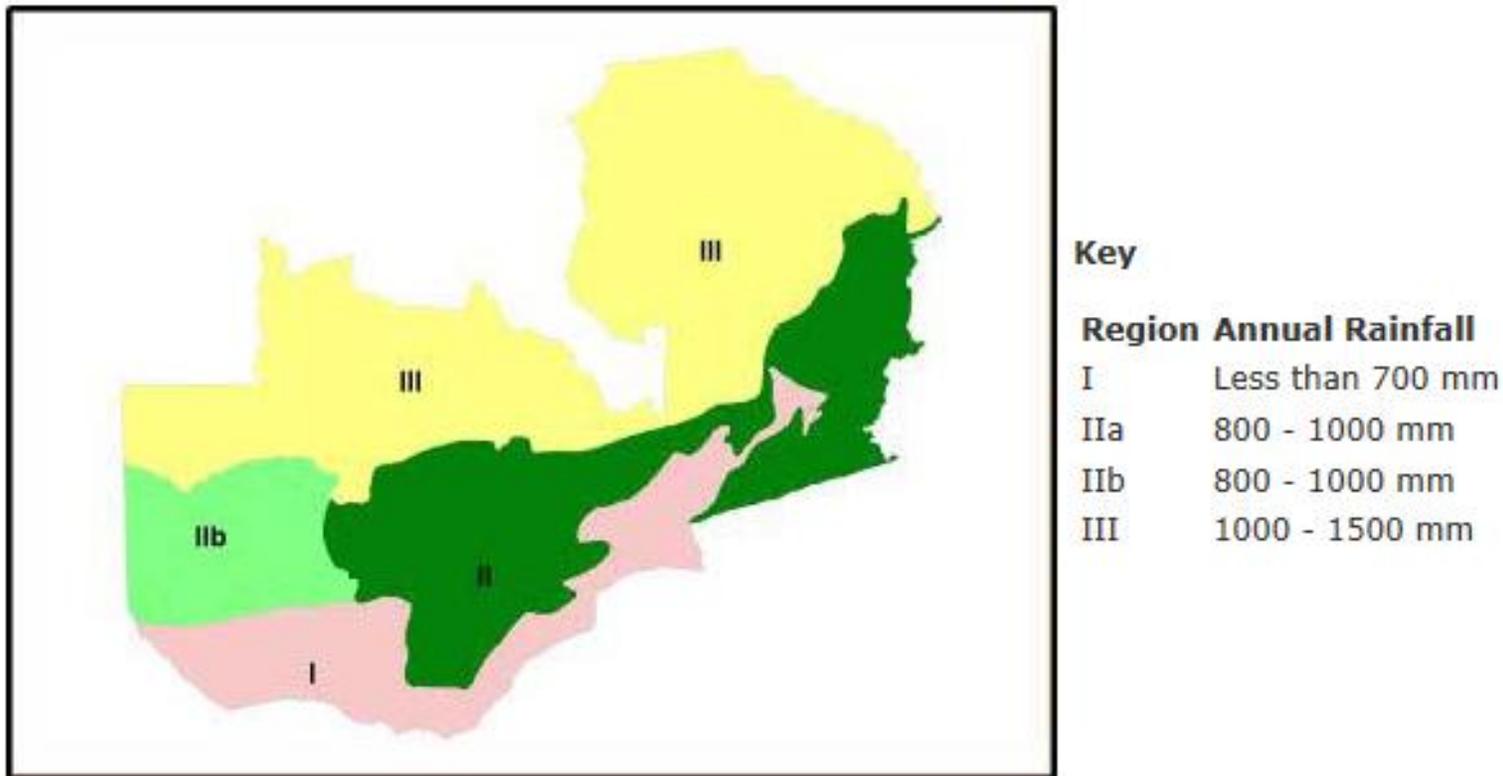
The average annual temperature is projected to increase by 1.2 to 3.4°C by the 2060s with more rapid warming in the southern and western regions. All projections indicate substantial increases in the frequency of days and nights that are considered 'hot' in the current climate. Most projections of rainfall do not indicate substantial changes in national annual rainfall but indicate decreases in rain from September to November and increases in rain from December to January. The National Adaptation Programme of Action (NAPA) of Zambia predicts a decrease in rain for southern and central regions (Regions I and II), and an increase of rain in the Northern regions (Region III). All studies find that the proportion of rainfall that falls in heavy events is projected to increase.

