



Ireland's Bilateral Climate Finance Tanzania - 2013 Report

With a total area of 945,087 square kilometres and with an estimated population of over 49 million, Tanzania is one of the largest countries in East Africa. Tanzania is ranked 152nd on the HDI ranking and 16th in terms of vulnerability. The average annual temperature in Tanzania has increased by 1.0°C since 1960 and is projected to increase by 1.0°C to 2.7°C by the 2060s. Ireland supports Tanzania in a number of agricultural, water management and storage, land degradation and carbon sequestration programmes with approximately €3,450,000 in climate finance in 2013.

Tanzania

Country Statistics

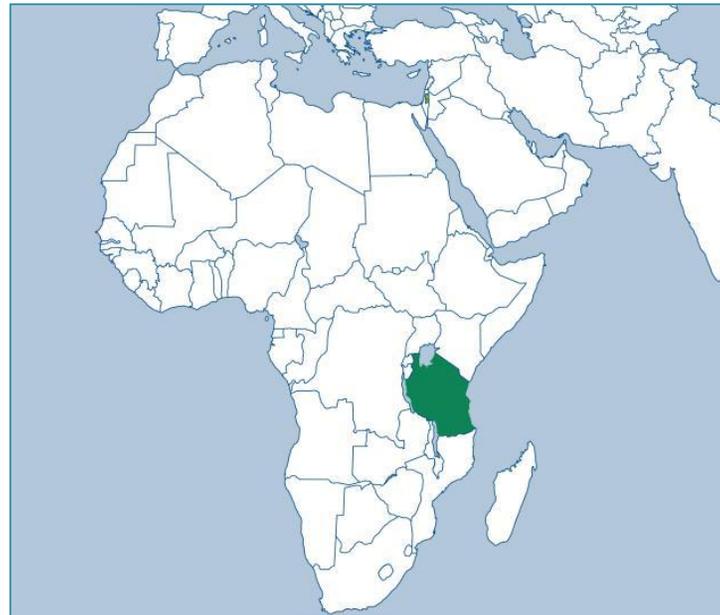
Population¹ 49,253,126

Income per capita² \$1,702

HDI Rank³ 159th

Vulnerability Rank⁴ 16th

Extreme Events Rank⁵ 100th



Map of Tanzania, Irish Aid

1 Population in 2013: World Bank (2014) <http://data.worldbank.org/indicator/SP.POP.TOTL> Available at 28th July 2014.

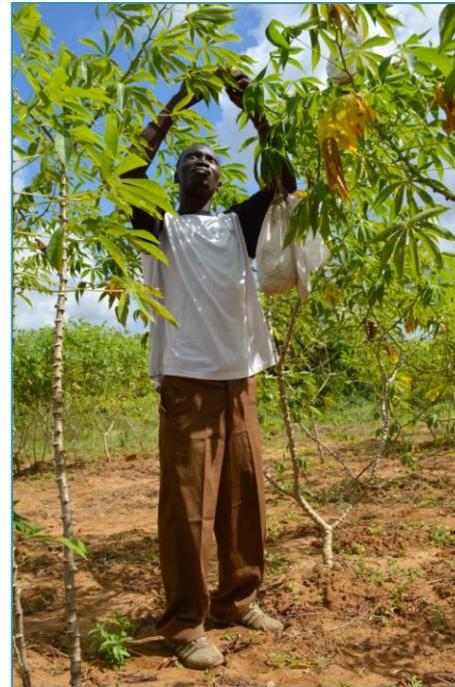
2 Gross National Income per capita in 2013, 2011\$ PPP; UNDP (2014) International Human Development Indicators; <http://hdr.undp.org/en/countries> Available at 28th July 2014.

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

<i>Bilateral Programme 2013 EUR⁶</i>	
Climate Finance; Adaptation⁷ (UNFCCC)	3,250,000
Climate Finance; Mitigation⁸ (UNFCCC)	2,450,000
UN Convention on Biological Diversity (UNCBD)	2,750,000
UN Combat Desertification and Degradation (UNCCD)	2,500,000
Disaster Risk Management (DRM) (UNISDR)	0
Irish Aid Support for Civil Society Programme Partners in Tanzania	119,300



James B Charles, cross pollinates cassava plants to produce improved varieties which are more adapted to climatic variations.

