The Benefits of Irrigation in Saskatchewan Project has been completed with funding and support from Agriculture & Agri-Food Canada and the Saskatchewan Ministry of Agriculture under the National Water Supply Expansion Program.

The Project team for the work consisted of Dr. Graham F. Parsons, Vice President, Clifton Associates Ltd. and Project Manager; Dr. Surendra Kulshreshtha, President of KAECI and Professor of Agricultural Economics at the University of Saskatchewan; Mr. Ray Pentland, President of Water Resource Consultants Inc. and specialist in hydrology and the management of Lake Diefenbaker waters; Mr. David Hill, formerly of the Alberta Irrigation Projects Association, Mr. Darrell Toma, Partner with Toma, Bouma Management Consultants and specialist in Alberta irrigation development and related value chains and rural economic development needs; Mr. Rodger McDonald, President of MR2 Consulting and specialist in municipal and industrial water systems; Mr. Greg Vogelsang, Senior Vice President, Clifton Associates Ltd. and specialist in environmental impact assessments; Mr. David Kent, Chief Engineer, Clifton Associates Ltd. and specialist in rural agri-processing and environmental licensing; Mr. Keith Schneider and Mr. Mathew Kreke specialists in municipal financing, regional development and tourism and, Mr. Toby Thorp, Environmental Scientist, Clifton Associates Ltd.

**Lake Diefenbaker Irrigation Benefits Study**

The Saskatchewan Irrigation Projects Association completed a major socio-economic evaluation of the costs and benefits of irrigating 800,000 acres of agricultural lands, mainly around Lake Diefenbaker and also in other regions of Saskatchewan. The study was undertaken by Clifton Associates Ltd. of Regina, Saskatchewan working with specialists from across Western Canada*.

The study found large benefits for agriculture, value added processing, municipal water supplies, tourism, drought proofing and the natural environment. Together these were estimated to provide the opportunity to increase employment in many Saskatchewan cities and smaller towns.

* The Project team for the work consisted of Dr. Graham F. Parsons, Vice President, Clifton Associates Ltd. and Project Manager; Dr. Surendra Kulshreshtha, President of KAECI and Professor of Agricultural Economics at the University of Saskatchewan; Mr. Ray Pentland, President of Water Resource Consultants Inc. and specialist in hydrology and the management of Lake Diefenbaker waters; Mr. David Hill, formerly of the Alberta Irrigation Projects Association, Mr. Darrell Toma, Partner with Toma, Bouma Management Consultants and specialist in Alberta irrigation development and related value chains and rural economic development needs; Mr. Rodger McDonald, President of MR2 Consulting and specialist in municipal and industrial water systems; Mr. Greg Vogelsang, Senior Vice President, Clifton Associates Ltd. and specialist in environmental impact assessments; Mr. David Kent, Chief Engineer, Clifton Associates Ltd. and specialist in rural agri-processing and environmental licensing; Mr. Keith Schneider and Mr. Mathew Kreke specialists in municipal financing, regional development and tourism and, Mr. Toby Thorp, Environmental Scientist, Clifton Associates Ltd.
Lake Diefenbaker—An Unrealized Investment in the Future

Lake Diefenbaker was created by the construction of the Gar-diner Dam on the South Saskatchewan River by the Prairie Farm Rehabilitation Administration as a response to the decade of drought and rural agricultural and municipal collapse in the 1930s. Less remembered in the 21st Century was the environmental disaster of tonnes of fertile topsoil being blown away.

The two hundred kilometer lake was intended to provide the foundation for a sustainable irrigated agriculture economy that would be less vulnerable to the recurring droughts of the region. In the thirty years since the opening of the Gardiner Dam in 1967 there has been some progress in developing the benefits that Lake Diefenbaker provides.

Many of the hydro development, recreational, municipal water supply benefits were developed. However, the potential to irrigate over half a million acres of drought vulnerable farmland around the Lake has never been realized.

Today there are a little over 100,000 acres under irrigation in the Lake Diefenbaker area in twelve irrigation districts.

Total Economic Impacts over a 40 Year Period

Regional Water Investments—$2.9 Billion
On Farm Investments—$339 Million
Total Project Investments—$8.9 Billion
Total Impact on Sales—$58 Billion
Total Impact on Gross Domestic Product $33 Billion
Total Impact on Household Income—$12 Billion
Total Impact on Employment—288,000 Person Years

Over 600,000 Acres in Five Lake Diefenbaker Irrigation Infill & Expansion Projects

Five irrigation expansion and irrigation projects have been identified on both sides of Lake Diefenbaker. The projects are both to infill within existing irrigation developments and to expand beyond them, particularly on the west side of the lake. The regional water supply costs associated with these projects are anticipated to cost some $2.9 billion over twenty years.

Infill & Expansion Projects
- The South Saskatchewan River Irrigation District Expansion and Infill Project
- The Luck Lake Irrigation Infill and Expansion Project
- The Riverhurst Irrigation Infill and Expansion Project

New Expansion Projects
- The Westside Irrigation
- The Qu’Appelle Irrigation

Together these projects would add between 435 to 542 thousand acres to the existing 107 thousand district and private irrigated acres in the region to create one of the larger irrigation areas in North America with an irrigation potential of nearly 650 thousand acres.

<table>
<thead>
<tr>
<th>Irrigation Area</th>
<th>New Acres Existing Acres</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westside</td>
<td>374,470 2,500</td>
<td>$2,100M</td>
</tr>
<tr>
<td>South Saskatchewan River Irrigation District Infill &amp; Expansion</td>
<td>24,040 35,271 60,111</td>
<td>$52M</td>
</tr>
<tr>
<td>Luck Lake Irrigation Infill and Expansion</td>
<td>9,397 8,602 17,999</td>
<td>$27M</td>
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<tr>
<td>Riverhurst Irrigation Expansion</td>
<td>10,865 9,482 20,748</td>
<td>$40M</td>
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<tr>
<td>Qu'Appelle South Irrigation Project</td>
<td>122,191 1,893 124,244</td>
<td>$653M</td>
</tr>
</tbody>
</table>

TOTALS Lake Diefenbaker New ID Irrigation

<table>
<thead>
<tr>
<th>Existing Irrigation 5 ID Projects</th>
<th>Other Existing IDs Private</th>
<th>Total Existings</th>
</tr>
</thead>
<tbody>
<tr>
<td>58,134</td>
<td>10,111</td>
<td>106,623</td>
</tr>
</tbody>
</table>

TOTAL LD IRRIGATION ACRES
541,938
$2,672M
Lake Diefenbaker irrigation development requires a long term regional development and early funding to commence the transformational change that is possible. There will be barriers to development of the resource including an aging population and the need for targeted immigration and investment capital into the region, power and transportation infrastructure, irrigation research and demonstration for new cultural and water conservation practices will be required and a Lake Diefenbaker Irrigation Development Agency will be required to manage the process over many years.

Further study and waiting for better conditions can be costly. Cost benefit ratios for the project all increase when the work is completed over a twenty year period rather than a 40 year period. The cost inflation of the project from less than $100 million in 1952 to $2.9 billion today is further evidence of the costs of delay.

The stop and start policy framework practiced by both federal and provincial governments has itself been a barrier to sustained development of and investment in the opportunity.

Long term commitments by federal, provincial and municipal governments and the many agricultural, local and environmental stakeholders will be required to plan for, and invest in a sustainable, long term and transformational future for the Lake Diefenbaker region of central Saskatchewan.