### **Adaptation**

As a Least Developed Country, Zambia produced a National Adaptation Plan of Action (NAPA) in 2007. The NAPA documents national circumstances, vulnerabilities, and expected impacts from climate change in Zambia, as well as identifying and prioritising responsive actions. The NAPA also outlines the consultation, resources and information that were used to prioritise adaptation interventions. The primary concern for the Government of Zambia is to “protect its people, infrastructure, and other national assets against disasters and climatic hazards such as drought and floods” .

Rising temperatures and decreasing rainfall are expected to have a negative impact on agriculture in the southern regions (Regions I and II). The growing season is expected to shorten meaning that some crops such as maize would not mature. This would have serious implications for food security in those regions. Rising temperatures and associated decreases in rainfall are expected to have negative impacts on cattle numbers due to availability of forage. Households in the southern province are dependent on cattle for their livelihood and thus are very vulnerable to climate impacts. Climate change is also expected to impact on fisheries with reduced breeding and even reduced biodiversity in the long-term. Floods are another expected impact of climate change with very negative consequences in terms of destruction of crops, destruction of infrastructure, siltation

and sedimentation on rivers and streams (with negative impacts on fisheries), displacement of people and increased incidence of epidemics such as malaria. Other diseases that are sensitive to temperature and climate are dysentery, cholera and respiratory infections. The energy and water supply sectors are impacted by climate change, with the southern province in particular being vulnerable to water shortages during drought periods. Urban areas can also be impacted due to poor management of water resources. Energy supply is impacted due to the important role of hydro-power in the national electricity supply. Climate change is also expected to impact negatively on wildlife and biodiversity e.g. through increased forest fires, reduced forage, and poor quality fodder. Forests which previously regenerated quickly after deforestation or degradation, e.g. Miombo Forest, have been slower to recover due to the impacts of climate change.



Zambia agro-ecological regions I, IIa, IIb and III.

FAO Website: Zambia; <http://www.fao.org/ag/agp/AGPC/doc/Counprof/zambia/figure14.htm>

Accessed at August 14<sup>th</sup> 2014.

A multi-stakeholder consultation was used to prioritise and rank potential interventions using economic, environmental and social indicators with equal weighting. The prioritised adaptation actions for Zambia were identified as follows;

- Strengthening of early warning systems to improve services for preparedness and adaptation to climate change in all the sectors (agriculture, health, natural resource, and energy)
- Promotion of alternatives sources of livelihoods
- Adaptation to the Effects of Drought in the context of Climate Change in Agro-Ecological Region I of Zambia
- Management of critical habitats
- Promote natural regeneration of indigenous forests
- Adaptation of land use practices (crops, fish, and livestock) in light of climate change
- Maintenance and provision of water infrastructure to communities to reduce Human-Wildlife Conflict
- Eradication of Invasive Alien Species
- Capacity building for improved environmental health in rural areas
- Climate-proofing sanitation in urban areas

More detail on these projects and activities is available online in an annex to the NAPA.

**Resources:**

IPCC 5<sup>th</sup> Assessment Report (2014), Working Group II Impacts, Adaptation and Vulnerability: <http://ipcc-wg2.gov/AR5/>

McSweeney, C., New, M. & Lizcano, G. 2010. UNDP Climate Change Country Profiles: Zambia. Available: <http://country-profiles.geog.ox.ac.uk> [Accessed 18 July 2014].

Zambia Ministry of Tourism, Environment & Natural Resources, MTENR (2007); National Adaptation Programme of Action (NAPA); <http://unfccc.int/resource/docs/napa/zmb01.pdf> [Accessed 18 July 2014].

