


Title of case study*	Boosting crop yield for every drop of water
Date of submission*	5/2/2013
Name of organization(s)*	Syngenta
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>This case study demonstrates water optimization in crop production – enabling crops to achieve their production potential with less water. Syngenta is one of the industry leaders in providing water optimizing solutions to meet various water related challenges a grower encounters throughout crop production. Working with several value chain partners: scientists, industry and crop experts, NGOs, cooperatives, farm machinery providers, etc.; Syngenta develops and disseminates integrated solutions to optimize water use and maximize resource efficiency without forgoing crop profitability.</p>
Actions* <i>Describe the activities to meet the case study objective, highlighting organizations, communities and/or experts to be engaged.</i>	<p>Syngenta addresses climate change in agriculture sector by focusing on optimizing natural resource use efficiency – grow <i>more from less</i>. Water being an essential resource for agriculture, therefore finding ways and means to maximize water use efficiency is a top priority for the company. Syngenta water optimizing portfolio includes:</p> <ul style="list-style-type: none"> • drought tolerant seeds, such as <i>Agrisure Artesian</i>[™] technology - with its range of high-performance, water-optimized corn hybrids; offer growers a new level of season-long drought protection; • best farm management practices, such as integrated insect control, minimum tillage, crop rotations, cover cropping and others; enable growers to improve farm productivity; • crop protection products, such as herbicides, insecticides and fungicides; provide early season weed control in order to maximize crop yield potential right from the start by eliminating weed competition for water use and protecting crops from diseases and insects; • crop enhancement tools, such as seed treatment and certain growth regulating fungicides; improve crop’s responses to abiotic stresses and play a key role in improving water use efficiency by protecting seeds and plant saplings from pests and microorganisms; • farm extension services, such as incremental crop insurance, yield assurance, farmers education and training; safe guard growers against agronomic and weather challenges and enhance farm level capacity building to deal with bad weather.

<p>Expected results* Describe the envisaged outputs/benefits of the case study/</p>	<p>The water optimizing solutions help growers to grow more crops per unit of water, while reducing crop stress during dry weather spells and during gaps in rainfall. For instance, field trials from the USA showed that <i>Agrisure Artesian</i> hybrid corn in combination with crop enhancement products, insect and weed management practices maximized yields when it rains, and increased yields up to 15% when it rains less. Further, the hybrid corn had provided greater yield stability in drought conditions or in fields with variable soil type and water holding capacities when compared to “non-hybrid” corn.</p> <p>To sum up, the water optimizing solutions offer proven season long drought protection and maximizes yield in any of the following environment:</p> <ul style="list-style-type: none"> • Yield stability with higher percentage of available water converted into grain • Under normal conditions no yield drag, in-fact maximized yield • Under stress conditions greater yield than non-solution offers • Higher farm profitability
<p>Region(s) relevant to case study*</p>	<ul style="list-style-type: none"> <input type="checkbox"/> All regions <input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Arab States <input checked="" type="checkbox"/> Asia <input type="checkbox"/> Caribbean <input checked="" type="checkbox"/> Central America <input type="checkbox"/> Europe <input type="checkbox"/> Least Developed Countries <input checked="" type="checkbox"/> North America <input type="checkbox"/> Pacific <input type="checkbox"/> Polar regions <input type="checkbox"/> Small Island Developing States <input checked="" type="checkbox"/> South America
<p>Country(ies) relevant to case study</p>	<p>Most countries in the above specified regions.</p>
<p>Business sector of the organization(s)*</p>	<ul style="list-style-type: none"> <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
<p>Adaptation sector relevant to case study*</p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Capacity building, education and training <input type="checkbox"/> Energy <input checked="" 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 checked="" 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 checked="" type="checkbox"/> Water resources

* 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.

<p>Adaptation activity delivered by case study*</p>	<ul style="list-style-type: none"> <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 checked="" type="checkbox"/> Education <input checked="" type="checkbox"/> Financial support <input type="checkbox"/> Humanitarian assistance <input checked="" type="checkbox"/> Knowledge management <input type="checkbox"/> Monitoring and evaluation <input type="checkbox"/> Pilot adaptation programmes/projects <input type="checkbox"/> Risk/vulnerability mapping <input checked="" type="checkbox"/> Training
<p>Work areas of the NWP*¹ <i>Select among the nine work areas of the NWP that apply to the case study.</i></p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Adaptation planning and practices <input type="checkbox"/> Climate modelling, scenarios and downscaling <input checked="" type="checkbox"/> Climate-related risks and extreme events <input type="checkbox"/> Data and observations <input 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
<p>Target group*</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Academics <input type="checkbox"/> Children <input checked="" type="checkbox"/> Communities <input checked="" type="checkbox"/> Policy makers <input checked="" type="checkbox"/> Practitioners <input type="checkbox"/> Private sector <input type="checkbox"/> Women
<p>Link <i>Further information on relevant websites.</i></p>	<p>http://www.syngenta.com/country/us/en/agriculture/seeds/agrisure-traits/pages/agrisure-artesian-4011.aspx</p>
<p>Description <i>Provide a title and brief description of the picture and of the case study.</i></p>	<div style="text-align: center;">  <p>Revolutionizing corn production with Syngenta <i>Agrisure Artesian</i> Corn for dry conditions.</p> </div>

* 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.