



# Canada Pakistan Research & Development Council

ANNUAL REPORT

**2019-2020**

[www.cprdc.ca](http://www.cprdc.ca)



**Dr. M Akhter Hamid**  
MD, DCH MRCPI FRCP FRCPC  
President of CPRDC

## MESSAGE FROM THE PRESIDENT

The Canada Pakistan Research and Development Council had a successful year in facilitating research and science innovation in both Canada and Pakistan. The council will continue to provide benefit to current and future scientists by creating opportunities for growth in the fields of medicine, engineering, and technology. Dedication from our members has allowed us to move closer to our goal of achieving the Sustainable Development Goals (SDGs) and ensuring inclusive and equitable quality education through the promotion of lifelong learning opportunities for all.

It is an honor to work with individuals who are so dedicated to our cause. I would like to extend my gratitude to the members of the Canada Pakistan Research & Development Council for their excellent work and strong effort for the organization. Your belief in the organization will guide us in becoming a leader in science for both Canada and Pakistan.

Sincerely,

Dr. Muhammad Akhter Hamid (President)

## Advisory Council of Canada Pakistan Research & Development Council



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Council General  
Pakistan, Toronto



**Mr. Bilal Siddiqui**



**Mr. Shahab Khokar**



**Dr. Rabia Shahab**



**Dr. Uzair Ul Ghani**



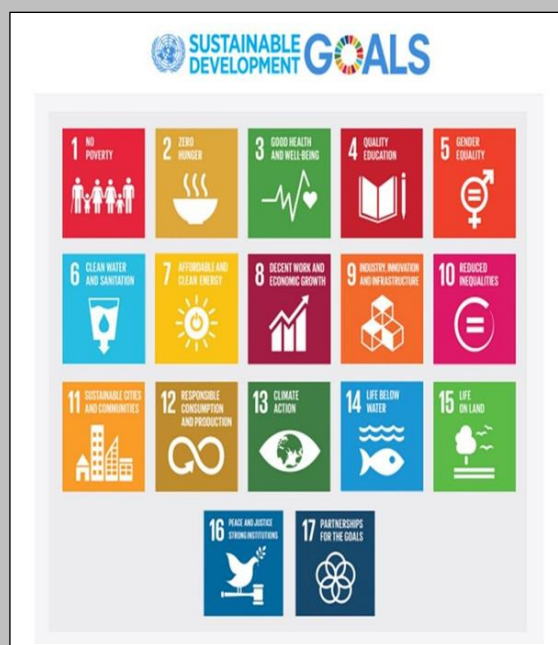
**Mr. Farooq Naiyer**

# Vision

Our vision is to act as an incendiary in promoting research and development through Canada-Pakistan scientific collaboration. The goal of this collaboration is to achieve sustainable development goals and to ensure inclusive and equitable quality education through the promotion of lifelong learning opportunities.

## Mission Statement

Our mission is to offer a robust platform to Canadian and Pakistani individuals and institutions, for collaboration primarily in the areas of research and development leading to sustainable development. CPRDC has been actively working towards their goals over the last year, addressing sustainable development goals (SDGs) 2 to 6, 8, 9, 11, 13 and 17.



## Our Objectives

- Promote joint research
- Facilitate knowledge exchange
- Support development
- Knowledge creation
- Health research
- Raise funds

# Who are we & Where we operate

Canada Pakistan Research & Development Council (CPRDC) is a non-government and non-profit organization dedicated to facilitating the health research activities involving scientist & students from Canada & Pakistan. The health research will lead to significant discoveries, the development of new therapies and a remarkable improvement in Healthcare and Public Health. Advances in health information technology are enabling a transformation in health research that could facilitate studies that were not feasible in the past and thus leads to new insights regarding health and disease as medical research can have an enormous impact on human health and longevity.

CPRDC is mainly establish for increasing the exchange of knowledge by means of Internships and Seminars that not only confine to Physicians, Physician Scientists or Health programmer Scientists but equally to all relevant professionals like Microbiologist, Biologists, Molecular Biologists, Bio-technologists, Environmental Health Scientists, Industrial Hygienists, Clinical Health Care Professionals, Veterinarians, Chemists, Engineers and Laboratory Designers.