⁶ These figures should not be aggregated as some disbursements have multiple intended co-benefits and are thus marked for multiple environmental impacts. The climate finance total is €3,250,000.

⁷ 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.

⁸ As above

Tanzania, Climate Change and the UNFCCC

Tanzania is a member of the Least Developed Countries Group and has a position in the LDC Expert Group (LEG). Tanzania produced a National Adaptation Programme of Action (NAPA) in 2007. This plan states “Since Tanzania’s economy is largely dependent on agriculture, it is deemed that sustainable development can only be achieved when strategic actions, both short and long term are put in place to address climate change impacts on agriculture and other key economic sectors”. In 2012 Tanzania produced a National Climate Change Strategy which addresses mitigation, adaptation and cross-cutting interventions to realise opportunities available for developing countries in their efforts to tackle climate change.

Recent Climate Trends in Tanzania

Average annual temperature has increased by 1.0°C since 1960. The increase in night temperatures has been much more pronounced than daytime temperatures. While the number of cold nights has decreased significantly, there is no discernable decrease in the number of cold days.

Decreases in observed rainfall have been significant with observations showing annual rainfall decreasing by 2.8mm per month per decade since 1960. The greatest annual decrease has occurred in the southern-most parts of Tanzania (McSweeney et al, 2010).

The Fifth National Report of Tanzania to the UN Convention on Biological Diversity, further described below, found that severe droughts have exerted pressure on biodiversity and ecosystems (Vice-Presidents Office Tanzania, 2014). Frequent and prolonged droughts have led to drying of water bodies such as rivers, reservoirs, lakes and wetlands with consequent loss of biodiversity. Grazing lands have been diminished and electricity supply from hydropower has also been impacted. There has been a 68% decrease in dry season flow in the Mara River since 1972.

A submission by Tanzania to the UNFCCC in 2013 identified that currently more than 70% of all natural disasters are hydro-meteorologically related. Both floods and droughts have each had significant and serious impacts on local and national economy.

Projections of Future Climate in Tanzania

Average annual temperature is projected to increase by 1.0 to 2.7⁹C by the 2060s. Hot⁹ days and nights will become more frequent. It is projected that average annual rainfall will increase, but this will be more likely to fall in 'heavy' events than in the current climate and so may not contribute to year round water availability. In Tanzania an increase in temperature or rainfall increases the number of cholera cases (IPCC, 2014). The IPCC WG II report cites Cook and Vizzy (2013) who project shortened spring¹⁰ rains by the mid-21st Century over eastern Tanzania. There is a high degree of uncertainty about how the impact of El Niño on Tanzania weather will change with climate change (McSweeney et al, 2010).

The National Climate Change Strategy of 2012 outlines findings from the Tanzania Meteorological Agency that some of the previous highly productive areas of Tanzania such as the southern and northern highlands will continue to be affected by declining rainfall, frequent droughts and significant increase in spatial and temporal variability of rainfall. This will have long term implications in the agricultural sector including in planning and resources allocation, such as seeds and, pesticides and may result in shifts in types of agricultural produce. It also notes that while models predict a future expansion in the geographical range of diseases such as malaria, in Tanzania, there are already reported incidences of malaria in highland areas that were traditionally free from mosquitoes and malaria.

Adaptation

The Tanzania NAPA was prepared as part of the overall integrated plans, policies, and programs for sustainable development at national level. Vulnerability assessment was performed across key sectors; Agriculture, Energy, Forestry and Wetlands, Health, Human Settlements, Coastal and marine and fresh water water resources). After identification of vulnerabilities in each sector, key adaptation options and strategies that would best address those vulnerabilities were developed. Consultations were undertaken at national, regional, and district levels. This helped prioritise 14 adaptation activities to address the most urgent needs. These were ranked based on criteria of; impact on poverty reduction and health; reliability, replicability, and sustainability as follows;

1. Water efficiency in crop production irrigation to boost production and conserve water,
2. Alternative farming systems and water harvesting
3. Developing alternative water storage programmes and technology for communities,
4. Community based catchments conservation and management programmes,
5. Exploration and investment in alternative clean energy sources e.g. Wind, solar bio-diesel etc. to compensate for lost hydro potential
6. Promotion of co-generation in the industry sector for lost hydro potential,

⁹ Days or nights that are considered hot in the current climate.

