

Vigorous Recognition of Child Marriage Prophylaxis Through Cryptography: Impeccable Solutions Within Concatenated Management

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Abstract:- Child marriage is the pervasive smeared crux in our Asia continent. It sways all-encompassing concavity on gender-oriented prejudice, emerging rate of the population as well. The objective of our paper defines settling up the age with deficient latitude accordant the propounded strait, fabricating a cryptosystem into society, embellishing the temporal and spatial equation to amplify a society. The collection of random or unstructured data replicates the method of cryptosystem and genetic algorithm through the deviation of true and standard value related to the concentration of the determined attributes of the analyte. Exertion and correlation of doctors with related schools corroborate the cultivation of physical and elementary mental health, ascertainment of sanitation. Indemnifying society consolidation regarding education cognition fastens partaking of Education Officers and Volunteers. Consciencement of parents' employment endorses with the Representatives of NGOs'. Emolumentation of female child ratifies with the aid of Banks and Financial Institutions. Social awareness fleeces with the concurrence of religious confessors and the honourable figures of the entertainment sphere. Birth registration, existing child's data, and rationing are verified respectively under the aegis of the root levelled officials and public representatives. Our proposed methodology comprehensively facilitates both the prerogative and underprivileged female children, along with their parents. Adolescents' as well as females engaging in the skill development arena, certify their elevation of social status. The novelty of the paper is that it's going to concrete the span of social science and big data.

Keywords: Cryptography, Unique-code, Undesired-marriage, Poverty, Econometrics, Disintegration

1. Introduction

The social status of a girl incarnates the contemporary perspective of a girl in a society, i.e., how a girl's value is judged, how she is perceived and treated, and how boldly she is addressed as a girl. The collaged imagery of a girl before marriage at 18 or less than 18 affirms an intricated mesh at every sphere of the development of a country. The interaction of national as well as sub-continental laws that

interdict child marriage with the amplitude of child marriage and impressionable birth apprehend any kind of loopholes. Gender-specific strategies to address child marriage might be more effective in reducing this harmful practice [1]. The prevalence of abusive perspective by early child marriage may be diminished through the consideration of consistent laws and proposed methodology mentioned on this paper to set the age limit for marriage for girls at more than 20 which will provide three outcomes-

- 1) Being vigorous and free from bodily or mental disease.
- 2) Consent to sex to be fetterless from unwanted exploitation.
- 3) Being protractor in the upliftment of society as well as of the country.

Child brides are at higher risk of intimate partner violence (IPV) and often are unable to effectively negotiate safe sex [2]. We are going to use the cryptosystem, and it's developed applications that can provide unique barcodes and ID for each female. This cryptosystem totally based on their Birth certificate serial number or Nationality card. After that, this serial number will generate a new barcode. Every female will know each other and about their situation but won't be able to trace each other for doing any kind of crime. Everyone will secure their information by the application. This application will help the Officers to detect and determine the crime. In this proposed system, we are going to present a robot which will check the total aspect of society with this equation:

$$\prod_t a \cdot (M + Y)t^2 = \int_{M=512}^p t + (M + Y)^a$$

$$= \sum_{t=0}^a \binom{a}{p} M^a Y^{a-t}$$

This equation will produce a unique ID by which we can get a socio card. Here, 'M' indicates the value of population in a village, 'a' means women below the age of 18, 'Y' implies the rate of death women in a year, 't' indicates the predictable year. The robot will catch the barcode and check the whole society. Adolescence is a critical age for girls throughout the world, Syrians victimized a lot [3, 4]. The related works associated with 'Women's empowerment, Child marriage, Female child education' demonstrate their contribution and extracted steps individually and single-handed. The decorum of our improvised methodology is being developed with integrated superintendence of all the previous works' individual measures and impeccable execution of those measures with the socio data prediction method.

