



# CSIDC Framework Agreement 2008-2013



Canada-Saskatchewan  
Irrigation  
Diversification  
Centre







# CSIDC Framework Agreement 2008 - 2013







# CSIDC Framework Agreement 2008 - 2013

The Canada Saskatchewan Irrigation Diversification Centre (CSIDC)

## COLLABORATORS

Agriculture and Agri-Food Canada

Saskatchewan Ministry of Agriculture

University of Saskatchewan

Irrigation Crop Diversification Corporation (ICDC)

Saskatchewan Irrigation Projects Association (SIPA)

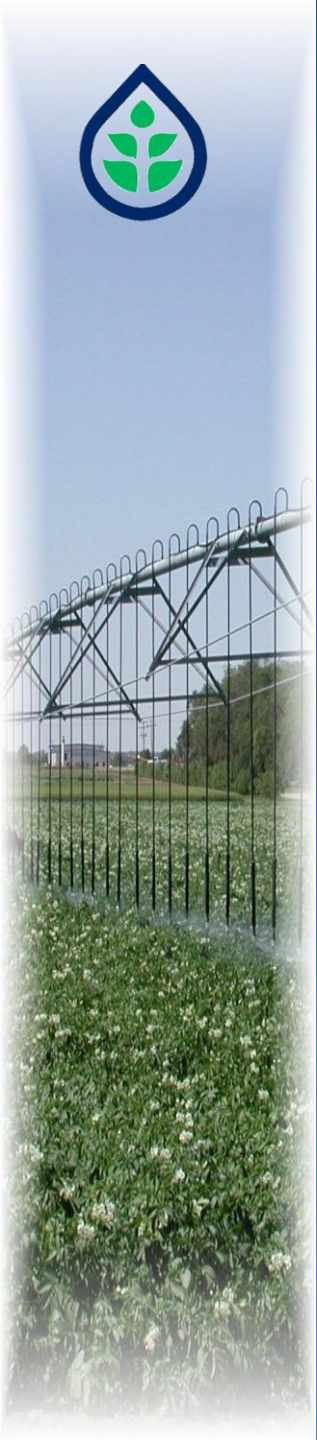


# CSIDC Framework Agreement 2008-2013

## Purpose

**“...to provide a framework whereby irrigated research, demonstration and education can be conducted and facilitated, the results disseminated and applied in support of irrigation-based agricultural economic development and environmental sustainability...”**

**A Canada Saskatchewan Industry Framework Agreement  
for Irrigation-Based Economic Development and  
Environmental Sustainability**







# **CSIDC Framework Agreement 2008-2013 Mission**

**“To measurably impact irrigation economics, on-farm profitability and growth by expanding market and value-added opportunities in an environmentally sustainable way”**

**EMC 2008**





# CSIDC Framework Agreement 2008-2013 Clients

## 1. Saskatchewan irrigators

- Present
  - Local
  - Immigrant
- Prospective



## 2. Sask and Canada

- Education and Awareness



## 3. International

- Consulting
- Training





# CSIDC Framework Agreement 2008-2013

## Values, Principles

### 1. ***“Doing the right things”***

EMC Project Rating System

### 2. ***“Doing things right”***

Staff Performance Management  
Funding Agency Requirements

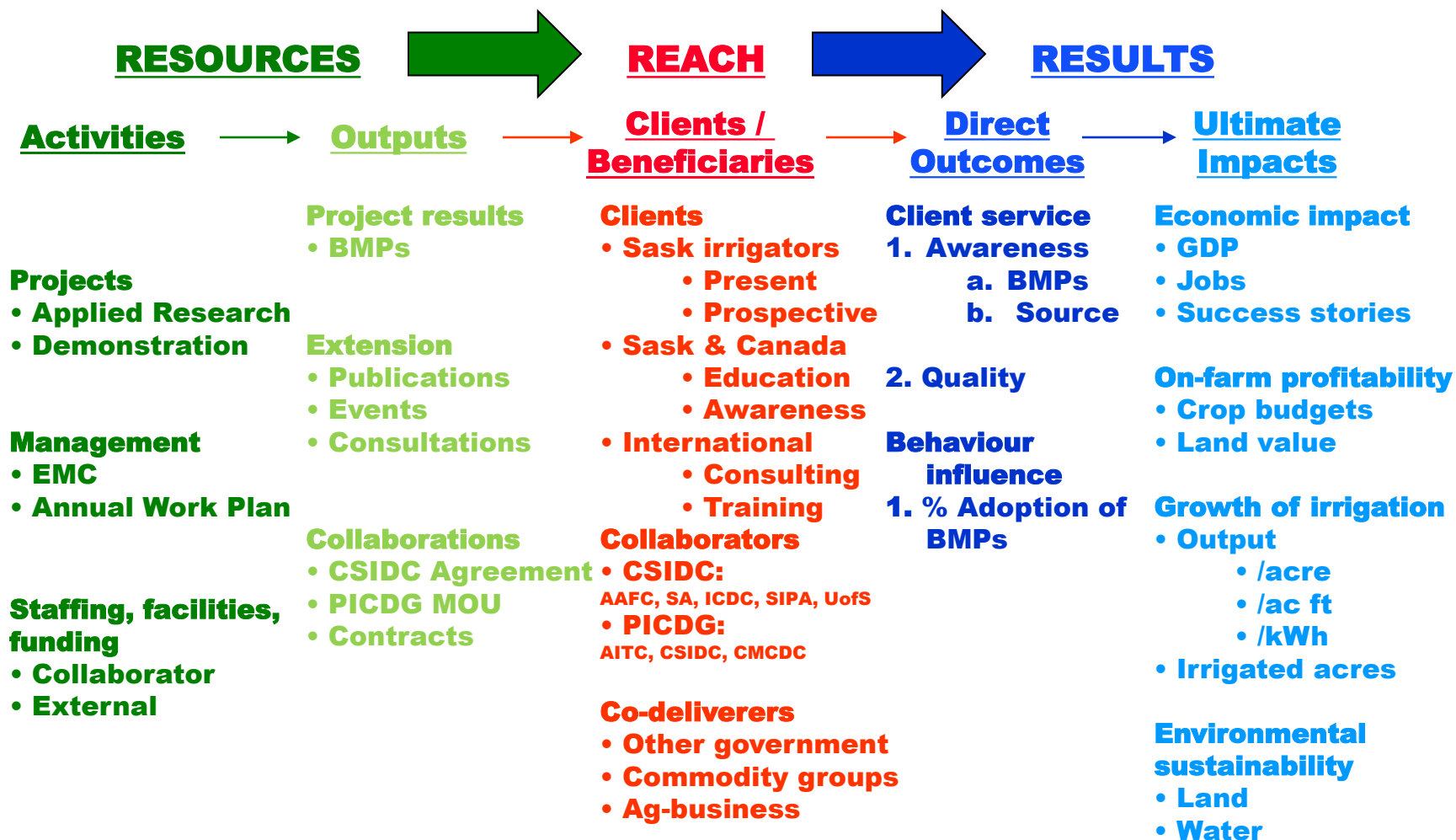
### 3. ***“Getting the right results”***

Beneficial Management Practices Developed  
Performance Measurement



# CSIDC Performance Framework 2008 - 2013

**Mission: To measurably impact irrigation economics, on-farm profitability and growth by expanding market and value-added opportunities in an environmentally sustainable way.**







# CSIDC

## Project Framework

*“Doing the right things”*

<b><u>INDUSTRY NEED</u></b>	<b><u>ENABLERS</u></b>	<b><u>IMPACT/ RESULTS</u></b>
<b>Markets</b>	<b>Applied Research &amp; Demo Projects</b>	<b>Economic Impact</b>
<b>Value Adding</b>	<b>Extension/ Adoption</b>	<b>On - Farm Profitability</b>
<b>Environmental Sustainability</b>	<b>Leverage/ Collaboration</b>	<b>Growth of Irrigation</b>
	<b>Alignment</b>	
	<b>Recognition/ Profile</b>	



