Vietnamese landscape. *Photo: Irish Aid*

VIETNAM CLIMATE ACTION REPORT

Resilience Policy Team | Irish Aid | November, 2015

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COUNTRY CONTEXT

The total land area of Vietnam is 329,569 square kilometre and it has a population of over 89 million. Vietnam is 127th on the Human Development Index Ranking and 76th on the ND GAIN vulnerability ranking. 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. Ireland has assisted Vietnam through poverty reduction, public awareness of green issues, livelihoods and agricultural programmes with climate finance of €3,272,500 in 2014.

Country Statistics

- Population[1]: 89,708,900
- Income per capita[2]: $4,892
- HDI Rank[3]: 121
- Vulnerability Rank[4]: 76
- Extreme Events Rank[5]: 6

Map of Vietnam, Irish Aid, 2015

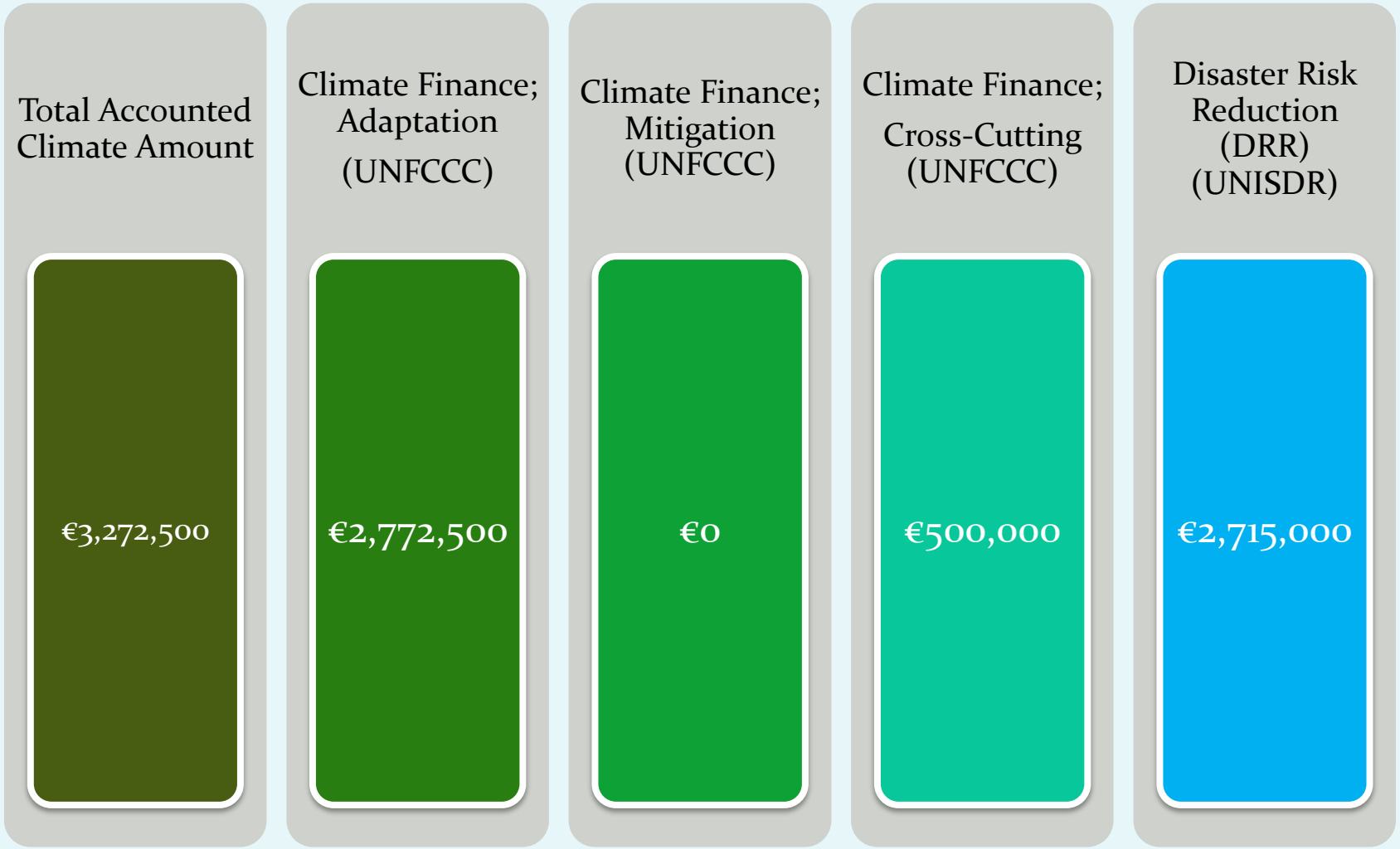
1 (The World Bank, 2015)

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 12-13.