Karachi



Islamabad



Toronto





# FOCUS GROUPS

OUR FOCUS GROUPS WERE FORMED TO BRING REVOLUTION IN OUR RESEARCH AREAS

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**+26%**

INCREASE IN MEMBERSHIP

**GROWTH**



**4**

PARTNERS INVOLVED

**ENGAGEMENT**



**40%**

FASTER IN REACHING

COMMUNITIES IN NEED THROUGH START  
FUND BANGLADESH

**CHANGE**

# Health Sciences

The division of Health Science offers an effective and efficient means to enable collaborative research between Pakistani and Canadian institutes and be a central point of contact for all research-related activities.

We offer plenty of projects in the area of health science that include:

- Facilitating joint research projects by faculty members in Canada and Pakistan.
- Raising the profile of health researchers by hosting high-profile events such as visiting speakers and webinars on selected topics.
- Raising the profile of Pakistani Scholars both in Canada and Pakistan.
- Training and mentoring students, staff, and junior faculty members in Pakistan by offering opportunities as assistants on research projects, by providing resources and information need to collaborate with Canadian faculty members.
- Contributing to the generation of applied research by responding selectively to requests-for-proposals related to the research that deals with Pakistan.

“The art of medicine consists of amusing the patient while nature cures the disease.”

This research area increased its popularity in year 2020 and was proposed by Dr. Rashid Ahmed.



## Life & Natural Sciences

Canada Pakistan Research & Development council is a common platform of Pakistani Professionals exploring and creating value in Life Sciences in North America. CPRDC Life and Natural Sciences group covers a wide range of activities under this umbrella like Pharmaceutical, Biological, In Vitro Diagnostics, Medical Devices, Nutraceuticals and Clinical Research. Life and Natural Sciences also covers the sphere of Health and the nutrition part of SDGs. Our life and natural sciences projects include:

- Pharmaceutical
- Biological
- Nutraceutical
- Medical Devices
- Capacity Building



## Innovation and Emerging technologies



The CPRDC focus group of innovation and emerging technologies involve Information technology (IT) that refers to advanced computing, communications, and information technologies that cover scientific workstations, supercomputer systems, high capacity, high-speed networks, special purpose and experimental systems (application), and systems software. IT also covers health information technology which is an essential resource for health care professionals, policymakers and product developers to obtain computer-based patient records, telemedicine, community health information, and much more. Along with IT, cyber-security also plays a role in sustaining the emerging technology. Thus, we have included cyber-security within this focus group. This will allow our members to defend computers, servers, mobile devices, electronic systems, networks, and data from mischievous attacks. Our unique platform for innovation and emerging technologies is run by experts from Canada to recognize academic needs to benefit professionals and students of IT and cyber-security. This will allow us to bridge the great gap between the western world and underdeveloped countries and we look forward to collaborating with you to grow this field and to succeed in this initiative. We have plenty of on-going projects under this focus group. Cyber-security within this focus group. This will allow our members to defend computers, servers, mobile devices, electronic systems, networks, and data from mischievous attacks. Our unique platform for innovation and emerging technologies is run by experts from Canada to recognize academic needs to benefit professionals and students of IT and cyber-security. This will allow us to bridge the great gap between the western world and underdeveloped countries and we look forward to collaborating with you to grow this field and to succeed in this initiative. We have plenty of on-going projects under this focus group.



As technology continues to disrupt banking and financial services globally, Fintech is reshaping how such services are being consumed by customers. Over the past several years Fintech's have challenged traditional banks and other financial institutions by offering better and more timely services, something which is in line with market demands. This has allowed deeper penetration into the market, thus enabling governments and policy makers to leverage such platforms for promoting financial inclusion and sustained economic growth. We have also seen that while disruption has its benefits in terms of opportunities, there are also several risks that we need to be cognizant of. As such, regulators are constantly designing new regulatory frameworks to keep pace with the rapidly changing environment and to ensure better governance while not stifling innovation. Like other countries, we have seen the growth of Fintechs in both Pakistan and Canada, given the opportunities available. However, In Pakistan, for various reasons, the eco-system has not allowed Fintechs to achieve its full potential and tap potential market opportunities. This is not to say that the GOP is not keen to leverage financial technology; as a matter of fact, it is a cornerstone of the Government's financial inclusion strategy. While in Canada, the government has provided incentives to facilitate Fintech development, scaling is an issue given the market size. Given the importance of Fintechs in particular, and technology in general in shaping the new landscape of banking and financial services, the Fintech Group has been created within CPRDC with following objectives.