# CSIDC

## Project Framework

*“Doing the right things”*

### INDUSTRY NEED

<b><u>MARKETS</u></b>	<b><u>VALUE ADDING</u></b>	<b><u>ENVIRONMENTAL SUSTAINABILITY</u></b>
<ul style="list-style-type: none"><li>• <b>Responding to market signals</b></li><li>• <b>Evaluating crops with market potential</b></li><li>• <b>Education &amp; awareness</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Increasing output per acre</b></li><li>• <b>Supporting processing and value chains</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Protecting land and water resources</b></li><li>• <b>Water use efficiency</b></li><li>• <b>Conserving water &amp; energy</b></li></ul>





# CSIDC

## Project Framework

*“Doing the right things”*

### DIRECT OUTCOME

SCOPE	RESEARCH	RESEARCH TO DEMO	ADOPTION	DIRECT OUTCOME
Area impacted by the project (eg. acres)	\$/acre benefit or cost-saving	% decrease from research to commercial application	% adopted by end-users	Increased \$\$ generated by the project



# CSIDC

## Performance Measurement

*“Doing the right things”*

### Direct Outcomes

### Behaviour Influence Measures

*Example: Dry Bean Fungicide*

<u>Project</u>	<u>Research Result</u>	<u>Demo Result</u>	<u>Acres Impacted</u>	<u>Adoption Rate</u>	<u>Annual Impact</u>
<i>Recommendation</i>	<i>yield increase or cost savings</i>	<i>% research result</i>	<i>crop survey</i>	<i>client survey</i>	
<b>Fungicide Dry Bean</b>	<b>400lb/ac @ \$0.25/lb = \$100/ac</b>	<b>90%</b>	<b>5,000</b>	<b>8.9%</b>	<b>\$40,050</b>





# CSIDC

## Project Rating

***“Doing the right things”***

EMC assesses each applied R&D project  
in the context of  
**INDUSTRY NEED**  
and  
**POTENTIAL DIRECT OUTCOME**





# CSIDC

## Performance Measurement *“Doing the right things”*

### ANNUAL WORKPLAN

#### EMC

- reviews
- approves
- implements
- evaluates

Itemizes each party's  
contributions of

- staff
- O&M
- “facilities”
- projects



Canada-Saskatchewan  
Irrigation  
Diversification  
Centre

#### ANNUAL WORKPLAN

2008 – 2009

Canada



Saskatchewan



UNIVERSITY OF  
SASKATCHEWAN







# CSIDC

## Project Rating

*“Doing the right things”*

AGREEMENT 2008-2013	O&M	FACILITIES 2013	PROJECT CASH	PROJECT IN-KIND
CANADA	\$7,542,407	\$5,967,477	\$1,008,550	\$1,551,000 940%
SASKATCHEWAN	\$217,000	\$1,028,323	\$10,000	\$267,300 162%
UNIVERSITY OF SASKATCHEWAN	\$5,000	\$0	\$400	\$483,950 293%
SIPA	\$120,888	\$0	\$141,525	\$24,000 15%
ICDC	\$113,253	\$15,601	\$339,811	\$1,768,800 1,072%
EXTERNAL	\$0	\$0	\$1,273,400	\$0 0%
TOTAL	\$7,998,548	\$7,011,401	\$2,773,686	\$4,095,050 2,482%



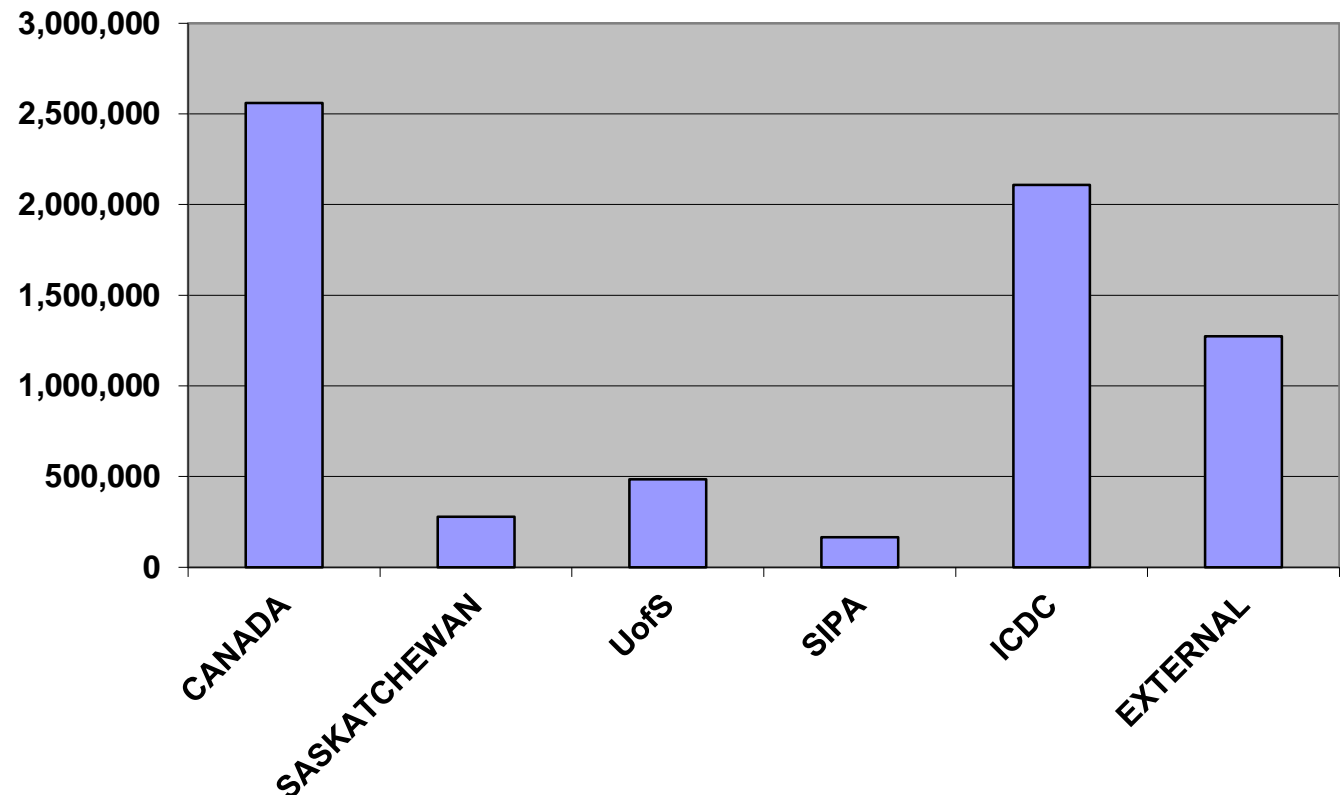
# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13**

