



*A farmer tending irrigated land in Hagonda, Ethiopia. Photo by Tara Shine*

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# ETHIOPIA CLIMATE ACTION REPORT

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Resilience Policy Team | Irish Aid | November, 2015

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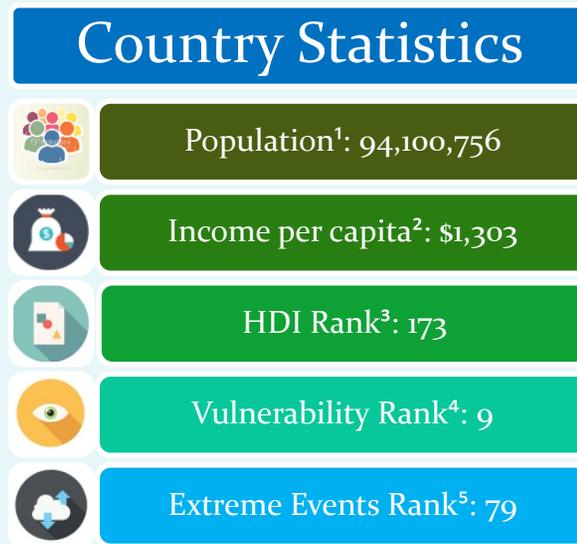
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## COUNTRY CONTEXT

Ethiopia in East Africa has a population of over 90 million people and its territory covers 1,127,127 square km. Recent reports from the Famine Early Warning Systems Network (FEWS NET) indicate that there has been an increase in seasonal mean temperature in many areas of Ethiopia (IPCC, 2014) and according to the UNDP climate change country profiles, the average annual temperature in Ethiopia is projected to increase by 1.1 to 3.1C degrees by the 2060s (McSweeney et al. 2010). In 2014, Ireland provided a total of €13,740,000 climate finance to Ethiopia.



Map of Ethiopia, Irish Aid, 2015

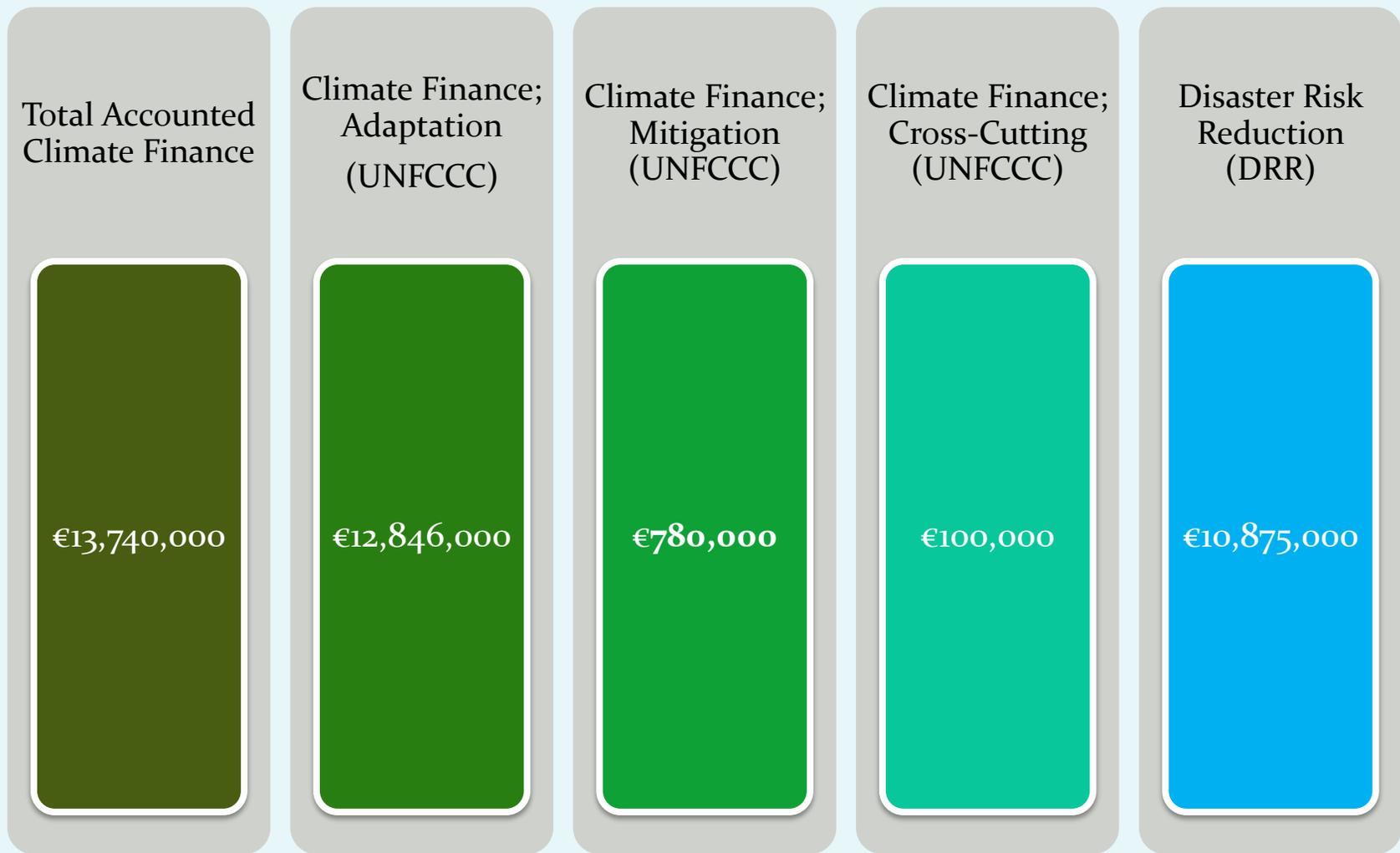
1 (The World Bank, 2015)

2 (The World Bank, 2015)

3 (UNDP, 2015)

4 (GAIN, 2013)

5 (Kreft, 2015)



Climate finance and DRR amounts should not be aggregated as some disbursements have multiple co-benefits and are marked for multiple environmental impacts. For the data and methodology behind these numbers see pages 22-25.

