

Title of case study*	Strategic initiatives of adaptation to CC make a small business agro-exporter sustainable as well as its value chain
Date of submission*	31/05/2013
Name of organization(s)*	Chiles de Nicaragua, S.A.
NWP Objective* <i>Select the objective(s) of the NWP that the case study responds to.</i>	<p>The objective of the Nairobi work programme is to assist all Parties, in particular developing countries, including the least developed countries (LDCs) and small island developing States (SIDS), to:</p> <p><input type="checkbox"/> improve their understanding and assessment of impacts, vulnerabilities and adaptation to climate change; and</p> <p><input checked="" type="checkbox"/> make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability.</p>
Objective of case study* <i>Describe the specific objective of case study.</i>	<p>The sustainability strategy, 2009 start-up year, is based on the necessary adaptation to climate change and was successful in reducing the production risks, like: droughts, floods, storms and damaged roads by heavy rainfall. Extreme weather events impacted the production chain before and natural events almost led to the bankruptcy of the company and its associate producers.</p> <p>Besides this strategy a new project started to produce chili peppers using zero pesticides. This is achieved by the development of shade house and will reduce the vulnerability of the crop to the adverse effects of climate change. Furthermore, the possibility of an organic certification for the produce was examined.</p>
Actions* <i>Describe the activities to meet the case study objective, highlighting organizations, communities and/or experts to be engaged.</i>	<ol style="list-style-type: none"> 1. Sharing of knowledge led to more favorable credit, technical, productive and associative conditions for other producers. 2. All suppliers signed a contract in which they agreed upon a set of regulations and rules. This included: a pre-established buying price and the producers should install some kind of irrigation system (preferably drip irrigation). This enables the company's agricultural cycle to be decoupled from the seasonality in precipitation. This allows the farmer to produce in the dry season, which indicates that the farmer is not influenced by the risk of flooding or dependency on rain-fed. 3. Plastic mulch technology is implemented to increase water efficiency by reducing evaporation losses. 4. The project became part of the USAID's Program for Enterprises and Employment in Nicaragua for three years to strengthen the growth strategy for the company, which has been a key factor for boosting the company. 5. Cooperation was established with: Program Tecnología Agrícola Competitiva TECHNO LINKS (CIDA, MEDA and FOMIN). Besides, a guarantee fund with national microfinance companies was created with FAMA and FDL 6. The project participated in the Regional Project for Adaptation to Climatic Change for the Corporate Sector, fomented by IntegraRSE, GIZ and INCE, UnirRSE, among others, to analyze and identify the risks, opportunities and adaptation actions for CC, by using excellent tools and sharing experiences with other companies in the area. 7. The construction and implementation of 3 shaded houses led to the possibility of production under controlled conditions and reduced vulnerability extreme temperatures and phytosanitary impacts.

	<ol style="list-style-type: none"> 8. Transport security is provided by the pick-up service of the company. 9. There is an active application process for the certification of organic chili with controlled agriculture, the outcome of this process is expected at the end of 2013. 10. Increased regular visits of our technical team to our suppliers helps them in: a proper selection of the location for the crop, correctly transplant healthy and costly seedlings, supervising that the plots and ridges are well constructed to avoid flooding in the crop plantation area, that the irrigation system and plastic mulch are correctly installed and that data is collected in a correct manner. 11. A strategic plan was created for the period of 2012-2015. The goal is to improve glitches in the <i>Estrategias Empresariales ante el Cambio Climático en Centroamérica</i>.
<p>Expected results* <i>Describe the envisaged outputs/benefits of the case study/</i></p>	<ol style="list-style-type: none"> 1. Provide all suppliers with water efficient irrigation systems and plastic mulch to allow them to produce year round and reduce water use. 2. Provide training to all directors and engineers on the topic of climate change and the possible consequences to support decision making. 3. Provide 250 new producers, including 70 women, with drip-irrigation systems by year 2016, with funding through the guarantee fund with Techno-Link for chili crops with extensions up to 1.5 mz. 4. Three shaded houses producing by the end of 2013, located in Managua, Boaco and Somoto, starting with 45 thousand pounds of produce. 5. Promoted good agricultural and manufacturing practices, and corporate social responsibility in all the production chain, emphasizing awareness and training of the actors on CC.
<p>Indicators of achievement* <i>Describe any quantitative and/or qualitative indicator to show that the objective of the case study has been achieved.</i></p>	<ul style="list-style-type: none"> • 2012/2013: 205 mz. producing (all suppliers). • 211 producers use the water efficient drip irrigation system now on farms varying from 0.5 mz up to 42 mz. • Increase of produce from 11.000 to 18.000 pound/mz due to the use of the drip irrigation system and dry season production strategy. • Regular visits from the technical team to the suppliers increased in the last three years from 2 to 5 visits a month. • 30% of the actual producers use plastic mulch, some 60 mz. • Establishment of trust: suppliers can show the contract in order to obtain credit for microfinance to invest system improvements. • Construction of 3 shade houses by 2013 and the use of zero pesticides, in Managua, León and Somoto. • Assist an additional 250 suppliers, of which 70 women by 2016.
<p>Region(s) relevant to case study*</p>	<ul style="list-style-type: none"> <input type="checkbox"/> All regions <input type="checkbox"/> Africa <input type="checkbox"/> Arab States <input type="checkbox"/> Asia <input type="checkbox"/> Caribbean <input checked="" type="checkbox"/> Central America, <i>Nicaragua</i> <input type="checkbox"/> Europe <input type="checkbox"/> Least Developed Countries <input type="checkbox"/> North America <input type="checkbox"/> Pacific <input type="checkbox"/> Polar regions <input type="checkbox"/> Small Island Developing States