**\$ CASH/IN KIND**





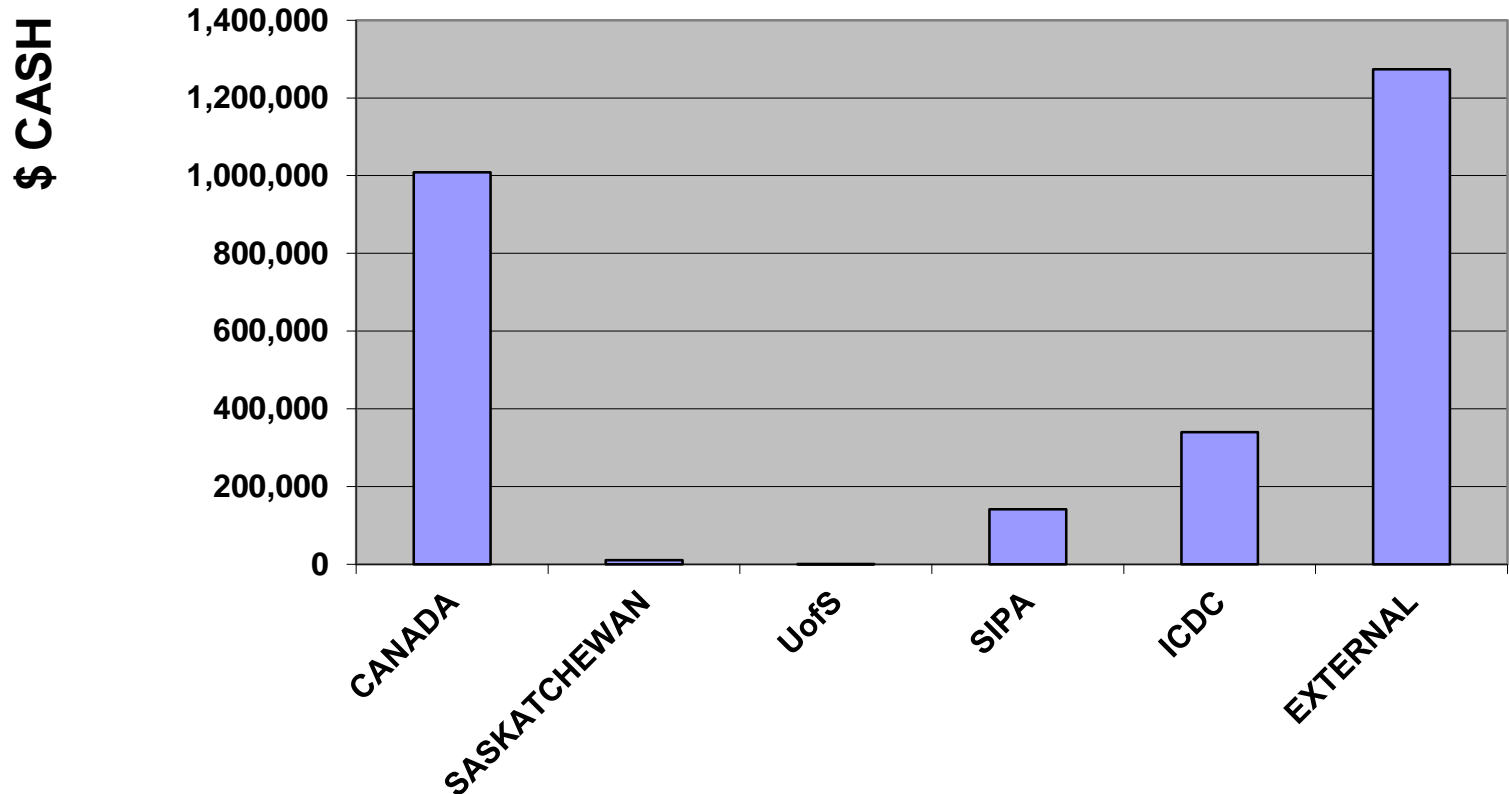


# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13**





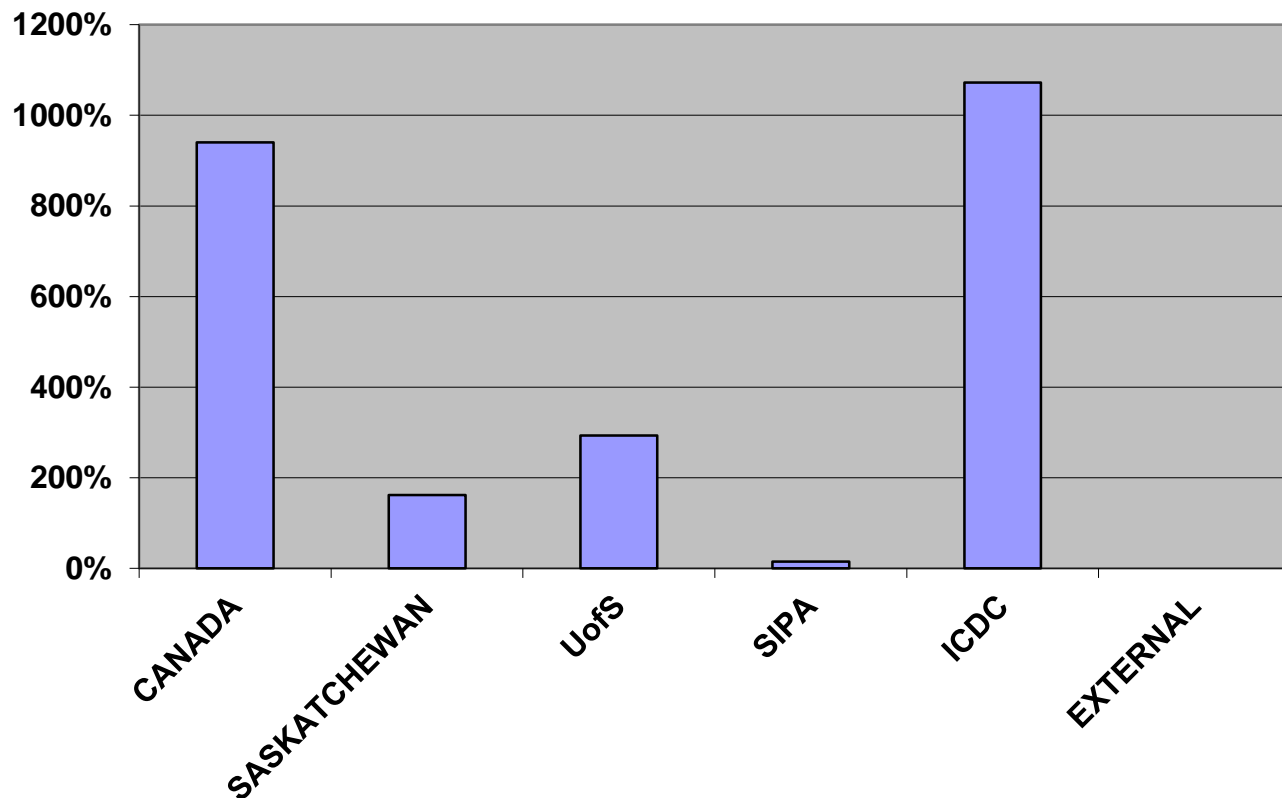
# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13**

**% RESEARCH SCIENTIST  
& TECHNICIAN**





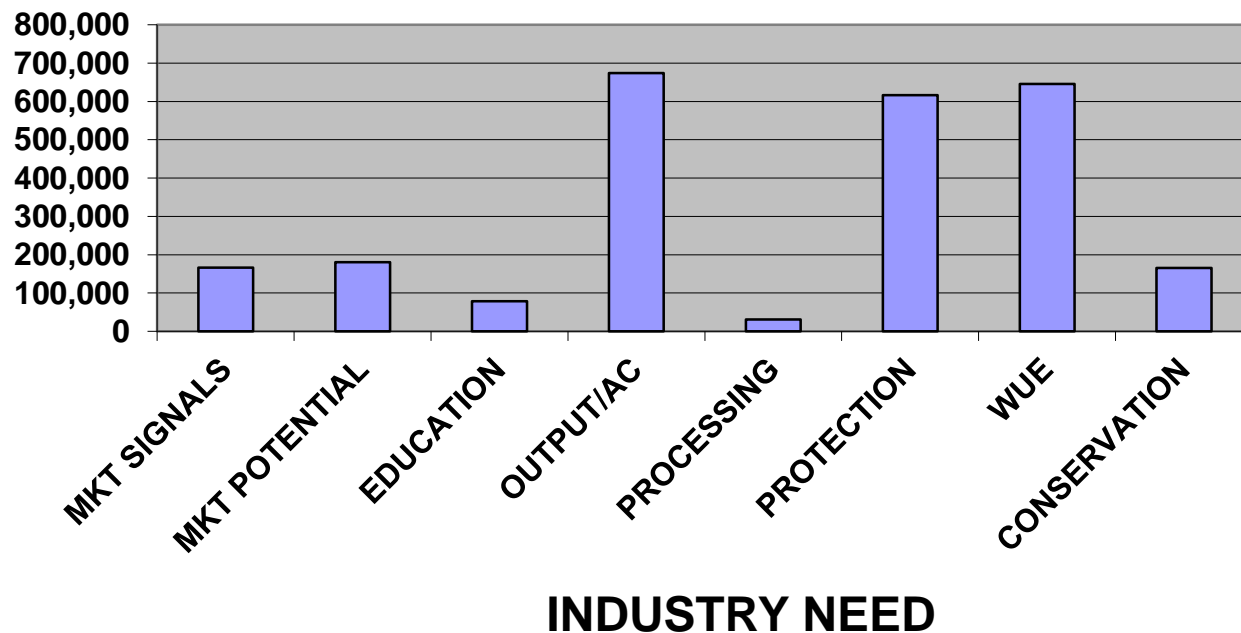
# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13  
CANADA**