¹⁰ Boreal spring – March, April, May.

7. Afforestation programmes in degraded lands using more adaptive and fast growing tree species,
8. Development of community forest fire prevention plans and programmes
9. Establishment and strengthening of community awareness programmes on preventable major health hazards,
10. Implementation of sustainable tourism activities in the coastal areas and relocation of vulnerable communities from low-lying areas
11.
 - a. Enhanced wildlife extension services and assistance to rural communities in managing wildlife resources,
 - b. Water harvesting and recycling,
 - c. Construction of artificial structures, e.g. sea walls, artificially placing sand on beaches and coastal drain beach management systems
 - d. Establishment of good land tenure system and facilitating human settlements.

The NAPA further elaborates on these priorities. It is worth noting the co-benefits to many of these identified priorities. Actions 5, 6 7 and 8 have mitigation co-benefits by promoting low carbon energy and actions by supporting carbon sinks in existing and new forestry.



Irish Aid supports farmers to access inputs such as seed and fertiliser.

National Climate Change Strategy

The goal of the National Climate Change Strategy is to enable Tanzania to effectively adapt to and participate in global efforts to mitigate to climate change with a view to achieving sustainable economic growth in the context of the Tanzania's national development blueprint, Vision 2025; Five Years National Development plan; and national cross sectoral policies in line with established international policy frameworks. Eight objectives are set;

- a) To build the capacity of Tanzania to adapt to climate change impacts.
- b) To enhance resilience of ecosystems to the challenges posed by climate change.
- c) To enable accessibility and utilization of the available climate change opportunities.
- d) To enhance participation in climate change mitigation activities that lead to sustainable development.
- e) To enhance public awareness on climate change.
- f) To strengthen information management on climate change.
- g) To enhance institutional arrangements to adequately address climate change.
- h) To enhance mobilization of resources in particular finance to address climate change.

The strategy builds on these objectives to identify a large number of strategic interventions for each relevant sector such as promoting rain water harvesting, promoting sustainable coastal land-use planning, supporting alternative livelihood initiatives for forest dependent communities, and strengthening wildlife information database and management systems. Similarly, a large number of strategic interventions for mitigation are identified for all the relevant sectors.

Resources:

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

McSweeney et al (2010), UNDP climate change profile for Tanzania:

<http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/index.html?country=Tanzania&d1=Reports>

National Adaptation Programme of Action (2007); <http://unfccc.int/resource/docs/napa/tza01.pdf>

National Climate Change Strategy (2012):

<http://tanzania.um.dk/en/~media/Tanzania/Documents/Environment/TANZANIA%20CLIMATE%20CHANGE%20STRATEGY/TANZANIA%20CLIMATE%20CHANGE%20STRATEGY.pdf>

Tanzania & the UNCBD

Tanzania is one of just 68 countries to have submitted its Fifth National Report on time to the Convention on Biological Diversity in March 2014.¹¹ Biodiversity is critical to the national economy. Agriculture, livestock, forestry and fisheries together contribute 65% of GDP and account for over 80% of total employment. Forests provide over 90% of energy consumption while the tourism industry is worth over USD \$1billion annually.

Tanzania has lost at least one third of its important ecosystems in the past few decades undermining livelihoods of many people who depend directly on them. Forests occupy 55% of the total land area. Tanzania has lost about 38% of its forest cover at a rate of about 400,000 ha per annum. More than half of inland water ecosystems (rivers, lakes and dams) have been degraded and are continuing to be threatened by inter alia changed water regimes, pollution and conflicts over resource use. Similarly, signs of environmental degradation and decline in coastal and marine biodiversity are becoming more obvious with the country losing about 44,000 ha of mangroves over the past 30years. Approximately 150,000 people rely on the mangrove ecosystems to earn their living. The Government of Tanzania aims to expand the protected marine area to 10% of territorial sea by 2020.