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

RECENT CLIMATE TRENDS IN VIETNAM

Average annual temperature has increased by 0.4^{O}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^{O}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, 5,469km^2 of arable land will be lost and 168km^2 and 320km^2 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.

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&d1=Reports**

2nd National Communication of Vietnam to the UNFCCC (2010): http://unfccc.int/resource/docs/natc/vnmnc02.pdf

INTENDED NATIONALLY DETERMINED CONTRIBUTION OF 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 tCO2e and projections for 2020 and 2030 (not included industrial processes) are 474.1 million tCO2e in 2020 and 787.4 million tCO2e 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 CO2e. 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.

IMPLEMENTATION OF VIETNAM'S COMMITMENTS TO CLIMATE CHANGE ADAPTATION, MITIGATION AND DISASTER RISK MANAGEMENT

Irish Aid provided €1 million to support the One United Nations (UN) Programme in Vietnam in 2014. Through the programme, the UN is providing continuous policy advice and technical assistance to national and sub-national institutions in the following four main areas:

- *Climate proofing of national policies, plans and programmes*
- *Support to vulnerable and disadvantaged groups to better withstand disasters*
- *Development of Nationally Appropriate Mitigation Actions (NAMAs) with a focus on energy efficiency and renewable energy production*
- *Guiding the finalization of the National Green Growth Action Plan to contribute towards a long-term climate change strategy and green economy*

As part of the UN's role in climate proofing national policies, plans and programmes in 2014, UN advice on climate change, the role of civil society and the principle to respect the best interests of children and other vulnerable groups in climate change actions was incorporated into the approved Law on Environmental Protection. National authorities were also made aware of climate change vulnerability mapping approaches as a key step in the identification of priority actions to protect rural infrastructure in Vietnam's 15 mountainous provinces. The roadmap on fossil fuel fiscal policy reform was also launched in 2014 including evidence-based, feasible and efficient policy options to support green and inclusive growth.

Another important area of the One UN work in Viet Nam has been to support ***vulnerable and disadvantaged groups to better withstand disasters***. In 2014, UNDP continued to work with more than 40 researchers to develop the Viet Nam *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*. This report reflects the state of knowledge of extremes and climate-related disasters in Viet Nam. A focus on vulnerable children, including child protection in emergencies, was integrated into community-based child protection systems through UNICEF-supported advocacy, training and capacity building. The Women's Union is now an active participant in DRR actions, including development of commune-level disaster prevention plans.

A third area of the One UN work is the ***development of Nationally Appropriate Mitigation Actions*** with a focus on energy efficiency and renewable energy production, taking into account the energy needs of the poor, ***as well as the establishment of an effective national platform and mechanisms to reduce emissions from deforestation and sustainably managed forests***. In 2014, in the area of energy efficiency, United Nations Environment Programme (UNEP) co-developed guidelines for phasing out incandescent lamps, a circular on the collection and disposal of discarded products and guidelines on use of compact fluorescent lights. United Nations Industrial Development Organization (UNIDO) trainings assisted four coffee and four rice enterprises to improve their energy efficiency, material and water consumption as well as waste management with an overall economic benefit of US$63,688 and electricity savings of 900,945kWh as a result of UNIDO training.

Regarding a ***long-term climate change strategy and green economy,*** the UN guided the finalization of the National Green Growth Action Plan which provides clear responsibilities for ministries and provinces to achieve national GHG emission targets. More than 100 provincial officials were trained to analyze policy impacts to reduce GHG emissions. The UN also contributed to capacity building for Vietnam's climate change team of seventy negotiators at the COP20 UN Climate Change Conference in Peru 2014.

For further information on this Case Study, please access the Climate Learning Platform

Secondary school students at Trieu Long commune, Quang Tri province practising first aids skills for emergency situation. Photo: Plan International

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 in the Government Ministries 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.

CENTER FOR DEVELOPMENT AND INTEGRATION (CDI)

The CDI aims to mprove the livelihoods of the poor and ethnic minorities in the Central Highlands of Vietnam through engaging them into sustainable coffee production and pro 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.

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.

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
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
Center for Development and Integration (CDI)	CDI	115,000	0	1	0	1	2	0	1	1	0	50%	57,500	0	57,500	0
One UN Vietnam	UN agencies and counterparts	1,000,000	1	1	1	0	0	1	1	0	1	50%	500,000	0	0	500,000

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 Marker[1] 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.