**\$ CASH/IN KIND**





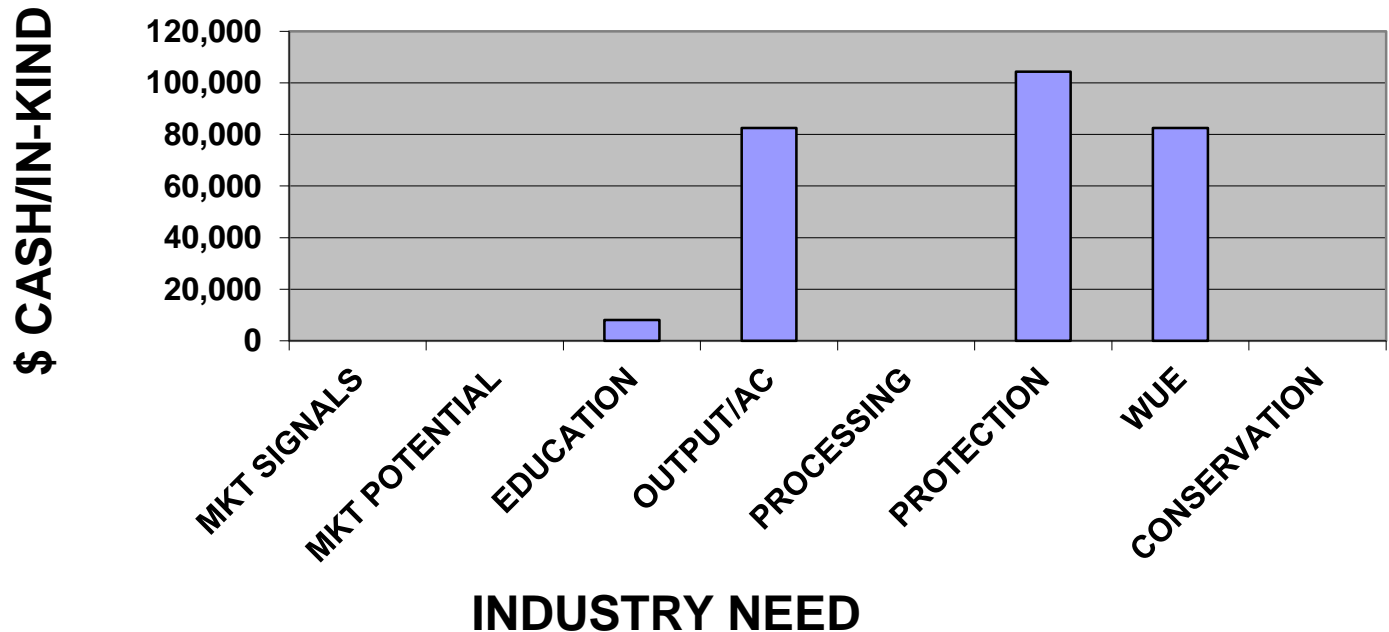


# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13  
SASKATCHEWAN**



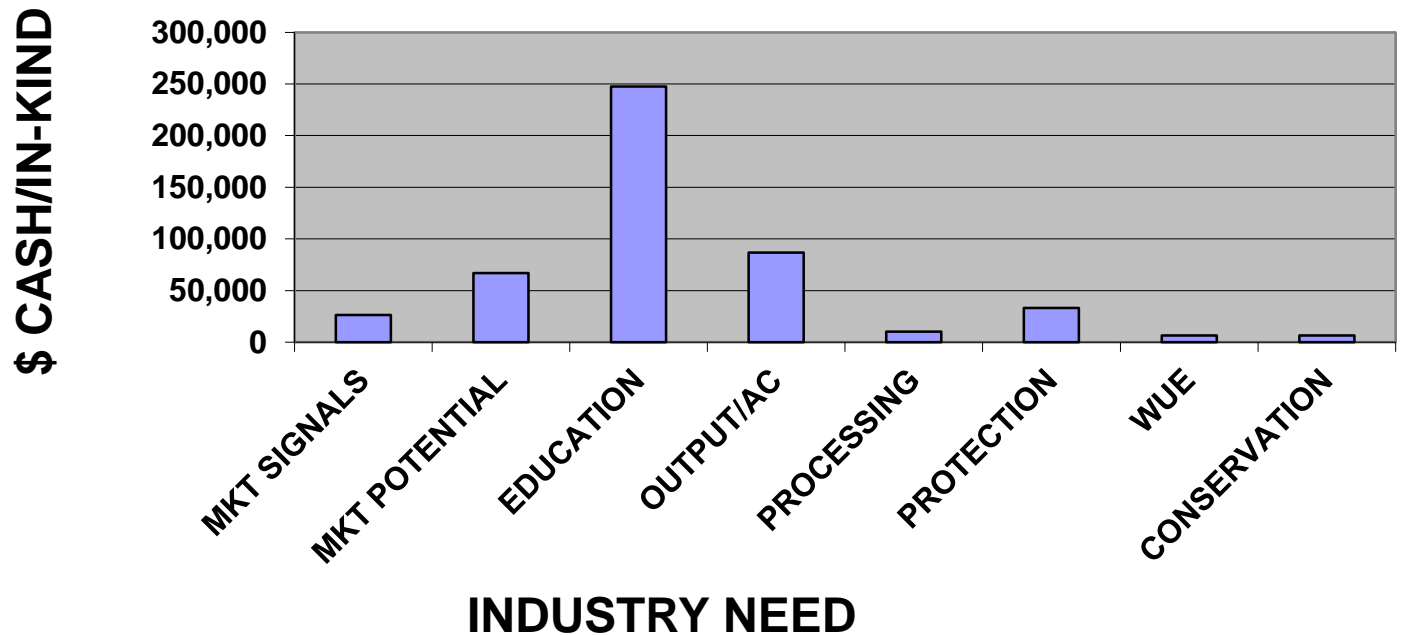


# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13**  
**UNIVERSITY of SASKATCHEWAN**