## **Zambia & the UN Convention on Biological Diversity (UNCBD)**

Zambia is covered mainly by forest and woodland at 66% of total land area. Most of this is woodland which is defined as more open tree cover and canopy compared to forestry allows significant growth of grass underneath (ZEMA, 2013). Grassland is the next most common ecosystem type standing at approximately 27% of landcover. Forest cover is quite limited at 4% of land area (MTENR, 2009). There are 20 National Parks where settlements and hunting are prohibited. These cover about 8% of the land area. The Lower Zambezi and Isangano National Parks face problems of illegal encroachment by settlement. There are 34 Game Management Areas (GMAs) which act as buffer zones to the National Parks. The GMAs cover a further 22% of the land area and have a human population of approximately 1.5 million. There are 480 forest reserves in Zambia. These aim to conserve forest for sustainable use by local people, to protect water catchment areas and to conserve biodiversity. Approximately 61% of forest and woodland are considered disturbed by human activities (ZEMA, 2013). Some former forest areas have been degazetted and removed from protection due to excessive depletion (MTENR,2009). Zambia has eight Ramsar sites which are wetland areas of international significance. Wetlands in Zambia are important areas for fishing and fertile agricultural land, and can act to improve water quality by filtering out pollution and sediment. Charcoal production and slash-and-burn farming practices have been a major threat to wetlands and have resulted in soil erosion, turbidity of water and siltation (ZEMA, 2013).

The threats to Zambia's natural resource endowment and biodiversity are; deforestation and habitat destruction, wildfires, land-use conflicts, human encroachment, mining and road construction activities (which open new areas to settlement pressures), climate change, introduced species, pollution, and biodiversity management. Changes to ecosystems, landcover and biodiversity impact on human health and wellbeing. At the time of the National Biodiversity Strategy and Action Plan in 1999, agriculture, forestry and fisheries were estimated to contribute 18% of GDP of Zambia while acknowledging that due to the difficulty in capturing statistics on small producers, this was likely to be an underestimate. The FAO estimates that agriculture accounts for about 72% of all employment (FAO, 2014)<sup>9</sup>. Between 1970 and 1980, the average per capita consumption of fish in Zambia was 12kg. The 4<sup>th</sup> National Report estimated that consumption rates had diminished to 7kg per capita (MTENR, 2009). The fall in consumption was considered to be due to depletion of fish stocks because of bad management, excessive fishing and the increase in the population of Zambia over the same period. Changes to forestry and woodland cover, including over-harvesting of wood and conversion to agriculture land negatively impacts the hydrological cycle and soil stability and reduces clean water supply. Impacts on habitats affects tourism which can be an important source of income. The 4<sup>th</sup> National Report estimated that the population of wild elephants had increased since 1998 but there was insufficient data to assess population trends in other species.

The Zambian National Biodiversity Strategic Action Plan (NBSAP) set six strategic goals to counter threats to biodiversity and to ensure Zambia experiences the full benefits of its rich biodiverse natural endowment;

- i. ensure the conservation of a full range of Zambia's natural ecosystems through a network of protected areas of viable size;

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<sup>9</sup> FAO Website: Zambia; <http://www.fao.org/isp/country-information/zambia/en/> Accessed at July 18th 2014.

- ii. conserve the genetic diversity of Zambia's crops and livestock;
- iii. improve the legal and institutional framework and human resources to implement the strategies for conservation of biodiversity, sustainable use and equitable sharing of benefits from biodiversity;
- iv. develop an appropriate legal and institutional framework and the needed human resources to minimize the risks of genetically modified organisms (GMOs);
- v. ensure sustainable use and management of biological resources; and
- vi. ensure the equitable sharing of benefits from the use of Zambia's biological resources.

These goals are elaborated in more detail with associated logical framework, objectives and activities in the NBSAP.

Since developing the NBSAP, Zambia has undertaken a number of measures to safe-guard its environment. An Environment and Natural Resources Management and Mainstreaming Programme (ENRMMP) was set up in 2009 with the goals of *inter alia* reversing environmental damage and assisting government departments and agencies to integrate environmental issues into their planning and operations. An Interim Environment Fund was established in 2008 for investment in the environment and natural resources sector, while a Civil Society Environment Fund was established in 2010 to strengthen the ability of CSOs to participate in the promotion of sustainable environment and natural resources management.