## ETHIOPIA, CLIMATE CHANGE AND THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

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Ethiopia is an active participant in the international climate change process of the UNFCCC. Ethiopia holds an African seat on the Consultative Group of Experts (CGE). The CGE offers expert advice to developing (non-Annex I) countries on the preparation of National Communications and Biennial Reports.

### RECENT CLIMATE TRENDS IN ETHIOPIA

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The International Panel on Climate Change (IPCC) Fifth Assessment Report WGII found that recent reports from the Famine Early Warning Systems Network (FEWS NET) indicate that there has been an increase in seasonal mean temperature in many areas of Ethiopia (IPCC, 2014). According to the UNDP climate change country profiles, the average annual temperature in Ethiopia increased by 1.3°C between 1960 and 2006 (McSweeney et al, 2010). Daily temperature observations also show an increase in the average number of 'hot' days and 'hot' nights per year. There is no statistically significant trend in observed average rainfall in any season (McSweeney et al, 2010). Daily rainfall records are insufficient to identify current trends in daily rainfall (McSweeney et al, 2010).

### PROJECTIONS OF FUTURE CLIMATE IN ETHIOPIA

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According to the UNDP climate change country profiles, the average annual temperature in Ethiopia is projected to increase by 1.1°C to 3.1°C by the 2060s. All projections indicate substantial increases in the frequency of days and nights that are considered 'hot' in the current climate (McSweeney et al, 2010). Climate model projections under some IPCC scenarios show warming in all four seasons across Ethiopia, which may cause a higher frequency of heat waves as well as higher rates of evaporation (Conway and Schipper, 2011). Thus current 'hot' days and nights will increasingly become the new normal for the Ethiopian climate. In highland arabica coffee-producing areas of eastern Africa, warming trends may result in the coffee berry borer (*Hypothenemus hampei*) becoming a serious threat in coffee-growing regions including Ethiopia.

The United Nations Development Programme (UNDP) country profile study projections consistently indicate increases in annual rainfall in Ethiopia, largely due to increased rain in the short rainy season of October-December in southern Ethiopia. They project that an increasing proportion of rainfall will fall in 'heavy' events mainly in the second half of the year (McSweeney et al, 2010). The World Bank Climate Profile of Ethiopia also supports this assessment. According to the 5th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), precipitation extremes or heavy rainfall events can lead to an increase in soil erosion due to rainfall and thus higher stream sediment loads. Greater runoff due to heavy rainfall events has a negative impact on water quality. Instead of diluting pollution, increased run-off sweeps more pollutants from the soil into watercourses.

The World Bank Climate Profile of Ethiopia lists the following implications for disaster risk management from climate change:

- According to the country's National Adaptation Programme of Action, climate change in Ethiopia will bring changes in precipitation patterns, rainfall variability, and temperature, which could increase the frequency and occurrence of floods and droughts;
- The increasing year-to-year variability and increases in both droughts and heavy precipitation events lowers agricultural production with corresponding negative effects on food security;
- Negative climate impacts on crop and livestock production could lead to food shortages, further hindering economic growth;
- The availability of clean drinking water is likely to decrease due to increasing evaporation and the increasing variability of rainfall events;
- Incidences of malaria will increase in areas of the highlands where malaria was previously not endemic. The warming is further expected to cause an increase in cardio-respiratory and infectious diseases.

## ADAPTATION

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Ethiopia is a member of the Least Developed Countries' (LDCs) Group in the UNFCCC. As part of the LDC work programme in the UNFCCC, Ethiopia's National Meteorological Agency produced a National Adaptation Programme of Action (NAPA) in 2007 with the aim of identifying priority activities that respond to urgent and immediate needs for adaptation to climate change. In particular, the NAPA identifies those needs for which further delay could increase vulnerability or lead to increased costs at a later stage. Prominence is given to community-level input as an important source of information, recognising that grassroots communities are the main stakeholders.

Ethiopia's NAPA identified the following priority actions for adaptation in Ethiopia;

- Promoting drought/crop insurance programmes;
- Strengthening/enhancing drought and early flood warning systems;
- Development of small scale irrigation and water harvesting schemes;
- Improving/enhancing rangeland resource management practices in pastoral areas;
- Community based sustainable utilisation and management of wet lands;
- Capacity building programme for climate change adaptation;
- Realising food security through a multi-purpose large-scale water development project in Genale-Dawa Basin;
- Community-based carbon sequestration project in the Rift Valley System;
- Establishment of a national research and development centre for climate change;
- Strengthening the malaria containment programme;
- Promoting on-farm and homestead forestry and agro-forestry practices in arid, semi-arid and dry-sub humid areas.

These projects broadly focus in the areas of human and institutional capacity building, improving natural resource management through community participation, enhancing irrigation agriculture and water harvesting, strengthening early warning systems and awareness rising. Further details on these priorities is provided in the NAPA. Subsequent to the NAPA, there is some evidence of evolution to a more integrated, multi-level and multi-sector approach to adaptation planning e.g. Ethiopia's Programme of Adaptation to Climate Change, which includes sectoral, regional, national and local community levels (Hunde, 2012; IPCC, 2014).

## MITIGATION

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Ethiopia submitted an Intended Nationally Determined Contribution in 2015 that includes mitigation elements which is further described below. In 2010, Ethiopia also submitted to the UNFCCC approximately 70 specific actions or projects as its Nationally Appropriate Mitigation Action (NAMA) up to the year 2020. These actions include projects in: renewable energy from hydro, wind, solar, geothermal and biofuel sources; railway projects;

agriculture including soil and agro-forestry measures; forestry; and waste management. Ethiopia seeks financial and technical support for these actions.