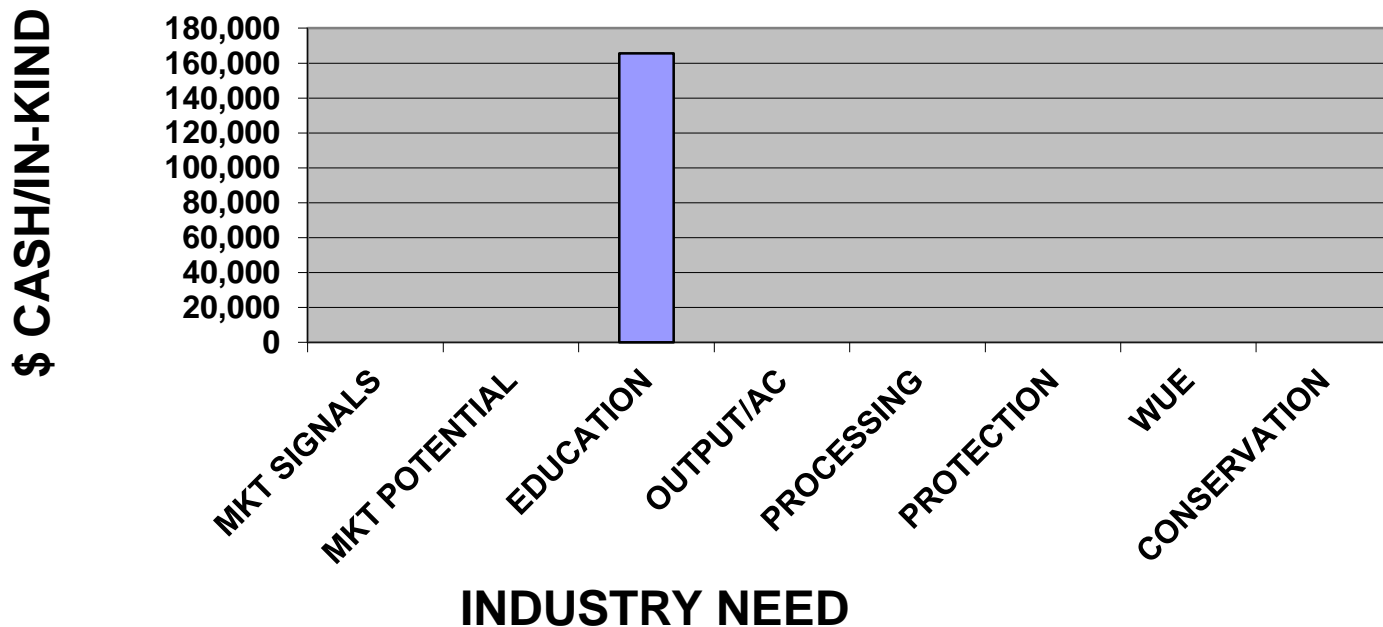


# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13**  
**SIPA**





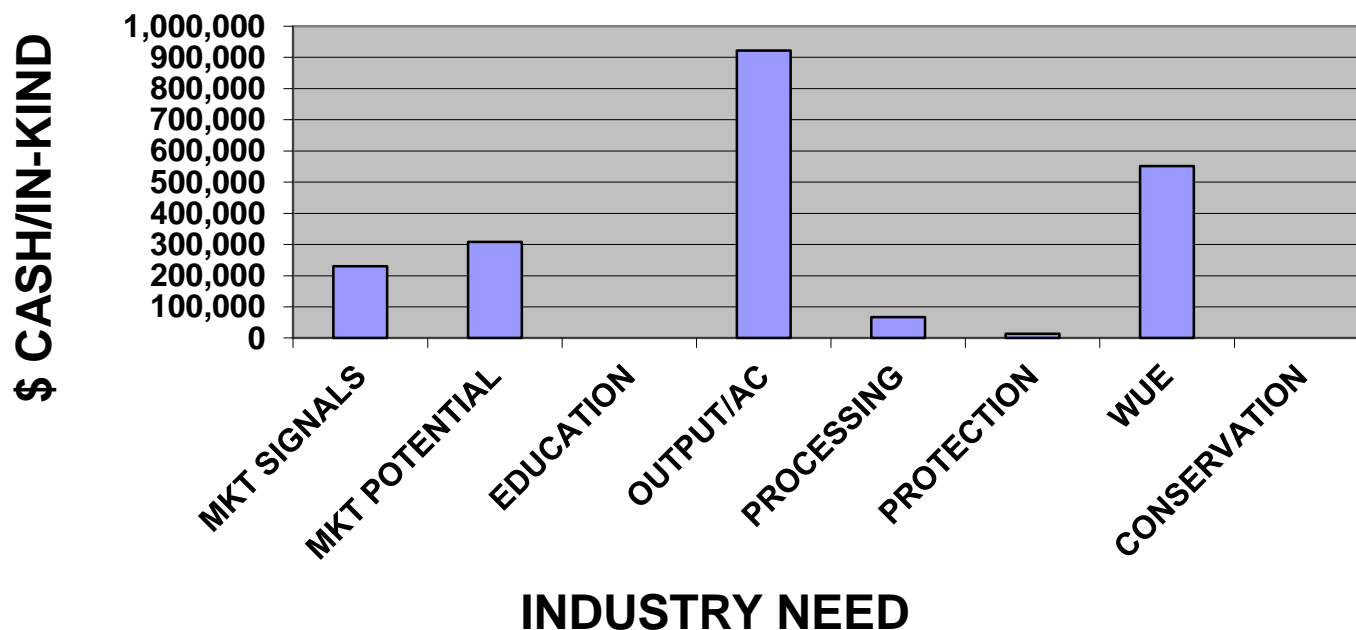


# CSIDC

## Project Rating

*“Doing the right things”*

**CSIDC PROJECT PORTFOLIO 2008-13**  
**ICDC**



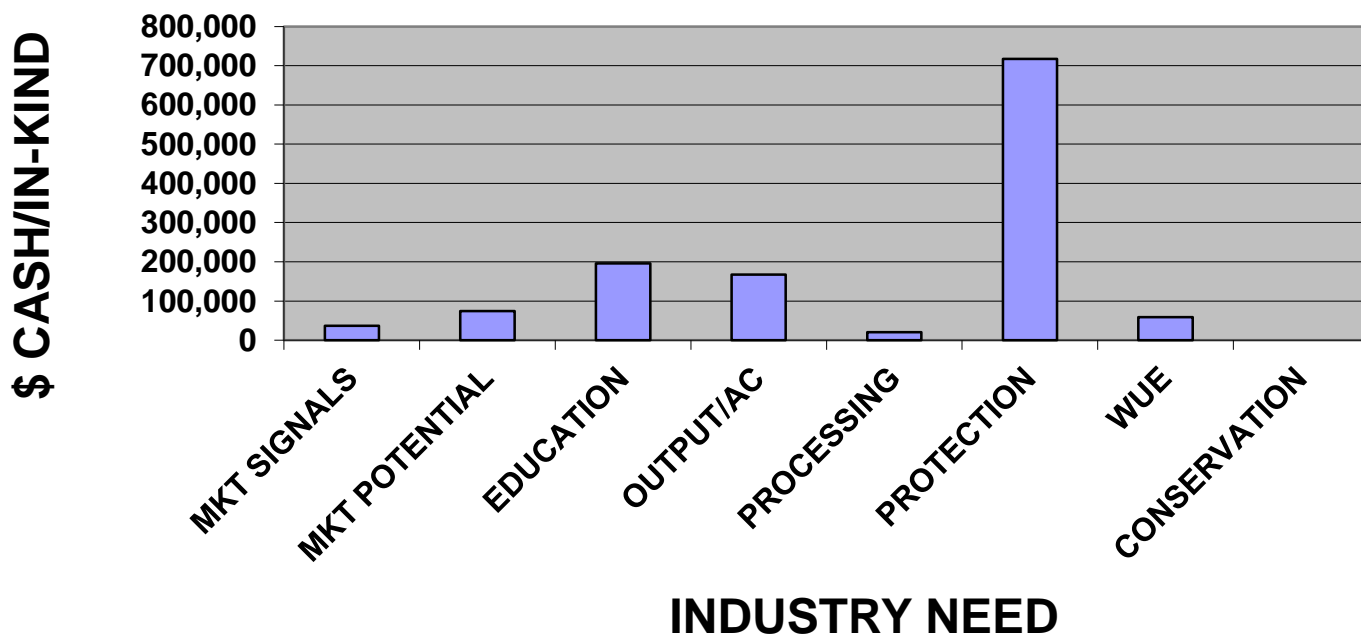


# CSIDC

## Project Rating

*“Doing the right things”*

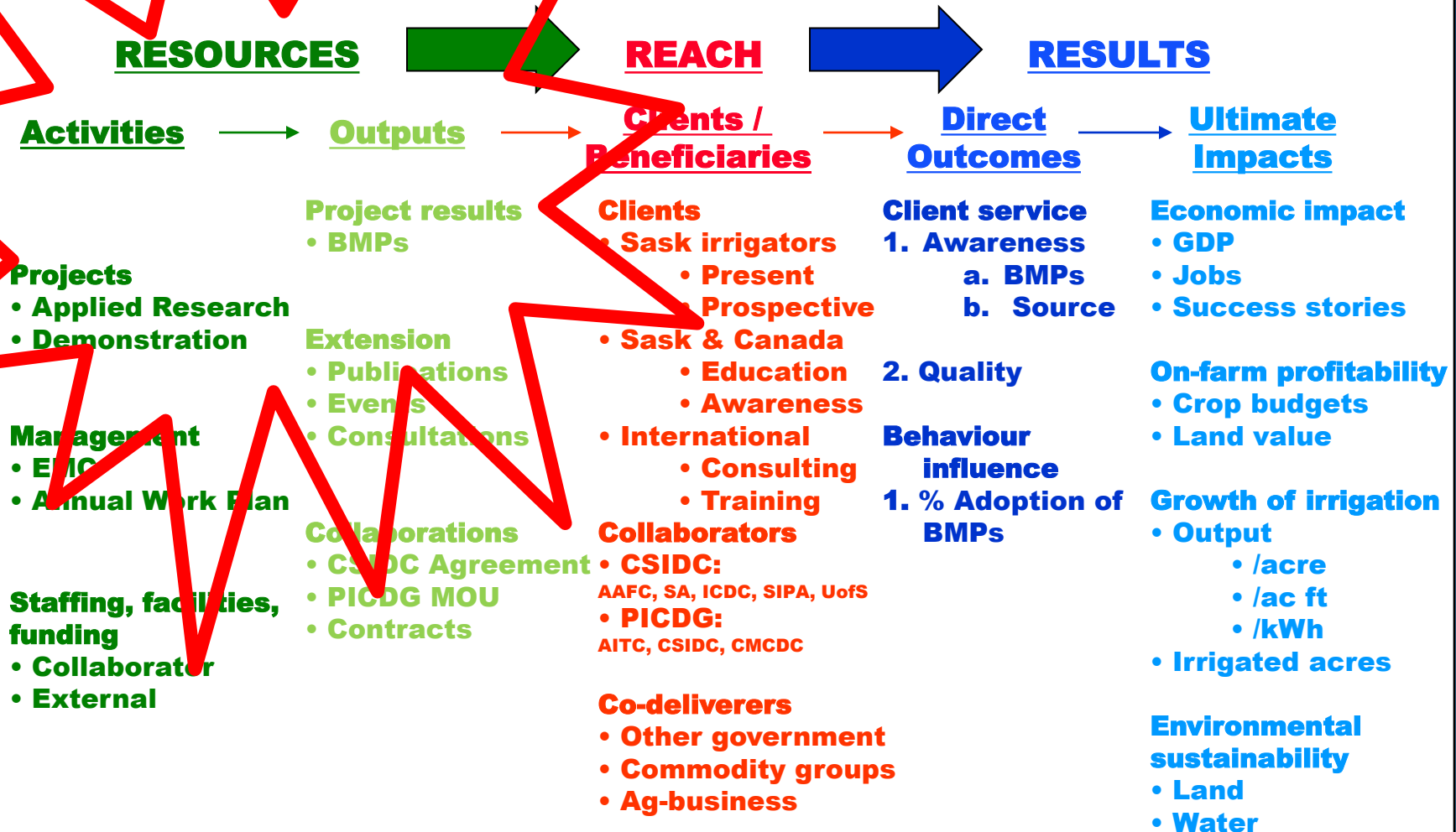
**CSIDC PROJECT PORTFOLIO 2008-13  
EXTERNAL**





# CSIDC Performance Framework 2008 - 2013

**Mission:** To measurably impact irrigation economics, on-farm profitability and growth by expanding market and value-added opportunities in an environmentally sustainable way.







# CSIDC

## Performance Measurement

*“Doing things right”*

### **Activities**

- **Applied Research Projects**
- **Demonstration Projects**

### **Measures**

1. **EMC rated in? (Y/N)**
2. **Resourced & funded? (Y/N)**
1. **Field-testing research? (Y/N)**
2. **Client support? (Y/N)**
3. **Visibility? (Y/N)**



# CSIDC

## Performance Measurement

*“Doing things right”*

### Outputs

- Project results
- Extension

### Measures

1. **BMP developed?**  
(Y/N, staff performance management, funding agency requirements)
1. **BMP published?**  
(Y/N, utilization)
2. **Events**  
(events, # attendees)
3. **Consultations**  
(# clients)



# CSIDC

## Performance Measurement

*“Doing things right”*

### **BMPs published:** **CANADA**

- CSIDC Overview
- Irrigation Research, Demonstration and Extension in Saskatchewan – Management Review 2008-2013
- Historical Durum Wheat Variety Trial
- Soybean Plant Population Demonstration
- Soybean Seeding Date Demonstration
- Crop Varieties for Irrigation 2013: Soybean
- Annual Cereal Forage Trials: Methods and Data Collection
- Annual Cereal Forage Trials: Spring Triticale
- Annual Cereal Forage Trials: Oats





# CSIDC

## Performance Measurement

*“Doing things right”*

### **BMPs published:**

#### **CANADA**

- Preliminary Evaluation of Warm-Season Grasses for Bio-fuel Production
- Milk Thistle
- Saskatoon Berry Rejuvenation