Kelvin Munsanje in a field of sunflowers, Kasisi Agricultural Training College, Zambia Irish Aid 2009

### **Resources:**

UNCBD Country Profile: <http://www.cbd.int/countries/?country=zm>

Zambia Environmental Management Agency (2013); Zambia Atlas of our Changing Environment;

[http://www.necz.org.zm/index.php/publications/doc\\_download/113-zambia-atlas-of-our-changing-environment](http://www.necz.org.zm/index.php/publications/doc_download/113-zambia-atlas-of-our-changing-environment) (Accessed July 18th, 2014)

Zambia Ministry of Tourism, Environment & Natural Resources, MTENR (2009); 4th National Report to the UNCBD

<http://www.cbd.int/doc/world/zm/zm-nr-04-en.pdf> (Accessed July 18th, 2014)

Zambia Ministry of Tourism, Environment & Natural Resources, MTENR (1999); National Biodiversity Strategy and Action Plan Part II;

<http://www.cbd.int/doc/world/zm/zm-nbsap-01-p2-en.pdf> (Accessed July 18th, 2014)

### **Zambia & the UN Convention to Combat Desertification (UNCCD)**

Zambia produced a National Action Programme under the UNCCD in 2002. The programme outlines the status of soils in Zambia and the planned strategy and response to combat land degradation. Most of the soils in Zambia, particularly in Northern Zambia, are considered to be highly weathered, leached and acidic, partly due to high rainfall. The status of Zambia's soils has been described as generally "low soil fertility status; low crop yield levels; [and] moisture stress due to drought" (Kunda, 2012). A number of activities have been identified as leading to the current poor status of soils including; mono-cropping, continuous use of inorganic fertilisers, burning crop residues, ploughing and ridging (Kunda, 2012).

The National Action Programme put forward the following programme interventions as priorities for Zambia;

- Early Warning and Preparedness
- Forestry, Ecosystems and Species Conservation
- Water Catchment and Energy Conservation
- Collaboration and Networking
- Capacity Building of Programme Co-ordination Unit and Other Focal Persons
- Extension, Public Awareness, and Information Dissemination
- Land Degradation Assessments, Monitoring and Reporting
- Easy to use environmentally friendly technologies including Indigenous Knowledge
- Livelihood Improvement

- Food Self Sufficiency and Food Security
- Human Settlement Management, and
- Legal and Policy Reviews

**Resources:**

UNCCD (2014); Zambia Country Profile Online: <http://www.unccd.int/en/regional-access/Pages/countries.aspx?place=236> Accessed July 18th, 2014.

Ministry of Tourism, Environment and Natural Resources Zambia (2000); National Action Program under the UNCCD: <http://www.unccd.int/ActionProgrammes/zambia-eng2000.pdf> Accessed July 18th, 2014.

FAO (2014); ISFP Country Profile; Zambia: [Online] <http://www.fao.org/isfp/country-information/zambia/en/>

Kunda, Fredrick (2012); “Managing Living Soils” [Presentation at FAO Global Soils Partnership Workshop December 2012, Italy] [http://www.fao.org/fileadmin/user\\_upload/GSP/docs/WS\\_managinglivingsoils/Kunda\\_Zambia.pdf](http://www.fao.org/fileadmin/user_upload/GSP/docs/WS_managinglivingsoils/Kunda_Zambia.pdf) Accessed July 18th, 2014.



Villagers from Muleka Chiefdom draw water from Irish Aid funded Borehole Irish Aid, 2013

## **Key Partner Country's Bilateral Projects and Programmes**

### **1. Integrated Research on Improved Livelihoods, CGIAR Consortium, World Fish Centre**

The goal of this project is to contribute to improved livelihoods, health status, food and nutritional security of poor households in the Northern Province with a particular focus on women and vulnerable groups. The project will investigate agricultural and livelihood constraining factors and provide researched solutions to the Irish Aid Local Development Programme in Mbala and Luwingu districts. Some of the research questions to be addressed include; What are the opportunities to improve food and nutrition security through integration of aquaculture crops, livestock and forest; How can wetlands be sustainably used to increase farm production and diversification; what role do forests play in the performance of wetland based capture fisheries; is there evidence that forest loss has affected fish breeding sites; How can agro-forestry and forest resources be integrated and optimised in community livelihoods; and how do forests contribute to the ecosystem services necessary to maintain agricultural productivity? As this project will build capacity for the integration of biodiversity and eco-system service concerns into local planning and development, this project is marked as 'principal' in supporting the objectives of the UNCBD and is therefore counted at 100% towards biodiversity finance. In its research on the sustainable use and benefits of forestry and agro-forestry, this project contributes to the protection of greenhouse gas sinks. The project is thus marked as 'significant' for mitigation and is counted at 50% towards climate finance.

