



An irrigation dam built under Programme 135 in Thanh Hoa province. *Photo: Irish Aid*

VIETNAM CLIMATE ACTION REPORT FOR 2015

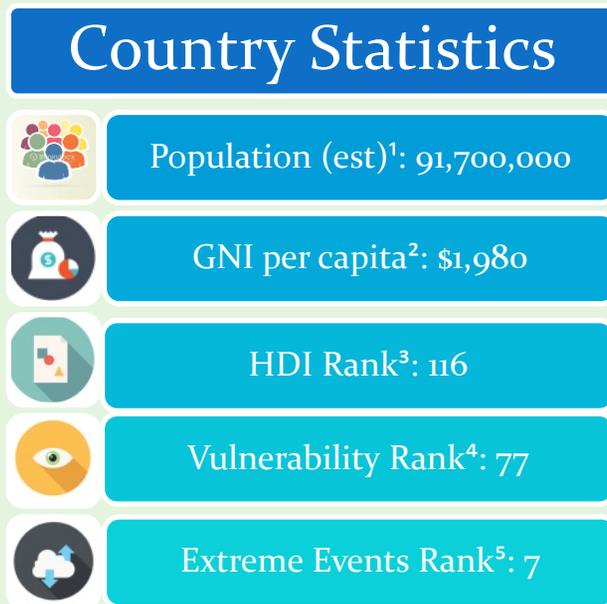
Climate Policy | Irish Aid | September, 2016

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COUNTRY CONTEXT

The total land area of Vietnam is 329,569 square kilometre and it has a population estimated at over 91 million. Vietnam has the highest population density in Southeast Asia after Singapore, with a national average of 232 people/km² and up to 1,000 people/km² in the Northern Delta. Since the country lies in the tropical cyclone belt, it is vulnerable to natural disasters, including typhoons, floods, droughts, saltwater intrusion and landslides. Over the past 50 years, the average temperature in Viet Nam has increased by approximately 0.5°C and the sea level has risen by about 20cm. Extreme climate events have increased both in frequency and intensity. Climate change has made hazards, especially storms, floods and droughts, more intense. The average annual temperature has increased by 0.4C degrees since 1960 and is projected to increase by 0.8C to 2.7C degrees by the 2060s.



Map of Vietnam, Irish Aid, 2015

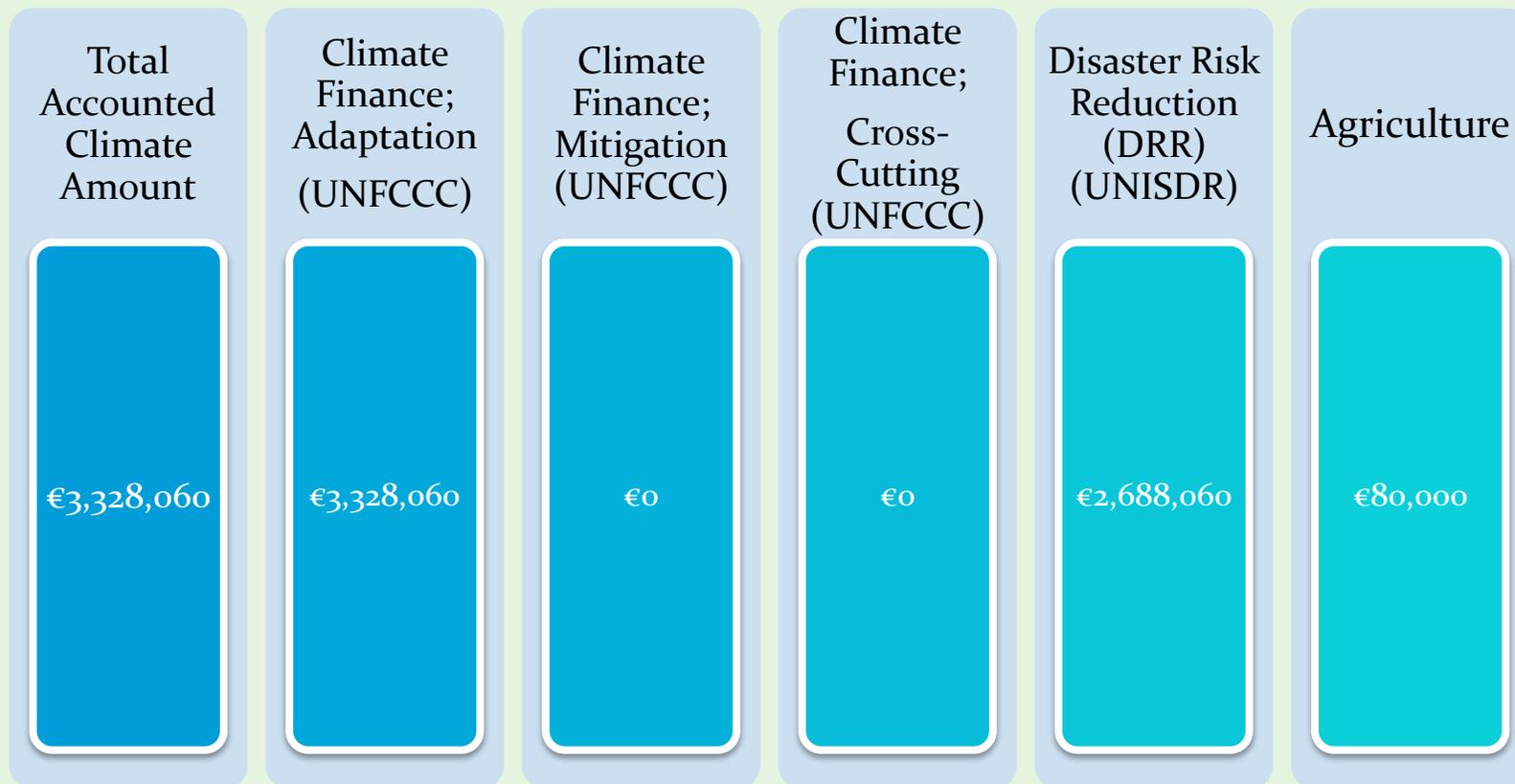
1 <http://data.worldbank.org/indicator/SP.POP.TOTL?locations=VN>