- Strawberry Crown Production
- Small Potato
- Micronutrient Fertilizer on Seed Potato: Does it Pay?
- Does it Pay to Apply Micronutrients to Table and Processing Potato?
- Small Potato Agronomy
- Season Extension Technology for Vegetable Production



# CSIDC

## Performance Measurement

*“Doing things right”*

### BMPs published:

#### CANADA

- Pepper production using High Tunnels
- Irrigated Organically Produced Vegetables
- NAHARP Water-Use Efficiency Indicators
- Variable Rate Irrigation
- Solar Pivot Demonstration





# CSIDC

## Performance Measurement

*“Doing things right”*

### **BMPs published:**

### **SASKATCHEWAN**

- Irrigation Scheduling Manual
- Saskatchewan Trickle Irrigation Manual
- Food Safety/Water Quality
- Irrigation with a Centre Pivot
- Corn Production
- Management of Irrigated Dry Beans
- The Irrigator (annual)





# CSIDC

## Performance Measurement

*“Doing things right”*

### **BMPs published:**

#### **UofS**

#### **SIPA**

- Time To Irrigate Vols I&II
- Keeping the Promise

#### **ICDC**

- Crop Varieties for Irrigation (annual)
- Irrigation Economics and Agronomics Saskatchewan (annual)
- Intensive Irrigation Kicks Out \$800/acre, dryland \$180
- Research and Demonstration Program Report (annual)





# CSIDC

## Performance Measurement

***“Getting the right results”***

**“During the term of this Agreement, the Parties shall conduct an evaluation of the performance and effectiveness of the implementation of this Framework Agreement with regard to its stated objectives.”**

**A Canada Saskatchewan Industry Framework Agreement for  
Irrigation-Based Economic Development and  
Environmental Sustainability**



# CSIDC Performance Framework 2008 - 2013

**Mission: To measurably impact irrigation economics, on-farm profitability and growth by expanding market and value-added opportunities in an environmentally sustainable way.**





# CSIDC

## Performance Measurement

*“Getting the right results”*

### Direct Outcomes

- Client service



### Client Service

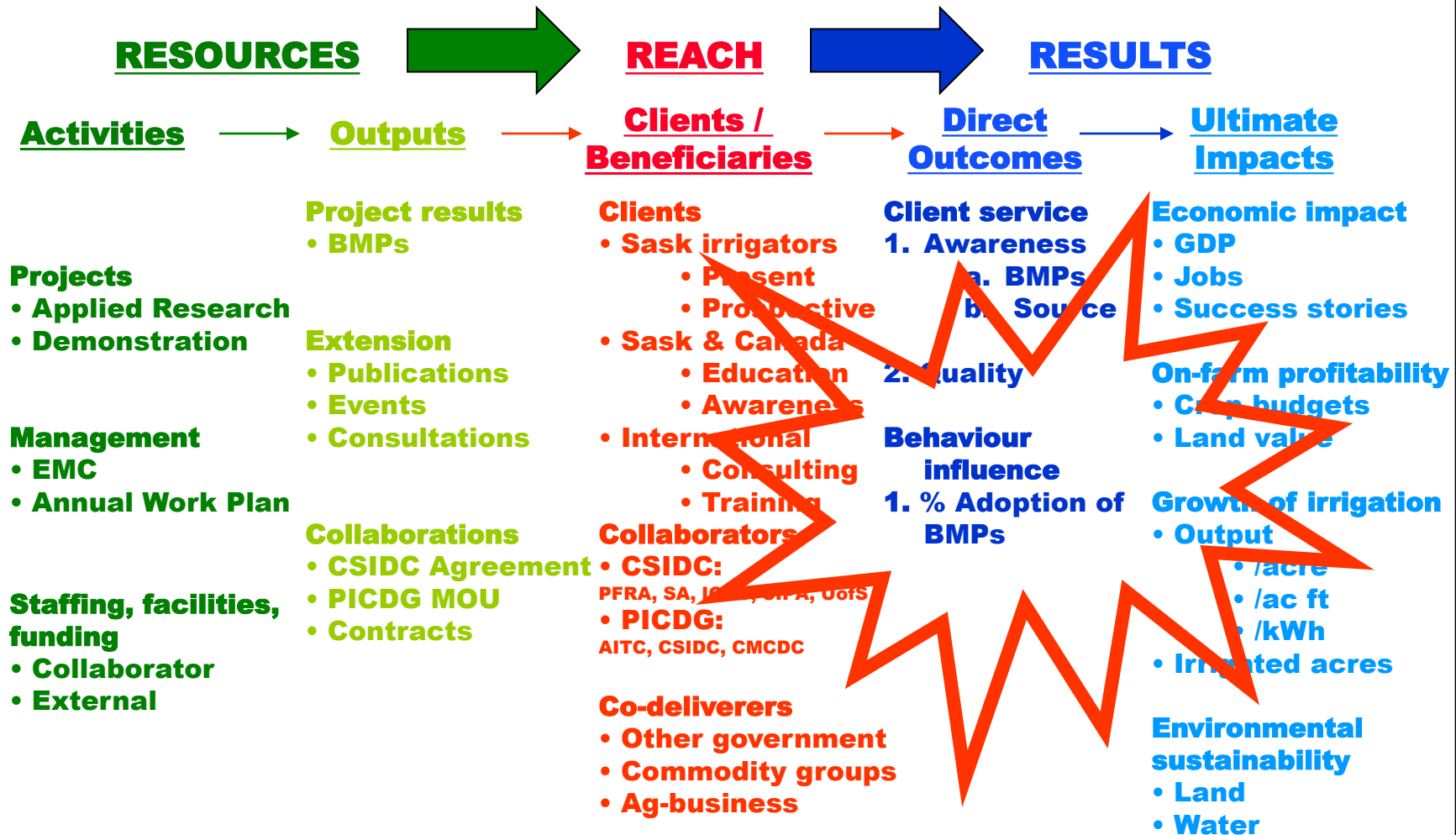
(year 5)