The flora and fauna of Tanzania are extremely diverse and generate important income. Annual revenues to government from trophy hunting varied from 15-23 million over the period 2009-2013. Annual revenues from 'photographic tourism' varied from 2 million to 3.9 million in the same period. The country has between 400-3000 endemic species. The limited available data suggest an overall declining trend for a significant number of species. The number of threatened species in the country has almost tripled over the last decade which can be linked to loss, fragmentation and degradation of habitat as well as climate change impacts. Genetic diversity seems to be declining in natural ecosystems as well as in agricultural and livestock production systems. Significant progress has been made for ex-situ conservation of plant and crop genetic resources but less so for livestock.

Continued biodiversity loss, unsustainable utilization and associated degradation of a wide range of ecosystem services amounts to at least 5% of the national GDP and affects most severely the poor communities who depend most on their immediate environment for survival. Over the past 5 years, a number of sectoral policies and legislation have been reviewed aiming at, among others, accommodating environmental challenges in areas of agriculture, mining, livestock, irrigation, water resources, wildlife, biotechnology and public health. Participatory resource management is being promoted through which, more than 30,000km² or 8% of wildlife protected areas and 9% of the forest area are being managed, thus contributing to addressing both biodiversity conservation and livelihood needs. Other initiatives include tree planting campaign whereby each District is required to plant and maintain at least 1.5 million trees per year; and promotion of alternative energy sources to help curb massive deforestation. Traditional forest management practices, including fallowing of land, are being promoted. However, inadequate resources, limited data and research, and low public awareness are some of the barriers hindering progress.

¹¹ 176 countries have submitted their 4th National Report to the UNCBD. More countries have submitted their Fifth National Report to the UNCBD since the March 2014 deadline.

Considerable effort has gone into mainstreaming biodiversity conservation into relevant national development and planning frameworks. The government has established environmental units in all sector ministries and continues to designate Environmental Management Officers at all levels of Local Government Authorities. A special environmental police unit has been established in the Tanzania Police Force in order to strengthen environmental enforcement. Other examples of mainstreaming include commerce and education. The Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA) has formed a committee responsible for promoting integration of environmental issues into company policies and awareness raising in the business community on environmental issues. The national education curriculum has integrated biodiversity knowledge in teaching and learning processes.

In implementation of the UN Convention on Biological Diversity, Tanzania has learnt a number of lessons including that investing and maintaining collaborative partnerships among multiple stakeholders is key to achieving biodiversity goals and that promotion of alternative livelihood activities can greatly enhance protection of biodiversity and ecosystem services by reducing harvesting pressure. However, adoption is slow due to the cultural and social beliefs.



Rachel Raymond, field agronomist at the Sugarcane Research Centre, Kibaha, cross pollinates cassava plants to produce improved varieties which are more adapted to climatic variations, Irish Aid, 2014.

Resources:

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

National Communication: <http://www.cbd.int/doc/world/tz/tz-nr-05-en.pdf>

Tanzania & the UNCCD

In 1999 Tanzania produced a National Action Programme to combat desertification under the UNCCD. This identified central areas of Tanzania, including Dodoma and Singida and Mars of Mwanza, Shinyanga, Mara, Iringa and Arusha regions as seriously threatened. The arid and semi-arid areas are environmentally fragile and highly vulnerable to land degradation and soil erosion. Human and animal interactions, soil characteristics, heavy seasonal rainfall, water and wind erosion and inadequate soil conservation measures exacerbate fragility. 68% of soils in Tanzania are of low fertility. Seasonal heavy rainfall and flash flooding cause water erosion reducing land productivity. Poor soil protection aggravates this. Land degradation reduces the resilience of ecosystems to natural variability.

The National Action Programme set the following short term goals;

- a) To reduce the destruction of resources in arid and semi-arid areas and to promote their sustainable use for the wellbeing of the inhabitants of these areas.
- b) To strengthen the human resources participating in the NAP
- c) To increase public awareness and participation in the NAP
- d) To establish and support effective administrative structures for the implementation of the NAP
- e) To introduce and/or improve intersectoral planning, management and monitoring approaches
- f) To establish partnership with stakeholders and other partners in development and management of drylands
- g) To identify and mobilise financial resources for the implementation of the NAP process.

The National Action Programme sets priority actions for different categories of land area. Priority is given to areas that are least degraded on the basis that preventative actions are less costly than remedial measures.