**Resources:**

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

McSweeney et al, (2010); UNDP climate change profile for Ethiopia:  
<http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/index.html?country=Ethiopia&d1=Reports>

World Bank Climate Profile (Available at 20<sup>th</sup> June 2014):  
[http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country\\_profile&CCode=ETH&ThisTab=ClimateFuture](http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=ETH&ThisTab=ClimateFuture)

Ethiopia's NAPA:  
[http://unfccc.int/adaptation/workstreams/national\\_adaptation\\_programmes\\_of\\_action/items/4585.php](http://unfccc.int/adaptation/workstreams/national_adaptation_programmes_of_action/items/4585.php)

Ethiopia's NAMA:  
[http://unfccc.int/files/meetings/cop\\_15/copenhagen\\_accord/application/pdf/ethiopiapha\\_ccord\\_app2.pdf](http://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/ethiopiapha_ccord_app2.pdf)

## INTENDED NATIONALLY DETERMINED CONTRIBUTION (INDC) OF THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

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Ethiopia's INDC covers both mitigation and adaptation activities that Ethiopia intend on implementing from now until 2030.

**Mitigation:** As part of its Intended Nationally Determined Contribution (INDC), Ethiopia intends to limit its net greenhouse gas (GHG) emissions in 2030 to 145 Mt CO<sub>2e</sub> or lower. This reduction would constitute a 255 MtCO<sub>2e</sub> or 64% reduction from the projected 'business-as-usual' (BAU) emissions in 2030. The BAU emissions represent projected future emissions in the absence of further climate policies or other measures. It reflects assumptions about e.g. population growth and economic development. Ethiopia's INDC would constitute a reduction in emissions per capita from 1.8t today (3t BAU) to 1.1t in 2030. See diagram below.

**Adaptation:** In line with the Climate Resilient Green Economy Strategy (CRGE), Ethiopia intends to undertake adaptation initiatives to reduce the vulnerability of its population, environment and economy to the adverse effects of climate change. The CRGE is Ethiopia's strategy for addressing both climate change adaptation and mitigation objectives. The intention behind the implementation of the CRGE is to ensure a resilient economic development pathway while decreasing per capita emissions by 64% or more. Ethiopia have also integrated the CRGE into the Second Growth and Transformation Plan (the national development plan).

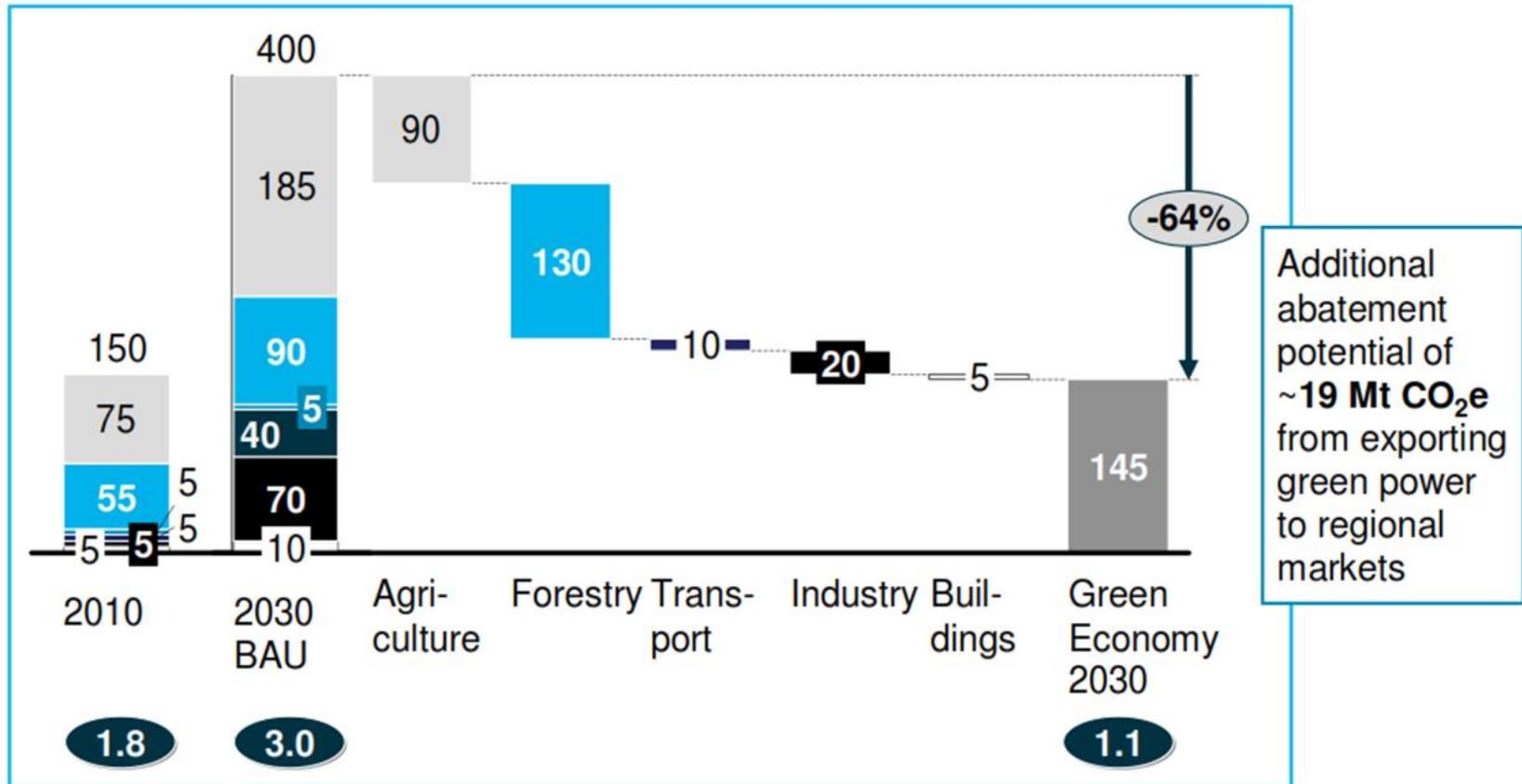
**Monitoring and Evaluation:** The Ministry of Environment and Forest (MEF) will regularly organize consultative dialogues to review the implementation of the national and sectoral adaptation plans. This iterative process will ensure that national and sectoral adaptation plans are regularly updated and implemented.