### **2. Provincial Coordinating Plan, Northern Province Provincial Planning Unit (PPU), Kasama**

The Northern Province faces many challenges arising from environmental degradation including diminishing and in some cases disappearing water bodies due to unsustainable use of forest, water and other natural resources. The main aim of the Province is "the improvement of infrastructure, the environment, human capacity development and access to basic social economic services". Activities are planned to address environmental degradation. One component is the promotion of bee keeping as a sustainable activity with income potential. Promotion of best practices in forest management, enhancement of sustainable forest income and also participation in afforestation and reforestation are other activities supported in the plan. Capacity building of provincial staff is also planned. In promoting sustainable use of forestry and participation in afforestation and reforestation, this programme supports biodiversity and the enhancement of greenhouse gas sinks contributing to mitigation. As these activities are part of the broader efforts of development for the province, it is marked as significant both for biodiversity and climate change mitigation and is thus counted at 50% towards biodiversity and climate finance respectively.

### **3. Luwingu District Annual Investment Plan (DAIP), Luwingu District Council**

As part of a broader plan for investment, the Luwingu DAIP included activities such as afforestation, promotion of conservation agriculture and sustainable farming, construction of irrigation, protection of springs and promotion of bee-keeping. By promoting conservation agriculture and afforestation the DAIP protects and enhances carbon sinks and thus contributes to climate change mitigation. The DAIP also contributes to adaptation to climate change by investing in irrigation and protection of springs. As these activities are part of a broader plan for development of the district it is marked as ‘significant’ in both mitigation and adaptation and is thus counted at 50% towards climate finance.

### **4. Mbala District Annual Investment Plan (DAIP), Mbala District Council**

As part of a broader plan for investment, the Mbala DAIP includes establishment of a community radio station to promote mitigation. The DAIP also contributes to adaptation to climate change by investing in irrigation and water supply infrastructure. As these activities are part of a broader plan for development of the district, it is marked as ‘significant’ in both mitigation and adaptation and is thus counted at 50% towards climate finance.

### **5. Irish Aid Local Development Programme (IALDP) Northern Province, Self Help Africa**

The primary goal of this programme is to improve the livelihoods, health status, food and nutrition security of poor households in Northern Province, with a particular focus on women and vulnerable groups. One crucial outcome of the programme is increased household food and nutrition security achieved against a background of improved knowledge in integrated soil management practices. It is intended that appropriate farming practices such as conservation agriculture, will result in sustainable land-use and increased productivity while maintaining eco-system services. Strict environmental guidelines will be applied to ensure sustainable use of resources and protection of ecosystems and biodiversity. One of the four key output areas is “Livelihood Enhancement Groups and Natural Resource Management Committees” (NRMCS) developed and trained in climate-smart crop, livestock and aquaculture production, and sustainable use of wetlands. The programme also aims to mainstream disaster risk reduction in all its activities including through interventions for preparedness, capacity building, and establishment of disaster management committees. By promoting sustainable agriculture that is compatible with and protects ecosystems and biodiversity, this project supports the objectives of the UNCBD. It is therefore marked as ‘significant’ for biodiversity and is counted at 50% towards biodiversity finance. In supporting soil management the project also supports the objectives of the UNCCD and is therefore marked as significant for land degradation. In supporting climate smart agriculture, such as resilient crops and diversification, and conservation agriculture which enhances soil carbon sinks the project contributes to both climate

change mitigation and adaptation. As these impacts and objectives are part of a broader programme aimed at improving livelihoods, the programme is marked as ‘significant’ both for mitigation and adaptation and is thus counted at 50% towards climate finance.