Identify areas for cooperation between Canada and Pakistan to promote the development of responsible use of technology in the financial sector.

Explore collaboration with Canadian FinTech's in the lending (fintech credit).

Collaborate to mentor fintech start-up entrepreneurs in Pakistan through capacity building.

Collaborate with Canadian regulators and incubators to strengthen the Pakistani eco-system.





# PROJECTS AND EVENTS 2019

## **CPRDC at Lahore Chamber of Commerce**

In early October, CPRDC members, Prof. Naweed Syed and Dr. Akhter Hamid, were invited by the Lahore Chamber of Commerce. The meeting was also attended by pharmaceutical groups and allied business organizations. The topic of discussion was 'Future of Health Care Projects and Opportunities to Establish Vaccine Production Facility in Pakistan'.



## **Internship Program with University of Karachi**

Discussions were made to create an internship program with Dr. Sadaf Ahmed at Pscyo Physiology Lab in the University of Karachi. CPRDC proposed an idea to collaborate with AEIRC, who are already established at the Lab, in order to facilitate National and International Projects. CPRDC will coordinate an exchange project.



## **Meeting with Western University and CPRDC Member Mr. Shahab Khokhar**

Mr. Shahab Khokhar held a meeting at the Western University, Canada with Prof. Kim Baines, Professor Chemistry and Assistant Dean, Silke Klenk, Director Internationalization and Subrata Chakrabarti, Chair, Department of Pathology and Laboratory Medicine.



## **Joint Venture with Swat tyre company and CPRDC Member Dr. Nehar Ullah**

Dr. Nehar is a senior member in CPRDC. He has been actively involved in CPRDC research initiatives. A joint venture with swat tyre company was initiated for development of rubbercrete from tyre's residue.

### Wastewater Research Initiative by Dr. Nehar Ullah

CPRDC member Dr. Nehar Ullah initiated a research on the topic, 'Effect of industrial wastewater irrigation on quality of local soil and vegetables in Hattar industrial estate, Punjab, Pakistan'. It is an important study in the domain of environmental toxicity and will help ascertain the impacts of the industrial waste water on the crops being produced locally.

Corresponding meetings were held with International Center for Chemical and Biological Sciences (ICCBS), University of Karachi. An agreement was reached in principal for research collaboration, student exchange and participation of Western University in ICCBS International Conference.

### Meetings between University of Waterloo and Director Robo Hub and CPRDC Member Shahab Khokhar

Two in-person meetings of Mr. Shahab Khokar with Prof William Melek, University of Waterloo and Director of Robo Hub were held for possible collaboration between UW and NUST. Pakistan.

Conference call between Yassar Ayaz, Director, NCAI, NUST Pakistan and Prof. William was also arranged. An agreement was reached on arranging an annual conference on Robotics and AI to be held alternatively in Canada and Pakistan.



**NUST**  
NATIONAL UNIVERSITY  
OF SCIENCES & TECHNOLOGY

### Incubators and Accelerators

A team at Ryerson University visited Pakistan to explore and assess the potential of joint work in the field of incubators and accelerators, especially with the Pakistan Stock Exchange. This was facilitated by CPRDC member CG Imran Siddiqui.



### **Joint venture with NanoHlv company and CPRDC Member Dr. Nehar Ullah**

CPRDC member Dr. Nehar Ullah initiated a joint venture with NanoHlv company. The collaboration will work on the development of silica nanoparticles based transparent super hydrophobic coatings for various industrial applications.

### **Research Initiatives by CPRDC member Dr. Muhammad Bilal Siddiqui**

Dr. Bilal Siddiqui, executive member of CPRDC, undertook the first of its kind Pakistan's VASA (Verbal Autopsy/Social Autopsy) in-depth investigation in the urban slums of Karachi. The study focused on detailed determinants and the estimates on the missed under five mortality cases. The study also focused on the validation of the VASA tool. It is an ongoing project.