**Fairness, equity and ambition:** Ethiopia's per capita GHG emissions are 1.8 tCO<sub>2e</sub>. If Ethiopia's contribution is fully implemented, it will reduce per capita emissions to 1.1 tCO<sub>2e</sub> by 2030. Ethiopia state that for a Least Developed Country, this reduction exceeds expectations for both fairness and ambition while contributing towards the achievement of the objective of the Convention.

In the long term, Ethiopia intends to achieve its vision of becoming carbon-neutral, with the mid-term goal of attaining middle-income status. The INDC also states that full implementation is contingent upon an ambitious multilateral agreement being reached among Parties that enables Ethiopia to get international support and that stimulates investments.

Emissions per year<sup>1</sup>, Mt CO<sub>2</sub>e

t CO<sub>2</sub>e/capita    Agriculture    Power    Industry  
 Forestry    Transport    Others<sup>2</sup>



<sup>1</sup> Rounded numbers

<sup>2</sup> Currently estimated emissions from buildings and waste

*Ethiopia's INDC to limit net greenhouse gas (GHG) emissions in 2030 to 145 Mt CO<sub>2</sub>e or lower*

## CASE STUDY: IMPROVING SMALLHOLDER LIVELIHOODS & RESILIENCE IN THE SOUTHERN NATIONS, NATIONALITIES, & PEOPLES' REGION (SNNPR) THROUGH CLIMATE SMART AGRICULTURAL ECONOMIC DEVELOPMENT IN ETHIOPIA

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Hawassa Lake and its surrounding ecosystem in southern Ethiopia is increasingly threatened by environmental degradation and climate change. Research to date indicates a rapid deterioration of the natural resource base of the lake, its soil, water and forest resources, as a result, of the expansion of agricultural land. This shift to agricultural production is driven mainly by population pressure, an increased demand for timber for fuel and construction and ineffective policy on access and control over land resources. Analysis of the satellite data for 1965 – 2001 (Fig. 1) revealed that approximately 45% of natural vegetation was cleared for agricultural production and overgrazing through agro-pastoral modes of production (Assefa, 2005).

Specific challenges for the sustainability of Lake Hawassa include fluctuations in the lake water level due to climate change, water contamination by industrial effluent and domestic waste and depletion of fish stocks.

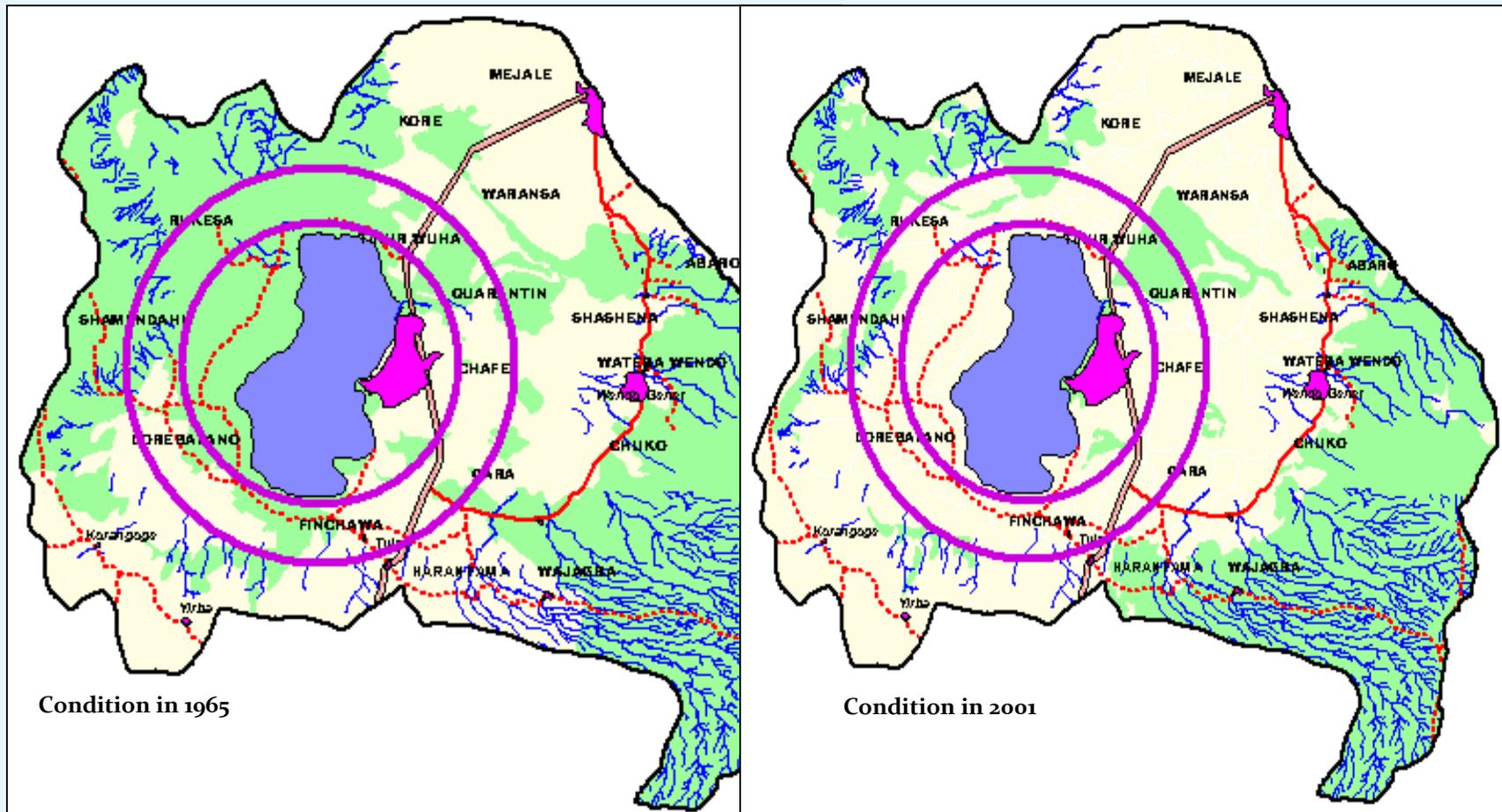
In light of the environmental degradation occurring at Lake Hawassa, Irish Aid is supporting a consortium of NGO's: SOS Sahel Ethiopia, Self Help Africa, Farm Africa and VITA to rehabilitate the environment surrounding Lake Hawassa. In order to ensure poverty reduction in the long term, Irish Aid has committed over \$1 million to mitigate the impact of climate change. The programme supports the community to implement soil and water conservation measures and to rehabilitate the large gulleys that have formed due to soil erosion.