2 <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=VN>

3 <http://hdr.undp.org/en/countries/profiles/VNM>

4 <http://index.gain.org/country/viet-nam>

5 <https://germanwatch.org/en/download/13503.pdf>



Ireland provided €3,328,060 in climate finance to Vietnam in 2016. Climate finance, agriculture 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 15-17.

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

RECENT CLIMATE TRENDS IN VIETNAM

Average annual temperature in Vietnam has increased by 0.4°C since 1960. The warming has been more rapid in the southern parts of Vietnam than the central and northern regions. The frequency of hot days and hot nights has increased significantly since 1960. There has been no apparent change to rainfall patterns since 1960. In Vietnam from April to August, current temperatures are already approaching critical levels during the susceptible stages of the rice plant (IPCC, 2014).

PROJECTIONS OF FUTURE CLIMATE IN VIETNAM

The average annual temperature is projected to increase by 0.8 to 2.7°C by the 2060s. The projected rate of warming is similar in all seasons and across all regions of Viet Nam. All projections indicate substantial increases in the frequency of days and nights that are considered 'hot' in the current climate. Despite projected reductions in rainfall in the February – April period, annual rainfall is projected to increase due to larger increases in rainfall in the August – October period. The proportion of total rainfall that falls in heavy events annually is projected to increase though with variation between months. Whilst evidence indicates that tropical cyclones are likely to become, on the whole, more intense under a warmer climate as a result of higher sea-surface temperatures, there is great uncertainty in changes in frequency, and changes to storm tracks and their interactions with other features of climate variability such as El Nino. Vietnam's coastal lowlands are also vulnerable to sea-level rise which is already bound to occur based on existing emissions, though the extent is dependent on the rate of future global emissions.

About 7% of Vietnam's agriculture land may be submerged due to sea-level rise. Peri-urban agriculturalists in the Vietnamese Mekong Delta are facing a multiple burden since they are often exposed to overlapping risks resulting from (a) socio-economic transformations, such as land title insecurity and price pressures, (b) local biophysical degradation, as peri-urban areas serve as sinks for urban wastes and (c) climate change impacts as they do not benefit from the inner-urban disaster risk management measures.