### **Stunted Growth Project by Dr. Bilal and Dr. Akhter**

Dr. Bilal planned and coordinated with Dr. Akhter and team on early childhood malnutrition project. Connections were facilitated with DIL (Development in Literacy) schools, Sehat Kahani telemedicine platform and Rizq Sharefood social enterprise to carry out pilot.

### **CPRDC facilitated meetings between Karachi, Pakistan and Waterloo, Canada IT organizations**

Meetings were arranged between the Khyber Pakhtunkhwa Information Technology Board (KPITB) and the senior management of Communitech and Accelerator Center Waterloo. Collaboration in the digital domain is vital between the institutions of the two countries so that each could benefit from the others' success stories.

## **POSTPONED ACTIVITIES**

### **Visit and Clinical Trial Workshops in Pakistani Hospitals**

The Council members organized a trip to Pakistan. Canadian scientists Dr. Ronald Heslegrave, Dr. Ryan Zarychanski, and Dr. Rashid Ahmed were to participate in CPRDC workshops and meet key stakeholders in the HALO Trials. Workshops were planned to be held in Karachi and Islamabad. However, due to political tensions between Pakistan and India, the trip had to be cancelled.

# PROJECTS AND EVENTS 2020

## DIL Internship Project

In mid-2020, Canada Pakistan Research and Development Council and DIL Internship Project, UK, Signed MoU to Arrange Internship Opportunities in Public & Private Sector, Pakistan for Canadian Students. DIL internship project was initiated in early 2020 to benefit international students in Pakistan. It included fully sponsored internships for international students in Pakistan and at Pakistani companies as well as facilitating sightseeing to promote tourism in line with PMIK's vision to promote country internationally.

The innovative DIL internship project approached Universities in Canada and selected two candidates to send Pakistan at top-notch company. However, due to COVID-19 related travelling restrictions broke in proceedings for the internship and the selected candidates were given a chance to continue the DIL internship later in 2021. This DIL internship project lies under the area of FinTech.



## Identification of the Compounds Active against certain bacteria

CPRDC also collaborated with Professor Iqbal Chaudhry H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences to research the identification of the Compounds Active against *Candida glabrata*, and *Candida albicans* and Study of their Structure-Activity Relationship. The research was successful and was submitted for publication in 2020.



## Symposia

Symposia Clinical trial workshop was held at NIH, King Edward, Dow Medical University in year 2020 to assess the research potential of various academic institutions in Pakistan. Through this program we explored the opportunities of bilateral collaboration between the medical researchers in Canada and Pakistan successfully.



[www.halointernational.org/trial-sites](http://www.halointernational.org/trial-sites)



### HALO Trials

CPRDC in full swing started HALO trials in year 2018. The Heparin Anticoagulation to Improve Outcomes in Septic Shock (HALO): An international phase II randomized trial. Despite COVID-19 pandemic and other limitations the trial continued and reached to its final phase in 2020. For HALO trials CPRDC proposed to enroll Pakistani hospitals in international research projects. It was a difficult task because of high international standards and country-wise regulatory restrictions but CPRDC kept working to accomplish this task. Finally, it is a proud moment for all members of CPRDC that we announce the completion of enrolment of two hospitals from Karachi, Pakistan (Indus Hospital & Civil Hospital) in the University of Manitoba's HALO international multicentre clinical trial.

### MyTacs Globalink

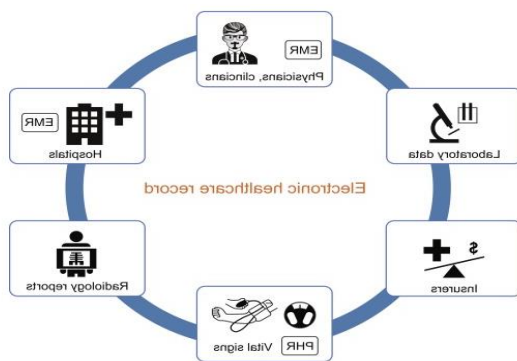
In 2020, CPRDC dedicated to accelerate international research collaborations, as this was mandated by the Federal government. By this, not only the world's brightest students come to Canada to provide Canadian students & postdoctoral fellows opportunities in university research or abroad but to also develop connections and ambassadors abroad. 28 agreements in 17 partner countries (plus EU), Mitacs has several programs for undergraduate and graduate students and postdoctoral fellows.