The programme is also promoting inclusive and equitable land use management to ensure secure access and control over communal lands for landless youth and smallholder farmers. Seedling nurseries have been established around the lake to supply youth with seedlings and to rehabilitate degraded land. Over 5,600 hectares of land are under rehabilitation and over 5,000 youth and smallholder farmers have benefited from income-generating activities and climate smart agricultural approaches. The programme is built on three key pillars; increasing productivity and income, enhancing resilience of livelihoods through climate change adaptation and reducing the agricultural contribution to climate change.

The project aims to benefit up to 44,545 smallholder households to adapt to the effects of climate change, build resilience to climatic extremes and integrate climate smart agricultural solutions in to long term development action.

For further information on this Case Study, please access the [Climate Learning Platform](#)

Figure 1: Land use/cover change in the lake Hawassa catchment for the period 1965 and 2001 (source: Assefa, 2005).



## KEY PARTNER COUNTRY'S BILATERAL PROJECTS & PROGRAMMES

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### ENHANCING INTEGRATED WATERSHED MANAGEMENT WITH CLIMATE SMART AGRICULTURE IN GERGERA WATERSHED

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The objective of this programme is to enhance food security and ecosystem resilience in the Gergera watershed in Ethiopia. The programme aims to do this through Climate Smart Agriculture (CSA) and Integrated Watershed Management activities. The CSA activities focus on adaptation and mitigation against climate change impacts, while the Integrated Watershed Management activities include the introduction of best-fit technologies, approaches and practices for improved agricultural productivity. Major activities include the introduction of high value trees/crops such as legume shrubs, fruit trees, fodder, fertilizer, fibre, firewood and timber trees and the planting of fertiliser trees such as *faidherbia Albida*. The programme also aims to introduce an ever-green agricultural model as well as other land management techniques.

### OPERATIONAL RESEARCH AND TECHNOLOGY DISSEMINATION; TIGRAY

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Operational research in the agricultural sector in Tigray, Ethiopia involves participatory research and extension that places a large emphasis in on-farm trials and farmer validation of technologies. Ethiopia is highly vulnerable to climate change, not least because most agricultural production is rain-fed. The introduction of new crops and varieties contributes to the diversification of the farming system, food security and builds climate resilience. This project also tackles the seed supply challenge by facilitating access to improved varieties of seed.

### SUPPORT FOR RURAL LIVELIHOODS THAT ARE CLIMATE SMART THROUGH PROMOTION & DISSEMINATION OF OFF-GRID PHOTOVOLTAIC LIGHTING IN SNNRP & TIGRAY REGIONS

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The overall objective of the programme is to contribute to regional energy sector development in Tigray and SNNPR and to improve the livelihood of rural households by providing access to modern energy technologies.

The specific objectives are, firstly, to enhance access to small Photovoltaic (PV) technologies for targeted rural households by supporting their dissemination and promotion and, secondly, to install small PV systems at social facilities such as schools, health posts and community centres so that they can offer improved services. For example, the project

promotes the installation of PV systems at medical centres for electrical equipment and to increase access to information through communication technologies.

Overall, the combined effect of the above interventions will have a positive impact through the reduction of CO<sub>2</sub>, among other harmful emissions and hazardous waste. This will contribute to the successful implementation of the Climate Resilient Green Economy strategy in Tigray and the SNNPR.

### IMPROVING SMALLHOLDER LIVELIHOODS AND RESILIENCE THROUGH CLIMATE SMART AGRICULTURE AND ECONOMIC DEVELOPMENT

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This project promotes a Climate Smart Agricultural (CSA) approach towards achieving food security built on the three key CSA pillars: increasing productivity and incomes; enhancing resilience of livelihoods; and reducing agriculture's contribution to climate change. Undertaking a landscapes level approach and incorporating ecosystems aspects; forestry, fisheries, crops and livestock systems, the project aims to respond to and mitigate against the impacts of climate change. The project includes the scaling up of previously tested climate-smart practices and the piloting of innovative practices. Through the scaling up of climate-smart practices, the project intends to strengthen community and institutional capacities for effective management of disaster risk and long-term development, including strengthening of early warning schemes and enhancing access to weather/climate information. Throughout the project life cycle, tools and knowledge on climate-smart agriculture will be further developed and shared.

### SUSTAINABLE COMMUNITY BASED SEED PRODUCTION SYSTEM

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The aim of the Sustainable Community-Based Seed Production System project is to increase food security and economic growth for male and female smallholder farmers in SNNPR through the local production of quality seed to increase agricultural yields. The project also promotes natural resource management through its support to nurseries for seedling production, reducing the environmental impact whilst promoting agricultural production.