Observations of climate change in the lower Mekong river basin over the past 30-50 years include an increase in temperature, an increase in rainfall in the wet season and decreases in the dry season, intensified flood and drought events and sea level rise. Agricultural output has been noticeably impacted by intensified floods and droughts. Vietnam, along with Cambodia, is the most vulnerable to climate impacts on fisheries. The lower Mekong river basin supports the largest freshwater capture fishery in the world. Existing studies about

future climate impacts in the Mekong basin share a set of common themes: increased temperature and annual precipitation; increased depth and duration of flood in the Mekong Delta; prolonged agricultural droughts in the south and east of the basin and sea-level rise; and salinity intrusion in the Mekong delta. Trans-boundary adaptation planning across the Lower Mekong Basin does not exist to date.

SECOND NATIONAL COMMUNICATION OF VIETNAM TO THE UNFCCC

Vietnam submitted its Second National Communication to the UNFCCC in 2010. This outlined the national circumstances of Vietnam, its climate change impact scenarios, its greenhouse gas inventory and a number of implemented and priority initiatives were identified. Primary energy consumption in Vietnam increased by 6.5% per annum from 2000 up to 2007 which may be linked to population growth of 1.36% per annum and economic growth of 7.5% per annum in the same period. On the other hand, the area of forestry in Vietnam grew from 35.2% of land area in 2000 to 38.7% in 2008.

The Second National Communication describes scenarios of expected climate change impacts and identifies an adaptation response. It is anticipated that annual flows of rivers in the North and North Central Coast of Vietnam will increase while annual flows of rivers in the south are expected to decrease. Adaptation measures need to focus on incorporating climate change in to planning new systems of reservoirs, dams and dykes which are part of water resources management in Vietnam. With sea-level rise, the Mekong delta will be most impacted. It is estimated that by 2100, 5,469km² of arable land will be lost and 168km² and 320km² of aquaculture and forest land will be submerged. Adaptation will require a choice between three categories of action: full protection, adaptation and withdrawal. In agriculture, short term measures for adaptation include controlling erosion, building reservoirs, and picking crops to suit new climatic conditions. Climate change is also expected to impact forestry with a reduction in native forest cover, increased risk of forest fires and increased pests. Establishing forest fire management and prevention, as well as further research will be important for adaptation in this sector. The National Communication also identified the need for improved urban planning to address heat load and drainage, and to reflect impacts of natural disasters. Improved weather forecasting and disaster and disease outbreak warnings with improved communication of these was identified as a national priority.

The 2nd National Communication primarily identified mitigation options in the agriculture, energy and forestry sectors. Activities include energy efficiency across sectors, a switch from coal to gas in household cooking, energy efficient appliances, energy efficient coal stoves, solar water heating, switching public transport from diesel to gas, expansion of gas in electricity generation, small scale hydropower, wind power, bio-gas in agriculture and rural

communities, improved drainage of paddy fields, sustainable management of existing forestry and afforestation.

MITIGATION

The National Strategy on Climate Change recognises that Vietnam's plans to become a modern industrialised country by 2020 will result in higher greenhouse gas emissions but also the need to diversify its energy mix. As one of the fastest growing economies in South East Asia Vietnam's electricity demand is predicted to treble by 2020 and there is a commitment to ensure that rising energy demand is in part supplied from renewable sources.

The National Green Growth Strategy for Vietnam was also approved by the Prime Minister in 2012. The strategy sets out objectives towards a green economy, energy efficiency, GHG reduction and improvement of living standards. It includes the target to reduce the intensity of GHG emissions by 8-10% (as compared to the 2010 level) between 2011 and 2020; and reduce GHG emissions by at least 1.5% -2% a year until 2030. The strategy focuses on improving energy efficiency, changing the fuel structure in industry and transportation, increasing the proportion of new and renewable energy sources and the development of organic agriculture.

Vietnam's First Biennial Updated Report (BUR) was submitted to the UNFCCC in December 2014. According to the BUR, Vietnam had 253 Clean Development Mechanism (CDM) projects and over 10m Certified Emissions Reductions (CERs) were issued.

More detail on Vietnam's mitigation ambition is set out below in the summary of Vietnam's Intended Nationally Determined Contribution (INDC).

ADAPTATION

The National Climate Change Strategy has identified priorities in food security, energy security, water security, poverty reduction, gender equality, social security, public health, livelihood improvements and the protection of natural resources. These goals can only be achieved through enhancing the adaptive capacity of human and socio-economic systems as well as natural systems.