Open to international senior undergraduate + master's students, 12-week summer research internships in Canada, 12,000+ applications and 2,250 research projects for approx. 1,000 placements, Mitacs, in coordination with our partners, oversees, and provides funding. No additional cost to Canadian professors working with students, Globalink Research Internships are open to students at accredited universities in the following partner countries such as Brazil, China, France, India, Mexico, Saudi Arabia, Turkey and soon Pakistan too.



### Micro Investments in Underserved Areas

The area of Fintech at CPRDC initiated structuring of Microinvestment for underserved areas in mid-2020 to influence financial service companies that use technology to reduce costs and increase access to financial services as a key part of their strategy. More narrowly, this focuses on the growing subset of FinTech companies, developing strategies and business models that serve, or have the potential to serve, financially underserved areas whose needs are not fully met by traditional financial services. With this initiative, in coming years, benefits from microinvestments for underserved areas will increase significantly.



### Centralized Electronic Health Record (EHR)

In 2020 FinTech focus group proposed establishment of a centralized electronic health record (EHR) – a real time, up to date database containing details of medical history, medications, immunization status, allergies, radiology images, treatment plans and laboratory test results of the patients, accessible to authorized users. These records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges. The EHR plan outline was executed in late 2020. CPRDC leveraged its relationship with Indus Hospital, to execute it in shortest possible time. This project was initiated under the focus group “Fintech”.

### Innovation projects

CPRDC also outlined projects for innovation in late 2020, such as SDGs Tracker (An Online Application for Tracking SDG Goals in Pakistan, Emerging Technologies Hub for Robotics and AI (Canada: AI HUB-Durham College) (Pakistan: Sir Syed University and NED), AI Summit (Joint AI Summit between leading institutions in Canada and Pakistan), Cybersecurity Center of Excellence and joint Incubation center for Cyber Security (Canada: Ryerson University) (Pakistan: Sir Syed University, IM Sciences).



# RISK MANAGEMENT

CPRDC views risk management as an integral part of planning, management, decision-making and learning. We consider ourselves to be risk aware, but not risk averse. We identify and manage risks that may prevent us from achieving our objectives by ensuring that there are effective and adequate risk management and internal control systems in place to address key risks to which the organization may be exposed. The Board of Directors discharge this responsibility through board meetings and reviews of the effectiveness of CPRDC risk management framework, designed to support informed decision-making. The systems of internal control are intended to appropriately manage rather than eliminate risks. They give reasonable rather than absolute assurance and provide for a consistent approach to identifying, assessing and dealing with key risks. This provides reasonable, but not absolute, assurance against material misstatement or loss.

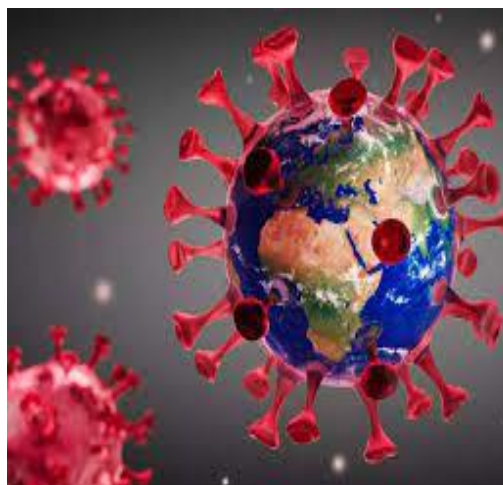
Risk areas are reviewed monthly and each risk is assigned to an accountable member of the team who ensures appropriate monitoring and risk response. Next to each risk we highlight mitigation actions. Management and control strategies have included ensuring that the new policies developed at the time of independence are refreshed and duly implemented, staff are trained, and compliance is monitored. The newly formed Strategy Group will regularly review the effectiveness of the management strategies and adjust residual risk if necessary.

## COVID-19

The scale of the impact of COVID-19 is uncharted territory on multiple levels – from donors, to beneficiaries, to staff; in multiple ways. We are monitoring the current situation and working in real time to manage the financial health and stability of the organisation, taking a conservative approach to our budget.

