ECONOMICS OF CLIMATE CHANGE ADAPTATION

United Nations Development Programme

UNDP

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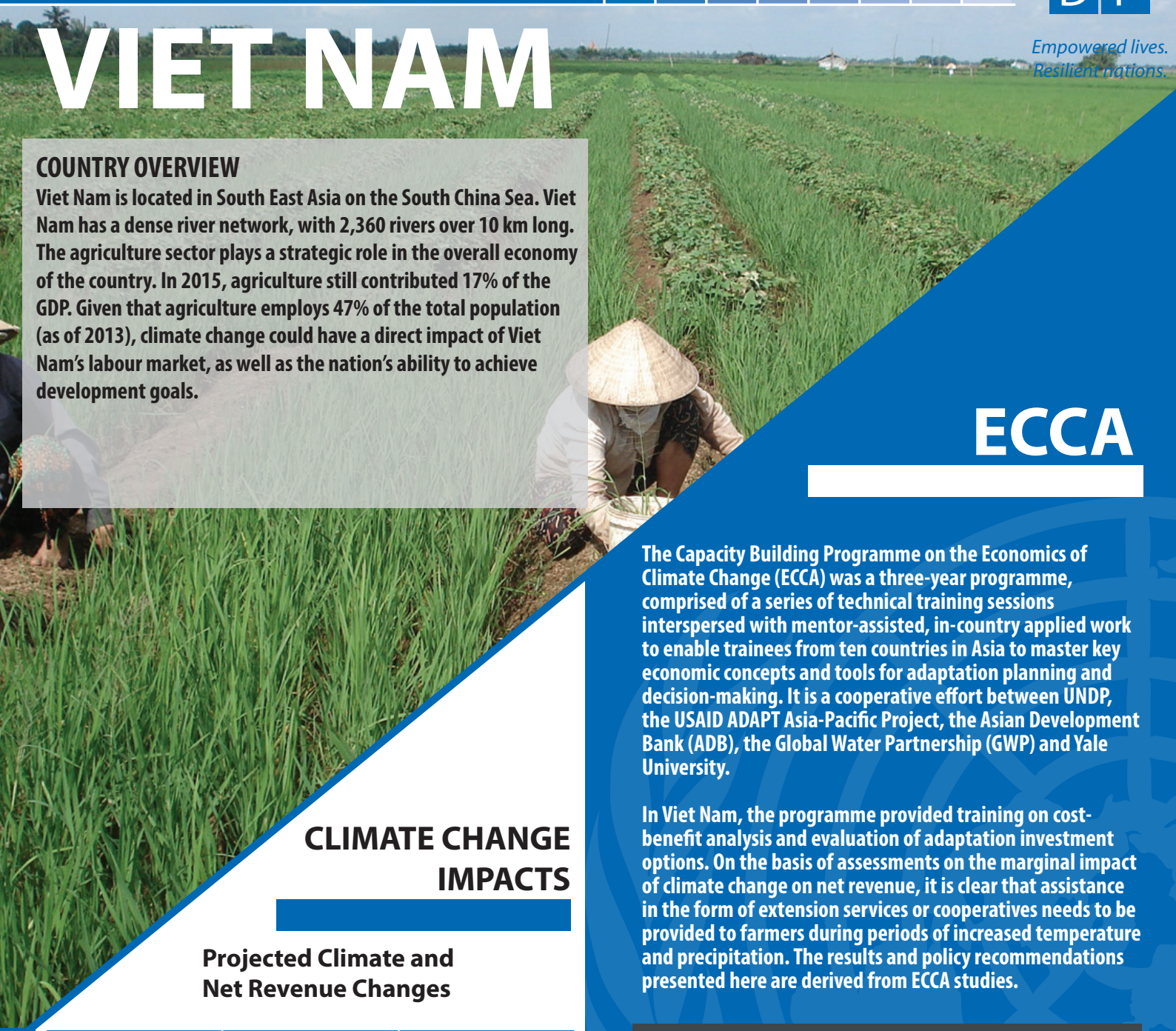
VIET NAM



COUNTRY OVERVIEW

Viet Nam is located in South East Asia on the South China Sea. Viet Nam has a dense river network, with 2,360 rivers over 10 km long. The agriculture sector plays a strategic role in the overall economy of the country. In 2015, agriculture still contributed 17% of the GDP. Given that agriculture employs 47% of the total population (as of 2013), climate change could have a direct impact of Viet Nam's labour market, as well as the nation's ability to achieve development goals.

ECCA

The Capacity Building Programme on the Economics of Climate Change (ECCA) was a three-year programme, comprised of a series of technical training sessions interspersed with mentor-assisted, in-country applied work to enable trainees from ten countries in Asia to master key economic concepts and tools for adaptation planning and decision-making. It is a cooperative effort between UNDP, the USAID ADAPT Asia-Pacific Project, the Asian Development Bank (ADB), the Global Water Partnership (GWP) and Yale University.

In Viet Nam, the programme provided training on cost-benefit analysis and evaluation of adaptation investment options. On the basis of assessments on the marginal impact of climate change on net revenue, it is clear that assistance in the form of extension services or cooperatives needs to be provided to farmers during periods of increased temperature and precipitation. The results and policy recommendations presented here are derived from ECCA studies.

CLIMATE CHANGE IMPACTS

Projected Climate and Net Revenue Changes

Seasons/Climatic variables	Temperature	Precipitation
Rainy Season	An increase of 1°C above the mean would decrease net revenue by $62.04 per acre.	A 1mm increase in pre-cipitation decreases net revenue by $4.02 per acre.
Dry Season	An increase of 1°C above the mean would increase net revenue by $87.12 per acre.	A 1mm increase above the mean increases net revenue by $5.46 per acre.
Total impact	An increase of 1°C would result in a gain of $25 per acre.	An increase of 1mm in each season would result in an increase of $1.44 per acre.

Impact on Net Revenue Per Acre

1°C increase in mean temperature during the rainy season - loss of

$62.04

1 mm increase in precipitation during the rainy season - loss of

$4.02

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CLIMATE CHANGE IMPACTS

The total gain brought by shifts in temperatures and precipitation would be beneficial to farmers – more rain is projected in the rainy season and irrigation would reduce the impact of less rain in the dry season. These results suggest that if the irrigation system fails, the impact would be devastating for farmers in the country and the poverty rate in Viet Nam would increase.

With precipitation increases of 1cm in the rainy season, farmers would be more likely to invest in rice (increased probability of 3.3%) and cereal (1.2%), but would move away from fruit (-5.6%).

A one-degree increase in temperatures during the rainy season would increase the probability of growing plantation crops (0.1%) and fruit (2.0%) and would reduce the likelihood of growing rice (-1.6%) and cereal (-1.7%).

POLICY RECOMMENDATIONS

Policy responses such as extension support from local government is shown to be effective.

Assistance in the form of cooperatives needs to be provided to farmers during periods of increased temperature and precipitation during the rain season.

Enhancing skills and knowledge for farmers so they can diversify employment opportunities and stimulate off-farm employment.

Development of new types of crops resistant to floods and droughts.

Strengthened research capacities to develop cultivars and techniques appropriate to local shifts in climate.