- 1. Awareness**
  - a. Of BMPs**
  - b. Of “CSIDC” as a source**  
(client survey)
- 2. Quality**  
(client survey)



# CSIDC Performance Framework 2008 - 2013

**Mission: To measurably impact irrigation economics, on-farm profitability and growth by expanding market and value-added opportunities in an environmentally sustainable way.**







# CSIDC

## Performance Measurement *"Getting the right results"*

### Direct Outcomes

- Behaviour influence



### Behaviour Influence

(year 5)

- 1. Research result** (\$/ac)
- 2. Demo result** (% research result)
- 3. Acres impacted** (crop survey)
- 4. % Adoption rate** (client survey)



# CSIDC

## Performance Measurement *“Getting the right results”*

### A MANAGEMENT REVIEW OF THE CANADA/SASKATCHEWAN/INDUSTRY FRAMEWORK AGREEMENT FOR IRRIGATION BASED ECONOMIC DEVELOPMENT & ENVIRONMENTAL SUSTAINABILITY

Ted Weicker, Ference Weicker & Company  
March 13, 2013



# CSIDC

## Performance Measurement

***“Getting the right results”***

### **Purpose:**

- 1.To assess the performance from the Framework Agreement against its stated objectives;**
- 2.To assess the resulting outcomes, particularly in terms of how well the EMC identified and addressed the industry’s irrigation needs and the impact on Saskatchewan’s irrigation industry;**
- 3.To provide direction with respect to industry needs and how the operation of the CSIDC can evolve to address these needs.**





# CSIDC

## Performance Measurement *“Getting the right results”*

### Field Research Completed:

- Document and literature review;
- Interviews with 48 key informants including members of the EMC, SIPA, ICDC, irrigator districts groups, commodity groups, and other organizations;
- A survey of 100 irrigators (mostly telephone) to obtain to illustrate the nature of the impacts as well as document and assess the knowledge development and transfer model;
- Conducted two focus groups with 17 representatives.





# CSIDC

## Performance Measurement *“Getting the right results”*

### MAJOR FINDINGS:

1. The Agreement has been successful in creating an effective management structure and securing the core resource commitments of the five parties.



# CSIDC

## Performance Measurement *“Getting the right results”*

### MAJOR FINDINGS:

**2. The Framework Agreement has played a significant role in facilitating a coordinated and cooperative approach to irrigation research, demonstration and education.**





# CSIDC

## Performance Measurement *“Getting the right results”*

### MAJOR FINDINGS:

3. The Framework Agreement has been successful in creating awareness of its outputs and encouraging adoption of management practices which enhance the impact of irrigation.





# CSIDC

## Performance Measurement

***“Getting the right results”***

### MAJOR FINDINGS: OUTPUTS (BMPs)

- When asked to rate the effectiveness of the Agreement and the CSIDC in identifying BMPs, key informants provided an average rating of 4.0/5.0;
- A wide variety of outputs (BMPs) have been generated;
- 64% of irrigators and 87% of key informants report using one or more of the resources (BMPs).







# CSIDC

## Performance Measurement

*“Getting the right results”*

### MAJOR FINDINGS: OUTPUTS (BMPs)

# of Resources (BMPs) Used	Key Informants	Irrigators
0	13%	36%
1-3	13%	28%
4-6	21%	16%
7-10	13%	9%
11-14	21%	5%
15-18	4%	3%
19-23	13%	2%



# CSIDC

## Performance Measurement

***“Getting the right results”***

### MAJOR FINDINGS: OUTPUTS (BMPs)

- When all these sources are taken in consideration, the key informants view the CSIDC and its partners as being successful in creating awareness of the BMPs and other outputs (average rating of 3.8/5.0);
- The irrigators report being generally satisfied with the information they obtain through the events, factsheets, publications and other resources (average rating of 3.5/5.0).





# CSIDC

## Performance Measurement

Resource	Key Informants	Irrigators
Crop Varieties for Irrigation guide	65%	51%
Annual ICDC Research and Demonstration Program Report	83%	39%
Irrigation Scheduling Manual	35%	27%
Canada-Saskatchewan Irrigation Diversification Centre Annual Review Reports	57%	25%
Irrigation Economic and Agronomics guide	49%	24%
Irrigating with a Centre Pivot	39%	24%
Time to Irrigate reports	65%	23%
Irrigated Alfalfa Production in Saskatchewan	52%	21%
Intensive Irrigation Kicks out \$800/Acre	43%	14%
Assessment of Irrigation Water Quality in Saskatchewan	50%	13%
Corn Production	26%	13%
Alberta Irrigation Management Model	22%	12%
Management of Irrigated Dry Beans	30%	10%
Keeping the Promise	43%	9%
Saskatchewan Trickle Irrigation Manual	39%	9%
Food Safety/Water Quality	30%	9%
Water Quantity and Use Efficiency Indicators for Canada	17%	9%
Solar Irrigation Management	30%	7%
Season Extension Technology for Vegetable Production in the Prairie Climate	22%	6%
Pepper Production Using High Tunnels	26%	5%
Develop Agronomic Practices for Small Potato Production in Saskatchewan	26%	5%
Organic/Pesticide-free Higher-Value Crops: Sustainable Production, Maintain Quality and Extend Shelf Life	22%	3%
Improving Yields, Quality and Product Utilization of Saskatchewan-Grown Milk Thistle	9%	1%



# CSIDC

## Performance Measurement

***“Getting the right results”***

### MAJOR FINDINGS: RESEARCH AREAS

- Over three-quarters of irrigators are familiar with one or more areas of research.

Research Areas	Key Informants	Irrigators
Irrigated crop varieties for irrigation evaluations	70%	51%
Irrigation management and technologies that reduce requirements for water and energy	70%	46%
Irrigated forage crop variety evaluations and efforts on flood irrigation in southwest Saskatchewan	70%	42%
Disease management of canola, cereals & flax	57%	33%
Identification of suitable varieties and effective agronomic practices for irrigated dry bean production	43%	25%
Varietal improvements and development of specific agronomic practices for potatoes	52%	24%
Using season extension technology to facilitate production of higher value warm season vegetables in the prairie climate.	57%	18%
Development of production practices for organic vegetables	43%	9%
Development of agronomic practices for commercial scale mechanized production of medical and nutraceutical plants	22%	8%





# CSIDC

## Performance Measurement

*“Getting the right results”*

### MAJOR FINDINGS: EVENTS

- 40% of irrigators have participated in events.