Climate change adaptation until 2020 is reflected in the following strategies, programmes and action plans:

- Resolution No. 24-NQ/TW on "Pro-actively responding to climate change, enhancing natural resource management and environmental protection" (2013);
- Law on Natural Disaster Prevention and Control (2013);

- National Climate Change Strategy (2011);
- National Target Programme to Respond to Climate Change (2008, 2012);
- Action plans at the national, ministerial, sectoral and local levels on climate change response and disaster risk prevention and reduction.

The climate change adaptation priority actions for the period 2021-2030 include:

- 1) Respond pro-actively to disasters and improve climate monitoring
- 2) Ensure social security
- 3) Responding to sea level rise and urban inundation

Viet Nam has determined that climate change adaptation must be carried out in a focussed manner and respond to urgent, immediate impacts and long-term potential impacts. Climate change adaptation must be linked to sustainable development and the transition towards a low-carbon economy, and to ensure a systematic, joint, interdisciplinary, interregional approach, and incorporate gender equality, hunger eradication and poverty reduction.

DISASTER RISK REDUCTION

The National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020, approved in 2007, does not specifically refer to climate change but outlines the approach for disaster mitigation and management, particularly floods, storms and droughts. In 2013, the Law on Natural Disaster Prevention and Control was enacted, aiming to address diverse natural hazards that affect the country, which are primarily climate change related. In early 2015, the Vietnam Special Report on Managing Risks of Extreme Events and Disasters to Advance Climate Change Adaptation was published and contains a comprehensive risk assessment for the country.

In July 2016, the Green Climate Fund approved \$29.5 million for a project to improve the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam

RESOURCES:

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

UNDP climate change profile for Vietnam:

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

2nd National Communication of Vietnam to the UNFCCC (2010):

<http://unfccc.int/resource/docs/natc/vnmnc02.pdf>

Vietnam Assessment Report on Climate Change (2009)

http://www.unep.org/pdf/dtie/VTN_ASS_REP_CC.pdf

The Global Climate Change Legislation Study – Grantham Institute

<http://www.lse.ac.uk/GranthamInstitute/legislation/countries/vietnam/>

INTENDED NATIONALLY DETERMINED CONTRIBUTION VIETNAM

Vietnam's INDC includes a mitigation and an adaptation component.

Mitigation: Vietnam's Business-As-Usual (BAU) scenario for Greenhouse House Gas (GHG) emissions was developed based on the assumption of economic growth in the absence of climate change policies. The BAU starts from 2010 (the latest year of the national GHG inventory) and includes the energy, agriculture, waste and land use, land-use change and forestry (LULUCF) sectors. GHG emissions in 2010 were 246.8 million tCO_{2e} and projections for 2020 and 2030 (not included industrial processes) are 474.1 million tCO_{2e} in 2020 and 787.4 million tCO_{2e} in 2030. Through unconditional contributions that are measures that will be implemented using domestic resources, by 2030, Viet Nam will reduce GHG emissions by 8% compared to BAU. With conditional contributions which could be implemented if new and additional international financial support, technology transfer and capacity building are received, the contribution could be increased by up to 25% with international support.

Adaptation: The adaptation component of the INDC describes the climate change adaptation actions that are currently being implemented. It also identifies adaptation gaps in terms of institutional and policy arrangements, financing, human resource capacity and technology and prioritized adaptation measures for the 2021-2030 period. It is estimated that the national budget will be able to meet approximately one third of the financial needs to implement adaptation measures in this period, and will seek international support and private sector investment for the remainder.

Monitoring and Evaluation: The monitoring and evaluation of the implementation of the GHG mitigation component to achieve the mitigation goals formulated in the INDC will be reflected in Vietnam's "National Communications" and "Biennial Updated Reports" submitted to the UNFCCC.

Fair and ambitious: In 2010, greenhouse gas (GHG) emissions of Vietnam accounted for approximately 0.5% of global GHG emissions and GHG emissions per capita were relatively low at 2.84 tonnes of CO_{2e}. However, Vietnam is proactively implementing climate change response activities, developing a low-carbon and green economy, strengthening the implementation of potential GHG mitigation measures in the energy, industry, transport, agriculture and waste sectors and enhancing carbon sinks in the LULUCF sector. National efforts are also reflected in the fact that the Government considers climate change response a crucial issue, as it is the entire country's responsibility to simultaneously implement adaptation and mitigation, as well as use natural resources effectively. A roadmap with methods to implement GHG mitigation measures to achieve Viet Nam's INDC will be issued.

