

## **Background Of The Project**

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As of this time, the loan process being implemented by Infrastructure Development Company Limited (IDCOL) and Bangladesh Infrastructure Finance Fund Limited (BIFL) - the Implementing Financial Institutions (IFIs) relies on a series of manual, and unorganized steps.

In our CSE 303 Database Management System course, we have been tasked with analysing the complete business model, critique it, and based on our observations develop an Automated Loan Processing and Monitoring System. The system proposed will have to take full advantage of automation, sustainability and usability by organizing the loan management process into a more organized, systematic, logical, procedural, and sound manner. It software will also enable the stakeholders to monitor and record the progress of their process in the organization. It will enable the organization to have more confidence over its data by storing information regarding the progression, reports, eligibility conformities, etc more accurately and efficiently than as the current model. [No critical and sensitive information will be saved locally so as to avoid ] The amount of work on part of the Financial Institutions in carrying out the loan process manually is very cost expensive, as there can be discrepancy at any stage of a quite large process. Thus preventing them from closing the loans by the agreed-upon due date. The automated system proposed, having magnified down to all the drawbacks, will provide a higher efficiency and automization, reducing manual and cumbersome tasks, and overall, lower the costs of the organization greatly.

Our software is finely tailored to suit the requirements of our clients - the proponents, Implementing financial institutions (IFI), Sustainable and Renewable Energy Development Authority (SREDA), Participating distributor (PD), Japan International Cooperation Agency (JICA) and also Ministry of Power, Energy and Mineral Resources (MPEMR). The business model of the overall organization sums up to these major work blocks:

[Insert Rich Pic Here]

Proponent REQUESTS FOR Loan  
TO  
IFI

IFI  
SENDS PROCESSED REQUEST  
TO  
SREDA

SREDA  
DECIDES TO APPROVE OR DISAPPROVE  
SENDS RESULT TO IFI  
IFI PROVIDES Loan

SREDA  
MONITORS Project Proponent after receiving the loan.

[INSERT BENIFITS OF SOFTWARE HERE]

There are two loans for extending the EE&C promotion financing loan, which are:

- (a) A-type loan: IFIs lend money directly to the companies and organizations who are introducing the EE&C equipment, and;
- (b) B-type loan: There is an intermediary distribution organization called "participating distributors (PDs)" who supply EE&C equipment (home appliances).

### **Background Of The Project**

With the rapidly depleting natural resources, and deteriorating environmental changes, the search for a greener, more sustainable path to growth has been more dire than ever. One of the findings that came up is the Energy Efficiency & conservation (EE&C) Promotion Financing Project. It has been built upon the sole purpose of achieving more longlasting greener development of Bangladesh using state of the art quality assured EE&C materials. This is expected to bring down carbon and other greenhouse gas emissions by a drastic X\_\_\_ Insert Value here \_\_\_ %, keeping in par with the demand and supply in the economy. In the December of 2015, in response to Bangladesh's seventh five-year plan. The Japanese Government (represented by JICA), extended the concessional loan (11.5 billion JPY) to the Government of Bangladesh (represented by Finance Division, Ministry of Finance) with an interest rate of 0.01%.

Three organizations are in direct contact with the System.

They are:

**Administrative authority:** Sustainable and Renewable Energy Development Authority (SREDA)

**Implementing Financial Institution:** Infrastructure Development Company Limited (IDCOL)

**Implementing Financial Institution:** Bangladesh Infrastructure Finance Fund Limited (BIFFL)

Sustainable and Renewable Energy Development Authority (SREDA):

Background of SREDA:

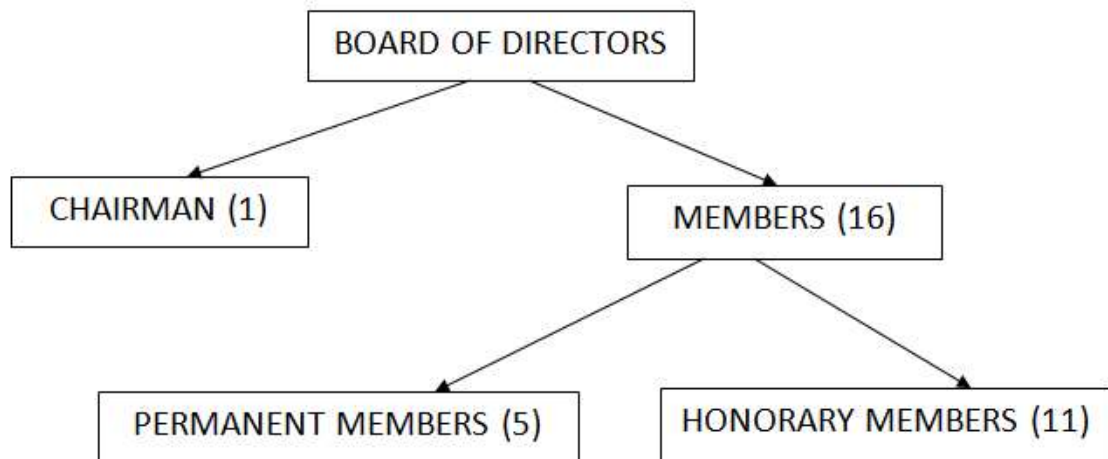


SREDA implements renewable energy and energy efficiency issues of the Government. It promotes sustainable energy and growth using new technologies which it also pilots. It standardizes and labializes the products for RE and EE. It also initiates the exansion of new technologies and helps create a sound environment for the investors. RE and EE's development and promoting, and genecapacity development is also looked after by SREDA. Furthermore, SREDA establishes a platform for national and international organizations to interact.

Board Structure of SREDA:

The general direction and management of the Authority is vested on the Board. The Board is constituted by Chairman and members, not more than sixteen. Chairman and five members are the honorary and full time members and eleven members are nominated by the government from different Ministries/Divisions and representatives from academicians, professionals, technical experts, non-government organizations(NGOs) and business communities. They are officiated for the term of 2 years from the date of their nomination. The Board takes all the policy decisions of the Authority.

**Organogram of SREDA:**



**Visions of SREDA:**

SREDA is a champion of sustainable energy and paves the way for an energy conscious nation to guarantee energy security and to bring down carbon emission.

**Mission of SREDA:**

To organize and invest in the development of green energy and energy efficiency-

- to increase the usage of renewable energy and reduce dependency on fossil fuel,
- to take fitting actions for saving energy
- to assess continuously for more potential renewable energy options

**Goals of SREDA:**

To fulfill its visions and mission, SREDA sets the following goals -

- Increase Renewable Energy generation
- Increase the proportion /amount of energy saving

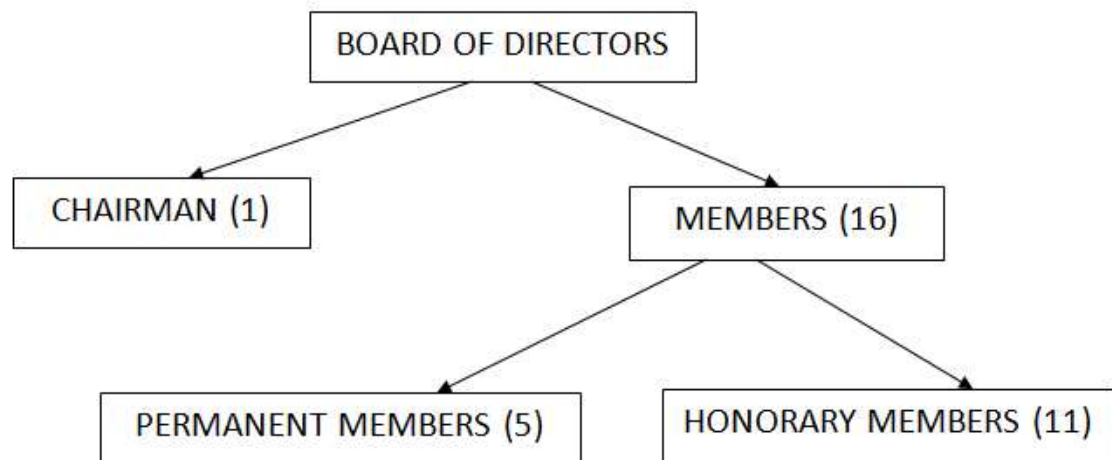
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**Objectives of SREDA:**