### PRODUCTIVE SAFETY NET PROGRAMME (PSNP)

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Ethiopia's Productive Safety Net Programme (PSNP) is a large national social safety net programme that responds not only to long-term stresses such as chronic food insecurity among Ethiopia's poor, but also to shorter-term shocks, such as droughts. It targets a highly climate-vulnerable population, offering a practical model of how social safety nets can be designed to meet the social protection needs of the most vulnerable, while simultaneously reducing the risks from disaster and climate-related impacts. The PSNP incorporates a number of interesting features, such as: public works activities geared towards improving climate resilience; a risk financing facility to help poor households and communities to better cope with transitory shocks; and the use of targeting methods that assist the most

climate-vulnerable community members to obtain the full benefits of a stable path of consumption (consumption smoothing) and planning intended to protect one's assets from creditor claims (asset protection). The IPCC 5th Assessment Report Working Group II reported that the utilization of social protection can buffer against shocks through building assets and increasing resilience of chronically and transiently poor households. The PSNP surpasses repeated relief interventions by also addressing slower onset climatic stresses and shocks.

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## INNOVATIVE APPROACHES TO FOOD SECURITY

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The Innovative Approaches to Food Security project includes an objective to promote climate resilient green agricultural activities. As part of this objective, education in climate resilient agriculture is promoted for district or woreda stakeholders, communities and school youth, and tree planting campaigns for plantations on highly degraded lands are encouraged.

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## COMMUNITY DRIVEN CLIMATE RESILIENCE BUILDING (CIVIL SOCIETY SUPPORT PROGRAMME)

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Women and men in the Benishangul Gumuz Region are highly dependent on climatic variability for their water resources and subsistence agricultural production. The project strives to ensure food and water security for communities in maintaining a healthy life, focusing on building the resilience capacity of the most vulnerable men and women (especially, local indigenous people) in four target districts. Building resilience capacity of vulnerable groups is conducted through the promotion of alternative livelihoods, maintenance of eco-systems, support to community innovations and promotion of learning. The project strives to develop innovative community driven actions that can be replicated elsewhere in terms of transforming policies, strategies, programs and practices of climate change institutions to act in favour of community based adaptation programming. Selected target districts vary in terms of their geography, climatic conditions, culture, ethnic diversity and representations, and socio-economic conditions. Thus, from this programme, a wealth of knowledge and experience on 'what works well' will be generated from a broad range of actors on how to reduce climate vulnerability and promote community-driven climate resilient development.

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## INTEGRATED TERMITE CONTROL AND SAFE WATER SUPPLY

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The livelihood system in Nedjo Woreda and the surrounding areas is threatened by a termite infestation. Termites are destroying land cover and changing the land use system with adverse socio-economic consequences. The infestation is clearing vegetation cover including trees, shrubs, crops and grasses and degrading a high proportion of land use systems, such as farm lands, forest lands and grazing lands which then become barren and unproductive. This has an immediate adverse impact on food and fodder production.

Furthermore, the termite infestation is disrupting the food system by heavily destroying green plants with long term consequences on the entire ecosystem. As the remainder of land cover degrades into a barren landscape, the precious top soil is exposed to destructive environmental forces such as runoff. As a consequence, farm and grazing lands have lost their fertility. Farming, the main livelihood system of the community is characterized by low productivity levels and as a result, food insecurity and poverty is now rampant within the area. The residents are forced to migrate to other areas in search of food and employment. Cross regional migration has led to conflict and may lead to higher forms of conflict with a potential to claim lives in the future. This project aims to address this important socio-economic challenge.

The programme is expected to result in a stable community membership including women, men, girls and boys, free of termite induced migration, food insecurity and livelihood insecurity. In addition, the goal for impacted lands to recover, become productive and support sustainable livelihoods is also a key component.

The project will focus on the below key outcomes:

- Reduced termite infestation
- Increased animal and crop production
- Increased income from off-farm activities
- Increased biophysical soil conservation
- Improved water and sanitation of the community

## ENVIRONMENTAL CONSERVATION AND ECONOMIC EMPOWERMENT FOR POVERTY ALLEVIATION

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This project has three main areas to focus on in terms of preventative action:

- Degradation of natural resource (soil, water and flora);
- Declination of the productive capacity of the land; and
- Scarcity in availability of drinking water and fuel wood, causing women and girls to travel long distances to fetch water for domestic use and to collect materials for fuel.

Interventions or measures undertaken include:

- Production of tree seedlings in two communal nurseries planted in area closures, community woodlots, in church grounds and individual homesteads;
- Construction of physical soil and water conservation structures, strengthened with biological measures;
- Planting fodder trees, vetivar grass and aloe on embankments, inside gullies and marginal lands;
- Encouraging communities to conserve the environment with planting and nurturing of indigenous tree seedlings to survive;

- Collaboration with honey production and marketing cooperatives to train farmers on fuel-saving stove production;
- Equipment of farmers with necessary production materials like mold, sand, gravel and cement for producing fuel wood in a sustainable manner;
- Facilitation and marketing of fuel efficient stoves produced in neighbourhoods or kebeles;
- Development of water springs to decrease the burden on women and children and enable the community access to clean and adequate water for human and livestock use, as well as for small irrigation purposes;
- Provision of training to farmer technicians on how to design underground water harvesting structures for collecting rainwater and engagement on small scale irrigation;
- Provision of training to farmers on vegetable and improved fruit tree farming; and
- Improved high value fruit trees introduced to increase farmers income through engagement in irrigated vegetable and fruit production.

#### Opportunities:

- Maintenance of the existing good relationship with the community and government offices; and
- Integrated Rural Development Association (ADHENO) acquired experience in addressing problems of the project area.

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### CLIMATE CHANGE ADAPTATION AND FOOD SECURITY

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Menge is one of the districts or woredas, in Benishangul Gumuz region highly affected by food insecurity, receiving emergency food support up until very recent times. According to the Regional Food Security Office: in 2009, Menge Woreda was supported several times and received the highest amount of food support in the entire Region.