CASE STUDY: URBAN GARDENS

PROVIDING ORGANIC VEGETABLES, IMPROVING AIR QUALITY AND GREEN SPACES

Hanoi is a mega city in Vietnam with the population over 9 million. With rapid urbanisation, Hanoi faces many challenges including major environmental challenges (solid waste management, air and water pollution) and living standards (food safety, lack of green spaces and community cohesion).

Starting in 2014, Action for the City, a local NGO, implemented the project entitled “From University to Community: preparing a generation of professionals in sustainable development” funded by Irish Aid. Through a Sustainable Field School, this project aims to build capacity of university students to work in grassroots development projects.

In summer 2016, 25 students from 5 Universities in Hanoi had a great opportunity to join in the Urban Gardening programme. Urban gardens not only provide safe vegetables but also improve the air quality and green spaces for urban residents. Especially, they encourage residents to use organic waste for composting and recycled materials (wood, brick and plastic bottles) for their gardens.

Each gardens had a unique design, such as: vertical garden, square garden, garden with recycled materials etc. In addition, students also provided knowledge and skills for households, teachers and students on how to make compost and grow organic vegetable and medical herbs in their gardens. During two weeks in July 2016, 6 household gardens and 2 school gardens has been set up in Ngoc Ha Ward (Ba Dinh District) and CGD Primary School.

The important thing our students and the community realised is that urban gardens are a great way to connect people to people, generation to generation to take actions together for a liveable and greener urban future. All participants engaged that they will continue to develop urban gardens in Hanoi and other cities in Vietnam.



6 students worked with 6 households, using recycled brick and wood to set up their garden, at Ngoc Ha Ward, Ba Dinh District, Hanoi. Photo: Action for the City.

KEY PARTNER COUNTRY'S BILATERAL PROJECTS AND PROGRAMMES

POVERTY REDUCTION PROGRAMME 2012-2015 (PROGRAMME 135)

The National Targeted Programme on Sustainable Poverty Reduction Program 2012 – 2015 (Programme 135) focuses on 4 projects including: (i) to support the construction of infrastructures in poor districts and most disadvantaged communes in coastal areas and islands; (ii) to support the construction of infrastructures in most disadvantaged communes, frontier communes, safe zone communes and most disadvantaged villages; and (iii) the replication of poverty reduction models. Irish Aid provides earmarked budget support to the most disadvantaged communes in improving their basic infrastructure and accessibility to services for poor ethnic minorities. The infrastructure and services also support the climate resilience of these communities.

TECHNICAL ASSISTANCE TO POVERTY REDUCTION PROGRAMMES AND POLICIES IN VIETNAM

The aim of the project is to help mainstream poverty reduction into Government Ministry plans and policies and to help the National Targeted Programme on Sustainable Poverty Reduction (NTP-SPR) for effective design and implementation, contributing to rapid poverty reduction in the poorest districts, communes and villages and of ethnic minority people. The project will help by providing the necessary technical assistance and capacity development support in planning, developing guidelines and by providing policy recommendation and advice for poverty reduction. This project is considered crucial to monitor and understand thoroughly the situation of poverty relapse and vulnerability increase due to the impacts of economic shocks, diseases, national disasters and climate change. Lessons learned from this project will be used to design, operate/implement poverty reduction policies and programmes.

CENTRE FOR DEVELOPMENT AND INTEGRATION (CDI)

The CDI aims to improve the livelihoods of the poor and ethnic minorities in the Central Highlands of Vietnam through engaging them into sustainable coffee production and poor market access (CPMA). Support is directed to coffee farmers who are vulnerable to 'life shocks' and loss of income due to effects such as crop losses from climate change.

CENTRE FOR RESEARCH ON INITIATIVES OF COMMUNITY DEVELOPMENT (RIC):

This is a pilot of community-based operation and maintenance (O&M) of communal infrastructures in Programme 135. The objective of the project is to reduce poverty among the poorest ethnic minority population of communes under Programme 135 in Hoa Binh Province by community empowerment measures that enable sustainable community-based Operations & Maintenance of communal infrastructures. The communities are empowered to be able to manage resources from Government to manage and ensure small scale infrastructure function effectively.