To achieve the goals, the objectives are-

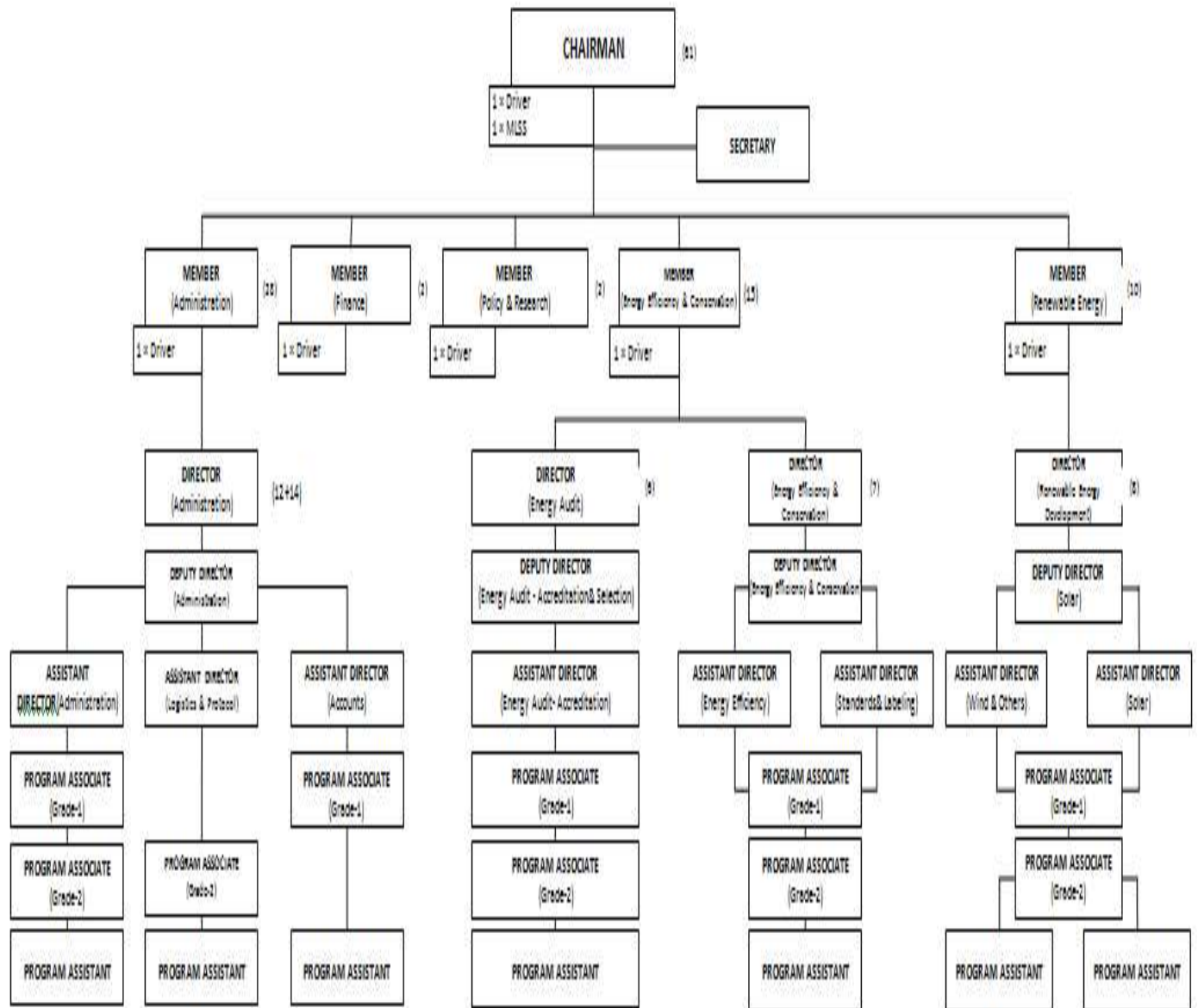
- By the year 2020 10% (2000 MW) of the total power generation will be composed of renewable energy.
- By the year 2021 the energy saving will be 15% and 20% by 2030 of total energy consumption.

## Organogram



## Organizational Structure of SREDA:

## APPROVED ORGANOGRAM OF SUSTAINABLE AND RENEWABLE ENERGY DEVELOPMENT AUTHORITY (SREDA)



Background of Infrastructure Development Company Limited (IDCOL) :



Infrastructure Development Company Limited (IDCOL), established on 14 May 1997 by the Government of Bangladesh. Bangladesh Bank licensed the company as a non-bank financial institution (NBFi) on 5 January 1998. Since its creation, IDCOL has been a major contender in bridging the financing gap for developing medium to large-scale infrastructure and renewable energy projects in the country. It is the current market leader in private sector energy and infrastructure financing in Bangladesh.

an eight-member independent Board of Directors comprising four senior government officials, three representatives from the private sector and a full time Executive Director and Chief Executive Officer manages IDCOL. It has a small and multi-skilled work force comprising financial and market analysts, engineers, lawyers, IT experts, accountants and environmental and social safeguard specialists. IDCOL's stakeholders consist of the government, private sector, NGOs, multilateral and bilateral institutions, academics and the people of Bangladesh at large.