- For areas that are not degraded or slightly degraded;
 1. Empowerment programme for local communities to conserve and manage natural resources in their area of jurisdiction
 2. Education and awareness programme for all stakeholders
 3. Capacity building programme from district downwards
 4. Information and technology acquisition and dissemination programme
 5. Ecological monitoring programme
 6. Agricultural and livestock development programme
 7. Water resource development programme
 8. Programme on alternative sources of energy and improved stoves

- For areas that are moderately degraded;
 9. Education, awareness and information programme
 10. Water resource development programme
 11. Agricultural and livestock development
 12. Natural resources conservation and reforestation
 13. Capacity building programme
 14. Programme on alternative sources of energy and improved stove

- For areas that are seriously degraded;
 15. Water resource development
 16. Education, awareness and information programme
 17. Programme to provide alternative source of energy and improved stoves
 18. Capacity building programme
 19. Agricultural and livestock development programmes
 20. Natural resources conservation, afforestation and reforestation programme

- In all the three priority areas;
 21. Establish and strengthen early warning systems
 22. Strengthen food security systems
 23. Prepare and execute poverty alleviation programmes
 24. Establish databank and NAP monitoring systems



Working closely with civil society organisations, Irish Aid supports pastoralist communities to face the adverse effects of climate change.

Resources:

Tanzanian National Action Program under the UNCCD (2000):

<http://www.unccd.int/en/regional-access/Pages/countrydetail.aspx?place=68&ctx=nap&reportType=national>

Key Partner Country's Bilateral Projects and Programmes

1. Development of sustainable high quality cocoa value chain, Technoserve

In 2009, Technoserve Tanzania, with support from Ireland, launched a project in the cocoa industry to increase the incomes of 5,000 smallholder farmers by improving quality and linking farmers to markets. This second phase of the programme aims to increase the incomes of 18,000 smallholder cocoa farmers in two regions, Mbeya and Morogoro. This project will introduce technologies and practices to reduce environmental impact and adapt to climate change. In Mbeya, where farming is organic, they will introduce organic methods for increasing soil fertility. In Morogoro where farming is not organic, they will aim to reduce the amount of chemical inputs used on-farm. The primary climatic risk for farmers in Tanzania is drought. The project aims to improve access to affordable irrigation equipment, such as small-scale irrigation pumps, through access to microfinance. In reducing and improving the use of chemical inputs in non-organic farming, this project brings a positive environmental benefit. By improving access to affordable irrigation equipment, this project supports adaptation to climate change. It is marked as significant for adaptation, and is counted at 50% towards climate finance.

2. Agriculture Sector Development Programme (ASDP) Second Phase

The first phase of the ASDP came to an end in June 2013. The aims of the programme are to enhance sustainable agricultural production and productivity through better access to and use of agricultural knowledge to improved marketing systems and infrastructures and to promote private investment based on an improved regulatory and policy environment. The programme promotes conservation agriculture practices, drought resistant crops, agro-forestry practices, water conservation and improved irrigation and the use of indigenous crops and livestock species. Both conservation agriculture which promotes the sequestration of carbon in the soil, and agro-forestry, which increases carbon stocks in biomass and soils, contribute to mitigation of climate change. Water conservation, improved irrigation and drought resistant crops all increase climate resilience and thus support adaptation to climate change in Tanzania. By promoting the use of indigenous crops and livestock, this project supports the objectives of the UN Convention on Biological Diversity. By promoting soil conservation practices this programme also contributes to the objectives of the UN Convention on Combatting Desertification. This project is marked as 'significant' in both mitigation and adaptation and therefore counts at 50% towards climate finance totals.

3. Reduce poverty & vulnerability & enhance livelihood, CARE International with Tanzania Natural Resource Forum (TNRF)

The goal of this programme is to reduce the poverty and vulnerability of pastoralist communities in Tanzania. The pastoralist strategy of flexible tracking of resources is well-adapted to short-term climate variability and is a pre-condition for adaptation to more frequent extreme events and long-term climate changes. By promoting and supporting pastoralism as an adaptive and resilient way of life, this project contributes to adaptation to climate change. By promoting local livestock landraces which have greater resilience to drought, this project also support biological diversity. As reduction of poverty is the primary goal of this project, it is marked as ‘significant’ for adaptation and mitigation and is thus counted at 50% towards climate finance.