RENOVATION OF SCHOOLS TO MAKE THEM SAFER DURING TYPHOON SEASONS IN QUANG TRI PROVINCE, CENTRAL VIETNAM

The purpose of the project is to renovate the damaged school infrastructure components that pose significant risks to students' safety in the typhoon season in Quang Tri province. The major construction works include: storm-resistance roofing, replacement of old doors and windows hinges and glasses, re-painting of indoor, outdoor surface, re-painting of the doors and windows. Storm-resistance roofing (replacement of roofing frame, installation of new iron roof, top ceiling waterproofing) is the most important work of the school renovation projects.

FROM UNIVERSITY TO COMMUNITY: PREPARING A GENERATION OF PROFESSIONALS IN SUSTAINABLE DEVELOPMENT

The project contributes to the development of civil society in Vietnam by developing models of universities acting as development partners with towns/cities where they are based. The project seeks to i) prepare university students and recent graduates for careers or grassroots actions in sustainable development, ii) build a network among NGOs, universities, business and local government in research and training in sustainable development, and iii) To document a new model of transforming universities into development partners with cities/towns where they are based. The project is based in Hoi An city, Central Vietnam.

ONE UN VIETNAM

In the period 2012-2016 the UN will work with the government and people of Vietnam to ensure a balance between economic, human and sustainable development objectives. The first of three focal areas includes the aim to “protect and improve the environment, take initiative to prevent natural disasters and effectively respond to climate change.” Key national and sub-national agencies will have resources to support implementation of

relevant international conventions, and effectively address climate change adaptation, mitigation and disaster risk management.

HELEN KELLER INTERNATIONAL: IMPROVED HOUSEHOLD FOOD SECURITY AND NUTRITION THROUGH ENHANCED HOMESTEAD FOOD PRODUCTION IN SON LA PROVINCE, NORTH VIETNAM

The Enhanced Homestead Food Production (EHFP) Program's goal is to improve the nutrition and micronutrient status of mothers and children under five years of age in Tan Lang commune, Phu Yen district, Son La Province via: behaviour change communication (BCC), nutrition education and agricultural training, and the production and consumption of micronutrient rich foods by establishing homestead food production. There are strong policy linkages with the National Strategy on Climate Change. EHFP provides households with locally procured initial farming inputs, such as quality seeds, seedlings and saplings of vegetables and fruits, as well as quality breeds of improved local poultry. These inputs are complemented by the provision of agricultural training on improved year-round food production techniques, combined with on-going BCC strategies to ensure optimal health, nutrition and feeding practices among the target households.

MAPPING OF BILATERAL EXPENDITURE

Project/Programme	Recipient	2015 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
Poverty Reduction Program 2012-2015 (Programme 135)	State Treasury of Vietnam	4,430,000	0	1	0	0	0	1	1	0	0	50%	2,215,000	0	2,215,000	0
Technical Assistance to Poverty reduction programmes and policies in Vietnam	UNDP	1,000,000	0	1	0	0	0	0	2	0	0	50%	500,000	0	500,000	0
Centre for Research on Initiatives of Community Development (RIC)	Ethnic minority farmers	91,000	0	1	0	0	0	1	1	0	0	50%	41,500	0	41,500	0
Centre for Development and Integration (CDI)	CDI	80,000	0	1	0	1	2	0	1	1	0	50%	40,000	0	40,000	0
Renovation of schools to make them safer during typhoon seasons	Disaster prone schools	55,121	0	1	0	0	0	1	1	0	0	50%	27,560	0	27,560	0
From university to community: preparing professionals in sustainable development	Students in participating universities	145,000	0	1	0	0	0	0	2	0	0	50%	72,500	0	72,500	0

One UN Vietnam	UN agencies and counterparts	800,000	0	1	0	0	0	1	1	0	1	50%	400,000	0	400,000	0
Helen Keller International: Improved Household Food Security and Nutrition	Poor ethnic minorities	55,000	0	1	0	2	0	0	0	0	0	50%	27,5000	0	27,5000	0

METHODOLOGY

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 Marker¹ 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.

¹ 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.