#### Vision of IDCOL:

To help ensure economic growth of the country and enrich the living standard of the inhabitants through maintainable and green investments.

#### Mission of IDCOL:

To reinforce and enhance the private sector's contribution in promotion, development, and financing of infrastructure as well as green energy, and energy efficient projects in a long lasting manner through public-private-partnership initiatives.

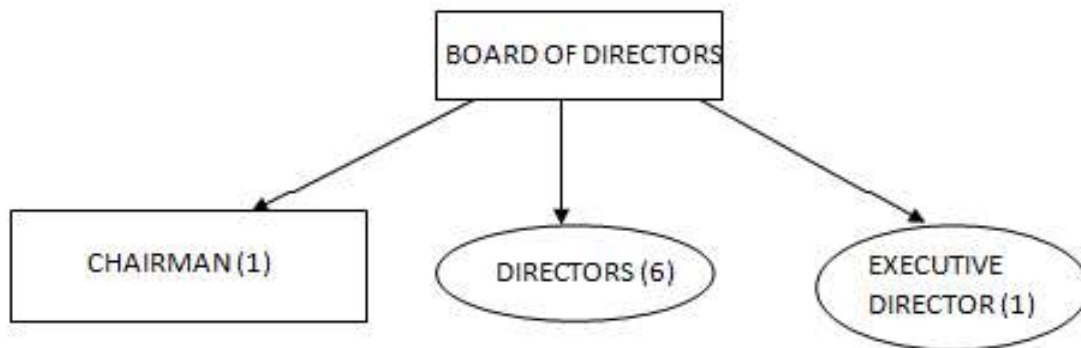
#### Core Values of IDCOL:

Global Standard and Competence: IDCOL is designed to deliver financial services to the clients keeping on par with global standards and competence.

Transparency and Integrity: IDCOL is a firm believer of keeping transparency and integrity in all tasks conducted by the Company.

Social Responsibility: IDCOL is inclined to play the role of a development financial institution that articulates social responsibility.

#### Organogram of IDCOL:



#### Bangladesh Infrastructure Finance Fund Limited (BIFFL) :



Background of Bangladesh Infrastructure Finance Fund Limited (BIFFL) :

Bangladesh Infrastructure Finance Fund Limited (BIFFL) is the largest Government-owned Non-Banking Financial Institution in Bangladesh which has authorized capital and paid up capital of BDT 100 billion and BDT 20.10 billion respectively. It addresses the importance of infrastructure growth vis-à-vis not sufficient investment in that specific sector, with a foresight to raise awareness of an attractive environment for sustainable private investment.

As a portion of this, BIFFL brought to inception in 2011 as a special purpose vehicle to mobilize the PPP budget through financing infrastructure projects partnering with private sector investors. Moreover, to keep up sustainable development, BIFFL is also dedicated to save the environment and use economically friendly actions in all aspects which are of its utmost consideration while prioritizing any investment transaction.

## VISION OF BIFFL:

Increase progression of economic efficiency by harnessing the relative merits and strengths of Public and Private Sector via financing Infrastructure Projects.

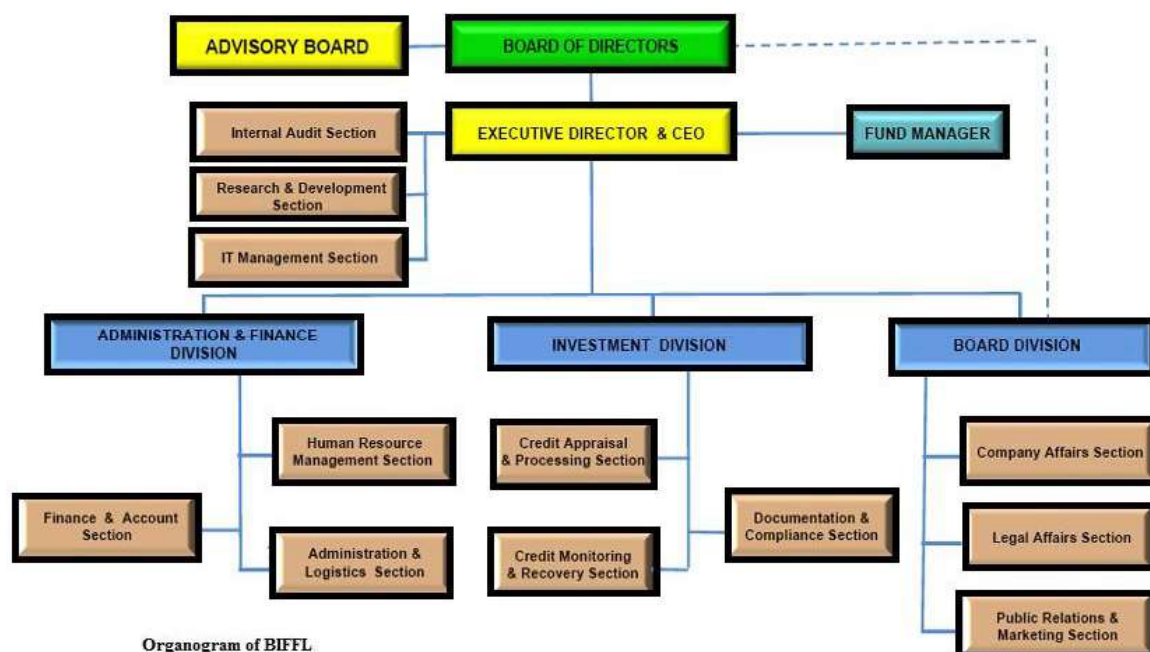
## MISSION OF BIFFL:

- To act as a professional Financial Institution by implementing the globally recognized best practices and sustaining the utmost level of moral and ethical standards.
- To raise awareness of the country's economic growth by providing and encouraging Private Sector Investment in all infrastructure projects.
- To be in support of sustainable economic growth of Bangladesh through facilitating Infrastructure Development.

## GOAL OF BIFFL:

- To facilitate long-term finance to critically vital infrastructure projects.
- To accelerate co-financing from private financial sources.
- To provide a unique vehicle for capital market development by exploring a number of avenues to capture domestic and foreign investment within the contexts of a robustly designed and well-governed investment vehicle.

Organogram of BIFFL:





Problems / Solutions for current model:

11. Preparation:

a) P: The Users might have issues or can miss out certain key details in the Preparation stage due to the amount of information or the site organization (where they are located on the site).

- S: -Add a chatbot to the interface to make the process of informing more user friendly.
- Respond to basic queries 24/7 using the chatbot. If chatbot does not answer the query, forward to Officer In Charge.
  - Set an option to send details and information from website to those in concern via email with the click of a button.
  - Allow proponent to register and submit application forms online.
  - Add basic validators to do basic error checking on the information. Send verification email, sms to proponents when they register.

12. Receiving Loan Applications:

P: [OIC] Manually requesting proponent to send documents is time expensive and the Officer can be late to request the information after getting the forms. Can also miss out some of the applicants due to the manual nature.

- [OIC] Manually enters the registration details and data to MIS which can be prone to errors and have incomplete data.

- Printing forms is an expense. And can be misplaced or misfilled.

S: After receiving primarily validated online application forms, automatically ask the proponents to send the required documents via email.

- Enable the OIC to feed the data to the MIS which will only record and accept the required details to fill its fields automatically.

- As the applications are done online, using soft copies, the expense will be lowered.

13. Preliminary Eligibility Checking:

P: [OIC] Manually going over Annex to identify equipment code.

Manually conducts eligibility checking using checklist.

Manual save of data.

S: - Upon getting the required information, automate identifying the equipment using software.

- Automate the eligibility checking using software and machine learning. Keep OIC for over-viewing the process to add human expertise. Upon receiving OIC confirmation, save it.

- Automatically send details to manager to confirm eligibility. Discuss on the online chat interface if more clarification required. Keep option to request for SREDA's expertise.

14. Name Clearance

P: [OIC] Manual checking of items [- Credit Rating Report, and;  
- Financial Statement.]

in Name Clearance Evaluation Sheet.

- S: - Computerize the process to do this checking via Software.
- Keep a basic template ready to edit, fill up, and send other Financial Institutions via email to request information on Proponent when required. Also communicate for additional details.
  - Automate the checking using software and machine learning. Keep OIC for overseeing the process to add human expertise. OIC confirms the processed data and decides to send it to the PIU Secretariat or decline it.
  - If OIC confirms, submit automatically to Manager for approval.
  - [Manager] Discuss with OIC over an online chat interface which enables screen sharing and video.
  - Save reasons for not confirming manually based on the discussion with Manager, and automatically based on the computerized checking. From this information fill up a template mail informing proponent why rejected. Send it and ask for confirmation if want to close application.
  - If Proponent responds to the 'Yes, cancel application', automatically cancel it on MIS, or renew on 'No, renew application.' click.
  - Automatically show list of approved items using MIS feature.
  - Automatically inform Proponent on the result via E-mail.