Given present uncertainties, we have shifted from forecasting results to application of scenarios. the Board of Directors are aware of a growing risk from the changing external environment and monitor the unrestricted reserves balance at each board meeting. such as, status of research projects, and associated

projects (Webinars, meetings, etc) remain sufficient to operate on a sustainable basis for the foreseeable growth of the organization.



## **SAFEGUARDING**

CPRDC believes all people, regardless of age, disability, gender reassignment, race, religion or belief, sex, or sexual orientation have a right to be free and protected from all types of harm, abuse and exploitation. We are also committed to taking reasonable measures to protect at-risk groups with whom we interact during the projects, and we have laid out these commitments in our Safeguarding Policy.

As an organization, we expect our members to have the same standard of safeguarding prevention and response practices and have introduced robust safeguarding due diligence processes as membership criteria. In our first year of independence, one of our first priorities was to review our safeguarding policy and procedures to ensure they were fit-for-purpose. We recognize that building trust is important, so that every person can be confident that their report is dealt with confidentially and appropriately

## **FRAUD PREVENTION**

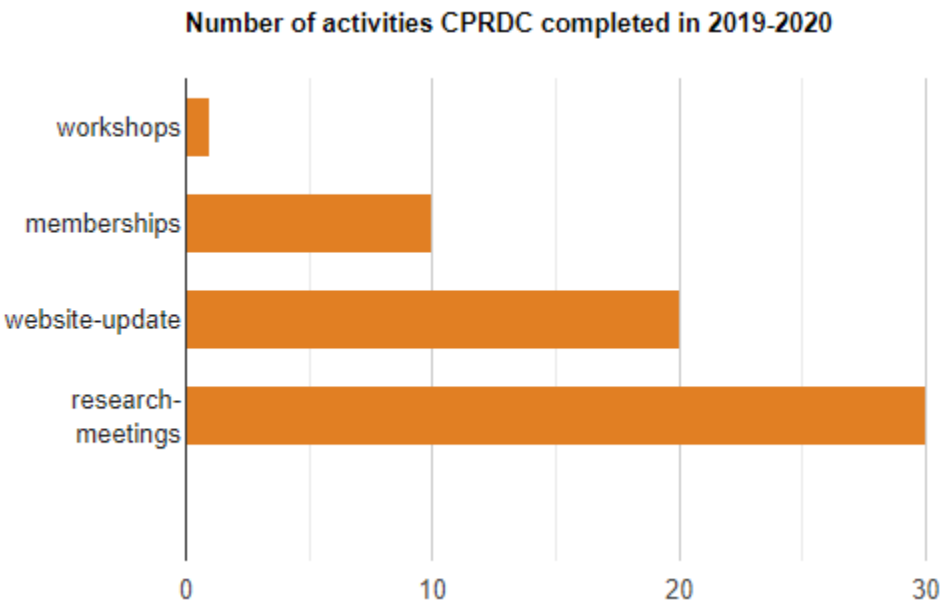
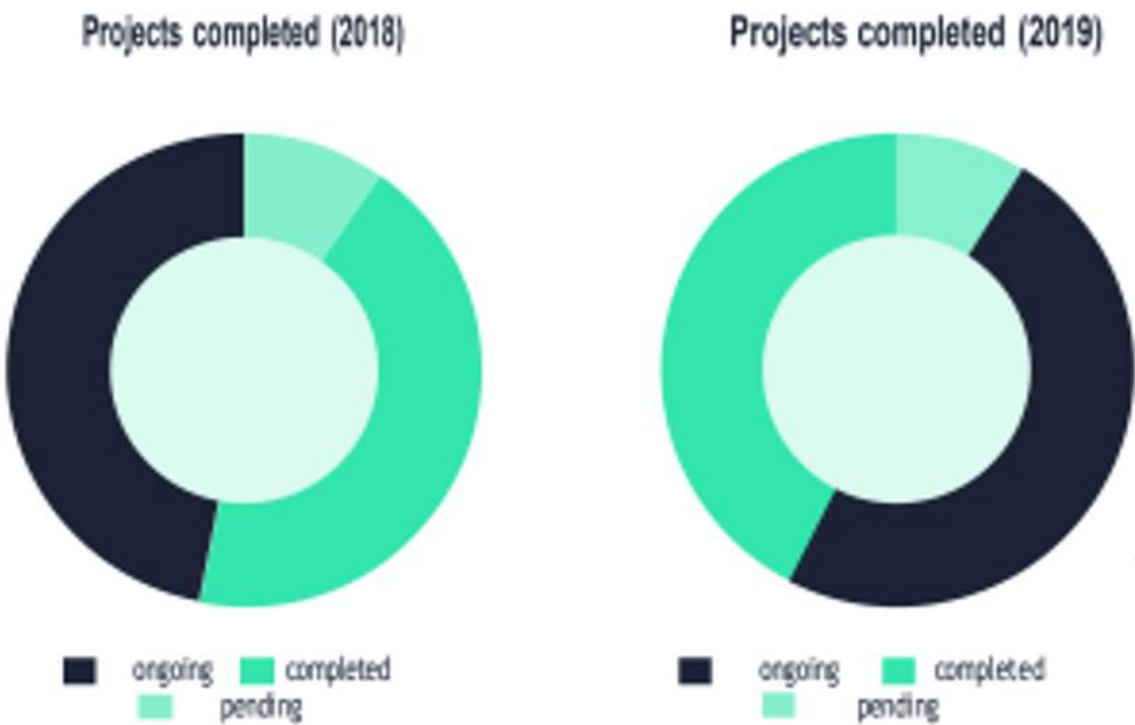
CPRDC is committed to its policy of zero tolerance towards fiduciary and to being transparent in its management of counter-fraud.