## **6. One UN, UNDAF, UNDP**

The UN Development Assistance Framework agreed five priority outcome areas for Zambia; 1) HIV and AIDS; 2) Sustainable Livelihoods and Food Security; 3) Human Development; 4) Climate Change, Environment and Disaster Risk Reduction and Response; 5) Good Governance and Gender Equality. The aim under (4) is to achieve development of institutional capacities to effectively sustain, manage and protect livelihoods from the risks of climate change, disasters and environmental degradation. Climate change is also seen to be a factor in the second outcome area, due to impacts on agriculture and business, and in the third outcome area due to increased incidence of malaria and water borne diseases. To address climate change, environment and disaster risk challenges the UNDAF will undertake the following interventions; strengthening systems and institutions to implement information management and early warning systems for better planning preparedness and coordinated response; integrating climate changes risks into programming and policies particularly for landcover; natural resource management, mainstreaming environmental issues and raising awareness in the general population particularly through schools; building capacity on energy efficiency and renewable energy in government, revising agriculture, land and forestry policy to reflect climate change, and building capacity for non-ODA carbon-financing. In building capacity for carbon-financing, renewable energy policy, and sustainable agriculture, landuse and forestry policy, this programme supports mitigation of climate change. In its support for early warning systems it supports both climate change adaptation and disaster risk management. As these are part of the broader development focus of the programme, it is marked as ‘significant’ for adaptation, mitigation and disaster risk reduction. It is thus counted at 50% towards climate finance and disaster risk reduction respectively.

## **Irish Aid funding to Irish Civil Society Programme Partners in Zambia**

The following disbursements by Irish Aid were identified as relevant to climate change, environment and/or disaster risk reduction by the beneficiary CSOs but are not included in Ireland Climate finance reports;

- Irish Aid supports Concern Worldwide in its work in Zambia targeted at extremely poor farm families and vulnerable groups to increase the capacity of communities to manage to hazards (€256,109)
- Irish Aid supports Self Help Africa in its work to increase smallholders’ skills and knowledge to benefit nutritionally and economically from intensified and diversified agricultural production, and to engage smallholders with relevant corporate, national, regional and global policy processes (€241,422)



Lunika Multi-Purpose Co-Operative Society Member Ben Muma stands watch over Co-operative Herd. Irish Aid, 2012

## Mapping of Bilateral Expenditure

Project/Programme	2013 Actual	2014 Planned	ENV	CBD	CC Mit	CC Ad	CCD	Agri	DRM	CB	TT	REDD
<b>1</b> Integrated Research on improved livelihoods, CGIAR Consortium Grant 2013, World Fish Centre	120,000 380,000	500,000 <sup>10</sup>	1	1	1	0	0	1	0	1	1	1
<b>2</b> Provincial Coordinating Plan, Northern Province, Provincial Planning Unit, Kasama NP	70,832	0	1	1	1	0	1	1	0	1	0	1
<b>3</b> Luwingu DAIP funding 2013, Luwingu district council	222,589	0	1	0	1	1	0	1	0	0	0	1
<b>4</b> Mbala DAIP funding 2013, Mbala Municipal Council	212,142	0	1	1	1	0	0	1	0	0	0	0
<b>5</b> Local Development Programme, Northern Province Mgmt and Technology Agency, Mobilisation and Inception costs, Self Help Africa	527,863 822,137	2,000,000 <sup>11</sup>	1	1	1	1	1	1	1	1	0	0
<b>6</b> ONE UN; Delivering as One in Zambia, UNDP	200,000	0	1	0	1	1	0	0	1	0	0	0

<sup>10</sup> 500,000 in 2015 and up to 2017.

<sup>11</sup> Approximately 2 million *per annum* up to 2017.

## Significant versus Principle Markers

The OECD DAC Rio Markers and the anticipated Disaster Risk Management Rio Markers work on a three-score system. Activities can be identified with;

- Principal marker of 2
- Significant marker of 1
- Or not targeted; 0.

The choice of principle, significant or not-targeted relates to hierarchy of objectives, goals and intended outcomes in the programme or project design. A principle marker is applied if the marker policy is one of the principle objectives of the activity and has a profound impact on the design of the activity. A significant marker is applied if the marker policy is a secondary objective, or a planned co-benefit, in the programme or project design. The zero marker is applied to show that the marker policy was not targeted in the programme or project design. If this is unknown, the marker is left blank.