# of Activities Participated In	Key Informants	Irrigators
0	4%	60%
1	21%	10%
2	4%	7%
3	0%	8%
4	38%	2%
5	17%	5%
6	8%	4%
7	8%	4%



# CSIDC

## Performance Measurement

*“Getting the right results”*

### MAJOR FINDINGS: EVENTS

- Events in which irrigators participated.

Activities Participated In	Key Informants	Irrigators
CSIDC Annual Irrigation Field Day and Trade Show	83%	34%
Irrigation field days/tours not at CSIDC	52%	24%
SIPA/ICDC Annual Irrigation Conferences	65%	21%
Other irrigation field days or tours held at CSIDC	50%	18%
Irrigation workshops/courses put on by CSIDC or partner	30%	10%
South Saskatchewan River Basin Showcase Tour	43%	11%
Upper Qu'Appelle Water Supply Tour	52%	9%



# CSIDC

## Performance Measurement

### *“Getting the right results”*

## MAJOR FINDINGS: OTHER INFO SOURCES

Other Sources Used to Obtain Information on Irrigation	Count	%
Other Irrigators	30	52%
Communication with staff connected with ICDC	19	33%
AgriView	19	33%
Agrologists representing CSIDC and its partners (AAFC, Sask Ag, SIPA, ICDC, University of Saskatchewan)	19	33%
Communication with Saskatchewan Agriculture Staff	18	32%
Communication with staff at CSIDC	18	32%
Communication with other producers	18	32%
From attending an Irrigation District meeting	17	30%
From attending a meeting, workshop, or field day.	17	29%
The Irrigator	16	28%
Irrigation Saskatchewan website (www.irrigationsaskatchewan.com)	11	19%
Communication with farm input, or equipment suppliers	10	18%
Communication with staff with the University of Saskatchewan	9	16%
Communication with staff connected with SIPA	8	14%
Communication with crop marketing or contracting companies	7	12%
CSIDC website	6	11%
Crop consultants	5	9%
Company reps	5	9%
AAFC (Ag Canada, federal government, PFRA, AESB) newsletters or reports	4	7%
Other	4	7%
Other Publications	3	5%
Communication with private consultants	1	2%



# CSIDC

## Performance Measurement

***“Getting the right results”***

### **MAJOR FINDINGS: ADOPTION OF BMPs**

- 46% of irrigators reported making operational changes over the past 2 years to take better advantage of the benefits of irrigation;
- Key informants and EMC members view the CSIDC and its partners as being somewhat successful in encouraging adoption of the BMPs (average rating of 3.2/5.0);
- The EMC members and, to a somewhat lesser extent, other key informants believe that the results of the BMPs generally transfer well from research plot to farm field.







# CSIDC

## Performance Measurement

***“Getting the right results”***

### MAJOR FINDINGS: ADOPTION OF BMPs

- 46% of irrigators reported making operational changes over the past 2 years to take better advantage of the benefits of irrigation;
- Irrigators likely over-estimate the probability they would have made the same changes even without receiving the information.

Type of Change	% of Irrigators	Satisfaction with Information	Likelihood of Making Changes without Information	Success of Changes
Crop Varieties	34%	4.3	48%	4.0
Irrigation Methods	20%	4.2	44%	4.4
Farming Methods	7%	4.3	42%	4.2
Crop Inputs	14%	4.2	48%	4.2
Total	46%	4.1	47%	4.0



# CSIDC

## Performance Measurement *“Getting the right results”*

### MAJOR FINDINGS:

**4. The EMC has been effective in identifying and addressing the irrigation needs of industry.**





# CSIDC

## Performance Measurement

***“Getting the right results”***

### **MAJOR FINDINGS: INDUSTRY NEEDS**

- Irrigators rate the CSIDC as successful meeting the industry priorities with respect to irrigation research, demonstration, and education (average rating of 3.7/5.0);
- Why?
  - effectiveness of the partnership between the organizations;
  - capabilities of the staff;
  - easy access to information;
  - the practical useful nature of the research and information.



# CSIDC

## Performance Measurement

***“Getting the right results”***

### MAJOR FINDINGS: INDUSTRY NEEDS

The CSIDC and partners have established themselves as the go to source of information on irrigation.

Primary Source of Information	Count	%
Saskatchewan Agriculture Staff	41	41%
CSIDC	36	36%
Other producers	36	36%
ICDC	28	28%
Your suppliers	28	28%
Your marketers or contracting companies	5	5%
Private consultants	5	5%
Other	13	13%
Not sure	5	5%





# CSIDC

## Performance Measurement *“Getting the right results”*

### MAJOR FINDINGS:

**5. There is strong support for continuing with the Framework Agreement.**





# CSIDC

## Performance Measurement

*“Getting the right results”*

### **MAJOR FINDINGS: AREAS REQUIRING ATTENTION**

- **Future funding for the Centre;**
- **Role and focus of the Centre;**
- **Role and composition of the EMC;**
- **Selection of projects;**
- **Involvement of other organizations;**
- **Reach to producers across the province;**
- **Transferability of project results across the province.**



# CSIDC

## Performance Measurement

*“Getting the right results”*

### RECOMMENDATIONS:

1. Encourage the preparation and implementation of a development strategy for irrigation in Saskatchewan;
2. Prepare a strategic business plan for the CSIDC to guide operations over the next five years;
3. Employ the strategic business plan to secure funding for the next five years;
4. Ensure the benefits of the CSIDC are accessible to producers located at a distance from CSIDC;
5. Continue to be an irrigation focused institution.



# CSIDC Performance Framework 2008 - 2013

**Mission: To measurably impact irrigation economics, on-farm profitability and growth by expanding market and value-added opportunities in an environmentally sustainable way**







# CSIDC

## Performance Measurement

*“Getting the right results”*

### Ultimate Impacts

- Economic impact



### Measures

(year 1 & 5)

1. \***GDP**
2. \***Jobs**
3. **Success stories**

\* **Input/Output model for SK irrigated agriculture**



## Ultimate Impacts

- ## Measures

1. Crop budgets
2. Land value

Page 2:





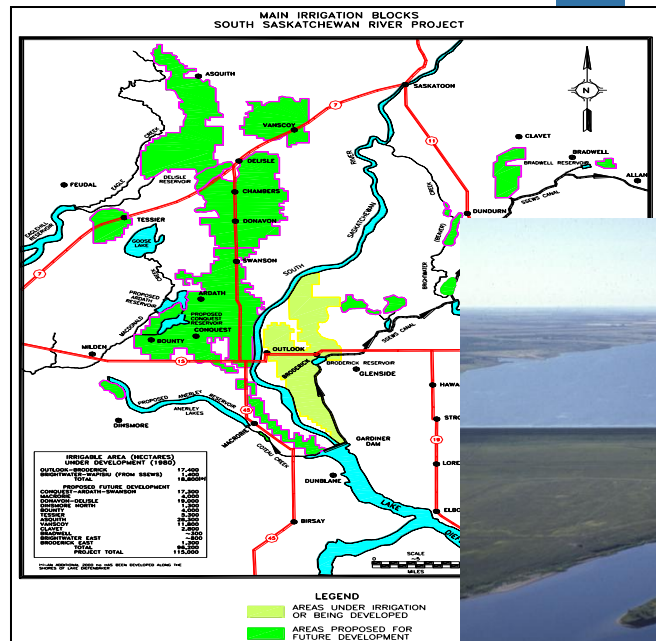
# CSIDC

## Performance Measurement

### *“Getting the right results”*

### Ultimate Impacts

- Growth of irrigation



### Measures

(annual)

#### 1. Output

- per acre land
- per ac ft water
- per kWh energy

#### 2. Irrigated acres





# CSIDC

## Performance Measurement *“Getting the right results”*

### Ultimate Impacts

- Environmental sustainability



### Measures

(year 1 & 5)

#### 1. Land

- % Certified
- # EFPs/BMPs
- Organic matter

#### 2. Water

- Infrastructure
  - Condition of Works
- Irrigation
  - Water Quality
- Drainage/run-off
  - Quality
  - Water table
  - Salinity





# CSIDC Framework Agreement 2008 - 2013







Canada-Saskatchewan  
Irrigation  
Diversification  
Centre



# Canada-Saskatchewan Irrigation Diversification Centre

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