# PREVIOUS PROGRAM IMPACT

## INPUT VS OUTCOME (STATISTICS)



# Affiliations and Partners



The University of Toronto (U of T or UToronto) is a public research university in Toronto, Ontario, Canada, located on the grounds that surround Queen's Park. It was founded by royal charter in 1827 as King's College



The University of Manitoba (U of M, UManitoba, or UM) is a non-denominational, public research university in the province of Manitoba, Canada. Founded in 1877, it is the first university of western Canada.



The National University of Sciences & Technology (NUST) (Urdu: قومی جامعہ برائے سائنس و ٹیکنالوجی, romanized: Qaumī Jāmi'ā barā'e Sāins va Ṭaīknālōjī) is a public research university under administration of Pakistan Armed Forces with its main campus in Islamabad, Pakistan.



Brock University is a public research university in St. Catharines, Ontario, Canada. It is the only university in Canada in a UNESCO Biosphere Reserve, at the centre of Canada's Niagara Peninsula on the Niagara Escarpment.



The University of Waterloo (commonly referred to as Waterloo, UW, or UWaterloo) is a public research university with a main campus in Waterloo, Ontario, Canada. The main campus is on 404 hectares (998 acres) of land adjacent to "Uptown" Waterloo



The Dow University of Health Sciences (DUHS) is a public medical university located in the urban metropolitan area of Karachi, Sindh, Pakistan. It was founded by Sir Hugh Dow, the then Governor of Sindh, in 1945.



iQWeb Solutions Inc. is all about web design, web development and web hosting, and we work with our clients to help them understand the industry. Our personal attention and quick response time come without the high price tag of a larger organization with complex communication channels.



The Indus Hospital and Health Network formerly Indus Hospitals is a tertiary care multidisciplinary hospital and healthcare system in Pakistan. Construction began in 2004 and it opened in July 2007. It is located in Korangi.



Tabba Heart Institute is a specialty Cardiac Care Hospital established in the year 2005 with a vision to provide quality services and compassionate care at an affordable price.



Saaz-O-Awaz is the medium that allows us to bridge gaps between people, communities, interests, information and resources. It enables the voice of the community to spread far and wide.



Alam Law Office has a genuine concern for all clients. The team of lawyers and staff is dedicated to provide personal and ongoing attention in all stages of the legal case. Clients receive regular updates and has access to senior lawyers, who put client's needs first.



In 2020 we are proud to celebrate the change our organization has delivered in the past few years, alongside our members and partners.

[www.cprdc.ca](http://www.cprdc.ca)  
<https://www.facebook.com/CPRDC>  
<https://twitter.com/cprdc1>