The communities in the target area have been directly affected by climatic variability; rising temperatures, erratic rainfall and land degradation, due to a continual burning of vegetation cover by wild fires and a depletion in soil nutrients due to deforestation. As a result, availability and access to adequate and nutritious food among inhabitants is limited, with food and nutritional insecurity prevailing throughout the area.

The project intends to address both social and environmental problems in the target area through the alleviation of pressing socio-economic problems and an increase in climate resilience through linking conservation with livelihoods improvement. In this regard, the project actively promotes the growth of vetiver grass, cassava, and mushroom for nutritional and environmental reasons, while building local capacity to sustainably manage these initiatives.

## IMPROVING THE CLIMATE CHANGE RESILIENCE OF WOMEN THROUGH INCOME GENERATION SCHEMES

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South-West Ethiopia in general and Sekoru Woreda, situated in Oromia region in particular, are widely cited as resource rich areas in Ethiopia. Oromia region was once an area with thick forest, full of wild animals, fertile soil, and perennial rivers and streams. However, the area is now degrading at an alarming rate by the rapidly growing population coupled with the impacts of climate change.

For centuries, the Oromia region has hosted a high population of farmers pursuing exploitative farming practices that have exposed the land's precious top soil to destructive environmental forces such as heavy rain fall. This has resulted in severe environmental land degradation which is strongly linked with high levels of food insecurity and poverty in the area. The situation is having an adverse effect on women most predominantly as they withhold most of the communities' responsibilities and have a strong link with natural resources.

The primary objective of the project is, therefore, to address the interwoven economic and ecological challenges facing the community, particularly women, through linking conservation of natural resources with livelihoods improvement, increased resilience to climate change and complementary capacity development support. To this end, good opportunities for success are the extensive experience of the implementing partner in similar interventions, smooth relationships with local government and supportive policy framework on climate change and environmental issues.

## MITIGATING WEAK SOLID WASTE MANAGEMENT PRACTICES THROUGH LIVELIHOOD GENERATION

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Due to the limited capacity of the municipality of Hawassa (SNNP region), poor management of solid waste generated from houses in the city prevails. Waste is not adequately collected, is left to lie on the street of targeted sub-cities, thereby creating a breeding ground for communicable disease. In addition, the mismanagement of waste also affects the marine ecosystem of Lake Hawassa, thus threatening the livelihoods of thousands of people who are dependent on the lake for their livelihood.

Hawassa has a high level of youth unemployment, and through an innovative income generating approach, unemployed youths were organized into a series of associations that focused on recycling waste and creating compost.”

A number of key existing capacities enabled this project including:

- The willingness and commitment of the municipalities involvement in the project through the provision of land;

- The experience and capacity of the Green Initiative Ethiopia Development Association (GIEDA) in the implementation of the project in combination with its strong relationship with stakeholders;
- The existence of an unemployed young labour force at the targeted area who are interested in working on innovative projects and their implementation.

## COMMUNITY BASED PRODUCTION AND PROMOTION OF BIODIESEL

Using wood as the main source of fuel in rural Ethiopia had resulted in environmental degradation with a negative chain of problems such as deforestation, soil erosion and a reduction in agricultural productivity.

Furthermore, the use of fuel wood endangers women's and young children's health as they spend several hours a day in smoky cookhouses leading to lung cancer, cataracts, bronchitis, tuberculosis, higher infant mortality and low birth rates.

In economic terms, families who buy their cooking and lighting fuel spend up to one-quarter of their income on wood or kerosene which means that foraging for fuel wood is often portrayed as more economically viable. However, foraging for fuel wood is a demanding task as it reduces the amount of time women and children have for school and more profitable work.

In terms of global warming and climate change, the alarming levels of deforestation that are occurring in Ethiopia is partly due to the demand for fuel wood and this leads to a reduction in the carbon sink or the amount of stored carbon dioxide.

This project aims to promote safe, clean and eco-friendly alternative energy from biodiesel through community-based, small-scale production of biodiesel from castor bean and jatropha seed. The outcome from the project will be 200 households cultivating and using castor bean as a source of household energy for both cooking and lighting. Additionally, the same households will use jatropha plant for fencing and the jatropha seed for the production of biodiesel. The target group will gain additional income from the sale of extra biodiesel production through an established market and the community will gain an awareness and interest for using biodiesel as a replacement for fuel wood.



Flooding in parts of the sub watersheds near Lake Hawassa with leads to soil erosion

## IRISH AID FUNDING TO IRISH CIVIL SOCIETY PROGRAMME PARTNERS IN ETHIOPIA

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The following disbursements by Irish Aid were identified as relevant to climate change and/or disaster risk reduction by the beneficiary Civil Society Organisations (CSOs) but are not included in Ireland Climate Action Reports:

- Irish Aid disbursed €165,417 to support Self Help Africa increasing smallholder skills and knowledge to benefit nutritionally and economically from intensified and diversified agricultural production;
- Irish Aid disbursed €337,500 to support Concern Worldwide to enhance the resilience of extreme poor households to risk and shocks through strengthening the natural resource base in target communities;
- Irish Aid disbursed €79,442 to support Trócaire to diversify and increase incomes for poor male and female farmers, for poor urban self-employed women, for landless male and female youth, ex-pastoralist male and female youth and for poor pastoralists;
- Irish Aid disbursed €5,296 to support Trócaire to ensure sustainable access to water and other natural resource for poor rural agrarian, pastoralist, agro-pastoralist and peri-urban households;
- Irish Aid disbursed €90,035 to support Trócaire to increase production and productivity for poor male and female farmers, for male and female poor pastoralists and agro pastoralists;
- Irish Aid disbursed €37,073 to support Trócaire to reduce poor male and female agro-pastoralists and pastoralists' vulnerability to manmade and natural disasters;
- Irish Aid disbursed €461,231 to support GOAL to increase community access to water and to improve water quality, sanitation and hygiene practises in targeted communities in Borena and West Hararghe;
- Irish Aid disbursed €210,625 to support GOAL to improve access, availability and utilisation of food and reduced vulnerability to disasters in Borena and West Haraghe;
- Irish Aid disbursed €99,447 to support GOAL to increase and improve availability of and access to diversified income sources in Borena and West Hararghe;
- Irish Aid disbursed €117,675 to support GOAL to strengthen institutions and policies influenced in Borena and West Hararghe to create conditions for implementation of programmes that lead to improved access, availability and utilisation of food, and diversification of income sources;
- Irish Aid disbursed €43,366 to support GOAL with environmental programming;
- Irish Aid disbursed €22,000 to support Vitas in the introduction of improved stoves;
- Irish Aid disbursed funds to IFTN for training of farmers in Ethiopia in adaptation, mitigation practices and environmental conservation.