4. Strengthen lobbying & advocacy capacity of farmers, MVIWATA

This programme supports the Network of Small-Scale Farmers’ Groups in Tanzania. The focus of this programme is the strengthening of farmer groups and networks at all levels including through capacity building, economic empowerment and advocacy. It includes promotion of cross-cutting issues, namely HIV/AIDS, gender and climate change as one of five strategic intervention areas. Poor natural resource management is also addressed. Overuse of resources, land degradation, decreased productivity due to loss of soil fertility, water depletion, increasing desertification, loss of pastures, increasing resistance of human, animal and plant pests and diseases have all characterised the environmental context of the country. Climate change has caused increasing concern and exacerbates existing problems. These are manifested in increasing food insecurity, conflicts over land use and struggle for land between ‘investors’ and small, native producers. By building the knowledge and training of farmers in climate change and mainstreaming climate change and environmental concerns in MVIWATA strategy and policy, this programme supports the environment and adaptation to climate change. It is marked as ‘significant’ for adaptation and is thus counted at 50% towards climate finance.

5. Support UNDAP 2011-15 plan as part of Tanzania- One UN, UNDAP

The UN Development Assistance Plan (UNDAP) supports the achievement of the international development goals, the Millenium Declaration and related Millenium Development Goals, national development priorities and the realisation of international human rights in Tanzania. The plan will facilitate the development of by-laws and other practical tools for the sustainable management of natural resources. The plan supports the government to formulate a national strategic investment framework for integration of financing opportunities arising from payments for provision of ecosystem services in carbon, water and biodiversity. The plan will also support renewable energy. By supporting carbon sequestration and supporting renewable energy the plan contributes to mitigation. By promoting improved management of water, adaptation is supported. The plan also supports the objectives of the UN CBD by enhancing protected

areas' connectivity through continued support for wildlife corridor development. This programme is marked as 'significant' for mitigation and adaptation and is thus counted at 50% towards climate finance.

6. Increase income from oilseeds of small farms, SNV Tanzania

The programme promotes edible oilseeds such as sunflower and sesame seeds to support improved household nutrition and food security in poor communities. Sunflower and sesame seeds were chosen for this project for their potential for increased processing capacity, income and employment, and for being climate smart crops. By supporting nutrition through climate resilient crops, this programme supports reduced vulnerability and adaptation to climate change. It is marked as 'significant' for climate adaptation and is thus counted at 50% towards climate finance.

7. Contribution to Tanzania's Poverty Reduction Budget Support, Ministry of Finance

Irish Aid has supported Tanzania's poverty reduction through direct budget support. While this is not listed in the table below as environmental or climate finance, its potential in supporting relevant activities by government is important.

Irish Aid funding to Irish Civil Society Programme Partners in Tanzania

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 Oxfam in its work targeted at pastoralist communities to decrease their vulnerability to shocks from drought and climate change including through support for the development of early warning systems and drought cycle management (€119,300).

Mapping of Bilateral Expenditure

Project/Programme	2013 Actual	2014 Planned	ENV	CBD	CC Mit	CC Ada	CCD	AGRI	DRM	CB	TT	REDD
Develop sustainable high quality cocoa value chain, Technoserve	1,000,000	1,000,000	1	1	1	1	1	1	0	0	0	1
Agriculture Sector Development Programme (ASDP)	4,000,000		1	1	1	1	1	1	0	1	1	1
Reduce poverty & vulnerability & enhance livelihood, CARE International	400,000	400,000	1	0	1	1	0	1	0	1	0	1
Strengthen lobby & advocacy capacity of farmers, MVIWATA	400,000	400,000	1	0	0	1	0	1	0	1	0	0
Support UNDAP2011-15 plan as part of Tanzania, One UN, UNDAP	500,000	0	1	1	1	1	0	1	0	0	0	1
increase incomes from oilseeds of 120k small farms, SNV Tanzania	200,000	370,000	0	0	0	1	0	1	0	0	0	0
	6,500,000											

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;

- Principle 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 or 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.