* Mandatory fields

¹ More information on the Nairobi work programme work areas is available at: <<http://unfccc.int/nwp>>

Disclaimer: These business cases have been cited to raise awareness about the engagement of the private sector in climate change adaptation. The information in the business cases has been provided either directly by the organization or obtained from a public source. The UNFCCC Secretariat has not verified the information and takes no responsibility for it. Users are therefore advised to verify the information before they take any action relying on the information provided in the business cases.

	<input type="checkbox"/> South America
Country(ies) relevant to case study	Nicaragua.
Business sector of the organization(s)*	<input type="checkbox"/> Intergovernmental organization <input type="checkbox"/> National/regional programme/initiative <input type="checkbox"/> Non-governmental organization <input checked="" type="checkbox"/> Private sector entity <input type="checkbox"/> Research institute <input type="checkbox"/> UN organization/agency
Adaptation sector relevant to case study*	<input type="checkbox"/> Capacity building, education and training <input type="checkbox"/> Energy <input type="checkbox"/> Finance and insurance <input checked="" type="checkbox"/> Food, agriculture, forestry and fisheries <input type="checkbox"/> Human health <input type="checkbox"/> Oceans and coastal areas <input type="checkbox"/> Science, assessment, monitoring and early warning <input type="checkbox"/> Technology and Information & Communications Technology (ICT) <input type="checkbox"/> Terrestrial ecosystems <input type="checkbox"/> Tourism <input type="checkbox"/> Transport, infrastructure and human settlements <input type="checkbox"/> Water resources
Adaptation activity delivered by case study*	<input checked="" type="checkbox"/> Capacity building <input checked="" type="checkbox"/> Climate-resilient development planning <input type="checkbox"/> Communications and awareness-raising <input type="checkbox"/> Disaster risk reduction <input type="checkbox"/> Early warning systems <input type="checkbox"/> Education <input checked="" type="checkbox"/> Financial support <input type="checkbox"/> Humanitarian assistance <input type="checkbox"/> Knowledge management <input checked="" type="checkbox"/> Monitoring and evaluation <input type="checkbox"/> Pilot adaptation programmes/projects <input checked="" type="checkbox"/> Risk/vulnerability mapping <input checked="" type="checkbox"/> Training
Work areas of the NWP*¹ <i>Select among the nine work areas of the NWP that apply to the case study.</i>	<input checked="" type="checkbox"/> Adaptation planning and practices <input type="checkbox"/> Climate modelling, scenarios and downscaling <input type="checkbox"/> Climate-related risks and extreme events <input checked="" type="checkbox"/> Data and observations <input checked="" type="checkbox"/> Economic diversification <input checked="" type="checkbox"/> Methods and tools <input checked="" type="checkbox"/> Research <input type="checkbox"/> Socio-economic information <input checked="" type="checkbox"/> Technologies for adaptation
Target group*	<input type="checkbox"/> Academics <input type="checkbox"/> Children <input type="checkbox"/> Communities <input type="checkbox"/> Policy makers <input type="checkbox"/> Practitioners <input checked="" type="checkbox"/> Private sector <input type="checkbox"/> Women

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Link <i>Further information on relevant websites.</i>	www.facebook.com/EmpresasyEmpleoNicaragua www.youtube.com/user/empresasyempleo www.chilesdenicaragua.com
Description <i>Provide a title and brief description of the picture and of the case study. This information will appear with your image on the homepage of the NWP.</i>	Chile crop Tabasco variety in Nicaragua with drip irrigation and plastic mulch, which helps to keep moisture. All chili producers have irrigation systems, which enables them to cultivate during the rainy and dry seasons, with good agricultural practices, thanks to the support received from Chiles de Nicaragua, S.A. and to the alliances it promotes, and to the support received from the cooperation organism.



Chiles de Nicaragua, S.A.

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