## MAPPING OF BILATERAL EXPENDITURE

Project/Programme	Recipient	2014 Disbursed / provided	CC Mit	CC Ad	CBD	CCD	Agri	DRM	CB	TT	Forestry & Agroforestry	Total Climate Accounting Weight	Total Accounted Climate Amount	Mitigation Total	Adaptation Total	Cross- cutting Climate Change
Enhancing integrated Watershed management with climate smart Agriculture in Gergera Watershed	World Agro-Forestry Center (ICRAF)	250,000	2	1	0	0	1	0	1	1	0	100%	250,000	250,000	0	0
Operational Research and technology Dissemination; Tigray	Tigray Agricultural Research Institute (TARI)	160,000	0	2	0	0	2	0	1	2	0	100%	160,000	160,000	0	0
Operational Research and technology Dissemination; South	South Agricultural research Institute (SARI)	175,000	0	2	0	0	2	0	1	2	0	100%	175,000	175,000	0	0
Support for rural livelihoods that are climate smart through promotion and dissemination of off-grid PV lighting in SNNRP and Tigray region	GIZ	500,000	2	1	0	0	0	0	0	1	0	100%	500,000	500,000	0	0

Project/Programme	Recipient	2014 Disbursed / provided	CC Mit	CC Ad	CBD	CCD	Agri	DRM	CB	TT	Forestry & Agroforestry	Total Climate Accounting Weight	Total Accounted Climate Amount	Mitigation Total	Adaptation Total	Cross- cutting Climate Change
Improving smallholder livelihoods and resilience through climate smart agriculture and economic development	Consortium of NGOs (SOS Sahel Ethiopia, Farm Africa, VITA and Self Help Africa)	950,000	1	2	1	1	2	1	0	0	0	100%	950,000	0	950,000	0
Sustainable community based seed production system	Agricultural Transformation Agency	1,000,000	0	1	0	0	2	0	1	2	0	50%	500,000	0	500,000	0
Productive Safety Net Programme (PSNP)	Ministry of Agriculture	10,400,000	1	2	1	1	0	2	1	0	1	100%	10,400,000	0	10,400,000	0
Innovative Approaches to Food Security	FARM Africa	200,000	1	1	0	1	2	0	1	0	1	50%	0	0	0	100,000
Community Driven Climate Resilience Building (Civil Society Support Programme)	Christian Aid along with other two partners	500,000	1	2	0	0	0	0	0	0	0	100%	500,000	0	500,000	0
Integrated Termite Control and Safe Water Supply	World Vision	60,000	0	2	0	1	1	0	0	0	0	100%	60,000	0	60,000	0
Environmental Conservation and Economic Empowerment for Poverty Alleviation	ADHENO Integrated Rural Development Association	30,000	0	2	1	1	1	0	0	0	0	100%	30,000	0	30,000	0
Climate Change Adaptation and Food Security	Assosa Environmental Protection Association (AEPA)	30,000	0	2	0	0	1	0	0	0	0	100%	30,000	0	30,000	0

Project/Programme	Recipient	2014 Disbursed / provided	CC Mit	CC Ad	CBD	CCD	Agri	DRM	CB	TT	Forestry & Agroforestry	Total Climate Accounting Weight	Total Accounted Climate Amount	Mitigation Total	Adaptation Total	Cross- cutting Climate Change
Mitigating Poor Solid Waste Management Impacts through Livelihood Generation	Green Initiative Ethiopia Development Association (GIEDA)	28,000	0	1	1	0	0	0	0	0	0	50%	28,000	0	28,000	0
Promotion and Community Based Production of Biodiesel	Save the Environment Ethiopia	30,000	2	0	1	1	0	0	0	0	1	100%	30,000	30,000	0	0

## METHODOLOGY

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The Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) Rio Marker methodology underpins the UNFCCC climate finance figures totals quoted on page four and in the table above. The Rio Marker definitions were employed to identify and score disbursements as climate mitigation, adaptation or cross-cutting relevant. The Rio Markers and the anticipated Disaster Risk Management Marker<sup>1</sup> 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.

The mapped climate finance in this report includes financial support both for activities scored as 'principal' (2) and for activities scored as 'significant' (1). This report categorises disbursements as adaptation where the scoring against the adaptation marker exceeds the scoring against the mitigation marker and vice versa. Where scoring is equal (and >0) under both adaptation and mitigation markers, the disbursement is counted as cross-cutting. In reporting bilateral climate finance we place a different weight on support for principal and significant activities. In aggregating finance for principal and significant activities, 'principal' activities are weighted with a coefficient of 100% and 'significant' activities are weighted with a coefficient of 50%. Where an activity has both adaptation and mitigation benefits, or is cross-cutting, it is weighted according to its highest score i.e. weights in mitigation and adaptation are not aggregated.

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<sup>1</sup> An OECD DRR marker definition is not yet agreed. Therefore we employed a simple approach by only marking or counting those projects or programmes where objectives and/or plans explicitly included and specified disaster risk management or disaster risk reduction components. Projects or programmes where early warning systems, or risk mitigation for natural hazards were specified in the activity documentation were also considered to be relevant to DRM.