2. Related Work

Our proposed system is indicating the solution to women's early marriage and how to rescue themselves from this situation. In many pieces of research, we have seen a lot of improvisation of social status and laws, but here we have taken a step to solve this problem technically along with computer science dimensions. We have seen the main problem of identifying early marriage in missing data and unsuitable improvisation of social status. That's why we have developed a virtual robot for observing situations. Women's empowerment has gained attention as critical for child nutrition during the first 1000 days of life [5]. This was for mental satisfaction. We also liked this work, but we are

going to give some improvisation regarding this work. We think for mental health improvement, this work created a mark. Using the agricultural sector, a multidisciplinary research team developed work to increase the empowerment of women's livestock sector [6], as agro-sector plays an essential role in sorting out the economic status or problem of women's'. Actually, the financial condition of women is a very crucial thing to give them the security of livelihood and light of better status. Though it's not possible by one day, it will take a couple of years to establish the improvisation of any works. This study aims to identify the effects of Juntos, the conditional cash transfer program in Peru, on women's empowerment [7]. Two-dimensional metrics show the actual amount of economic data, which can also provide the accuracy of social improvement.

Looking back, the writings on empowerment from the 1990s offer us three important insights [8, 9]. We have seen a lot of youth organizations played an active act of giving a solution not only to secure the economic status of women but also to secure their physical and mental security. They organized some seminars for awareness of women about different types of crime. Women can easily interact with the Government for their problems. Thus, this study aims to identify the practice of contraceptives focusing on women's empowerment and other gender-related factors among married women [10].

The law and social interaction with women are also very omnipotent to draw the impact factor exponentially. Rules and social norms can interact to disempower women, or they can be used to empower them. In addition, empowerment is multi-dimensional – a woman may be empowered in one dimension or sphere [11]. Technology has also changed the form of an increasing factor because information technology brought the scene of electronic commerce and social e-commerce of earning some capital for women. They can use any social applications such as Facebook, Whatsapp to connect with different people in the world. This is also a part of changing women's personality and behaviour to others. Now, they are establishing their advantages quite well. Information and communication technology have enriched the socio-economical graph and social contents for women micro-entrepreneurs. Social capital bridging and bonding and self-efficacy had varying influence on women empowerment measured as goal internalization, perceived control, competence, and impact [12]. Comparing with past decades, today, empowerment is increasing with one ladder, which is ICT.

This has shown in unique lines about the vital role of smartphones in the field of the tremendous transformation of society, which could perform the vision of gender equality, women's empowerment. For many years now, Information and Communication Technologies (ICTs) such as mobile phones have become widespread in rural and low-income communities [13, 14]. Women should make a drive

to be a part of family income. That's why they need to know the use of technology with the flow of the recent generation. The power of technology as a tool to remove gender inequality and improve women's status in society is high. The potential of information and communication technology (ICT) as a tool to reduce gender inequality and strengthen the position of women in a society is increasingly recognized [15]. Women can be a part of the business to put an impact. In case, we all know that many things are related to this matter [16]. Business data is drilling now impactful only for women's contributions [17].

We are looking forward to integrating all these terms for developing a native status of women in society with the help of law, technology, and the social science aspect.

3. Methodology

As we are developing a native society, we need to plan the structure of how women will get information or suggestions about their problems and will be informed of awareness from communication technology and other essential terms. In 2015 the situation was not very well. That's why we need to make some changes which we have described in Fig.1. The survey of 2015 in Bangladesh has given below:

Table.1. 2015 Women marriage and awareness index

District	Year	M S N	SAN
Dhaka	2015	7	Tejgaon - N/A, Savar -30, Dhamrai -150 (Male, Female),
Patuakhali	N/A	1	
Jhinaidah	2015	2	1,962
Munshiganj	2015	1	N/A

First of all, we have developed a network diagram which indicates the branch and sub-branch of administrative procedures. The first plan is that data will be streaming with a particular pathway by this diagram and will be generated by our developed application for getting the socio-card and unique code. The diagram has shown below:

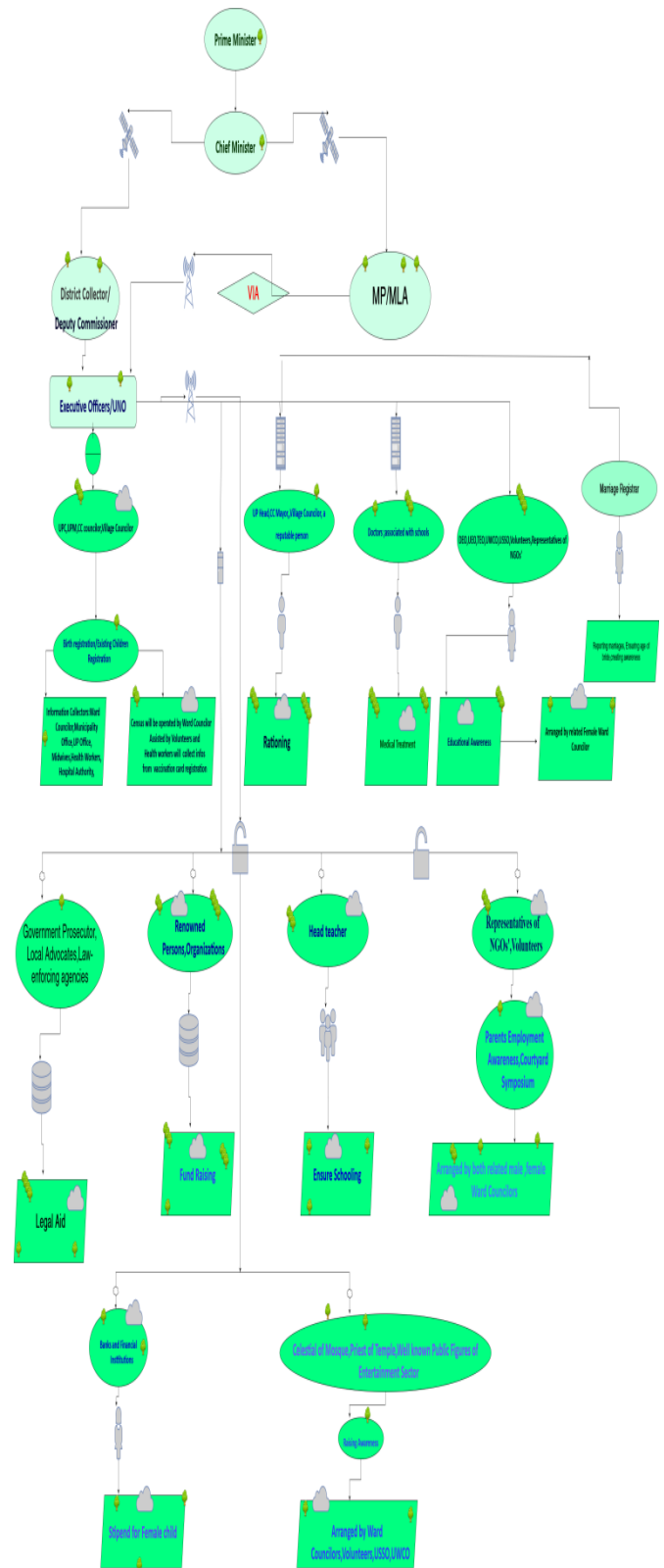


Fig.1. The framework of the total system

However, the diagram describes how to establish a prototyped, self-sustaining village. The process starts in the following ways: Ward Councilor, Municipality Office, UP Office, Midwives, Health Workers, Hospital Authority will collect and provide information regarding birth registration, existing children record by the locally arranged census. Census will be operated by Ward Councilor assisted by Volunteers. Health workers will collect information from vaccination card registration. UP Head, CC Mayor, Village Councilor, and a reputable person will take care of 'Rationing.' Doctors of the particular area associated with schools will certify medical treatment, elementary mental treatment, and sanitation of students.

They will provide medical treatment to the children once or twice a week in a circular motion and will attend in courtyard symposiums to make awareness among general people. Ward Councilor will provide related data in respective sectors, i.e., banks, financial institutions, schools, NGOs, related institutional volunteers. Banks and Financial institutions will manage to provide a stipend to 20 needy children every year in a circular, non-repetitive motion and will ensure that a child is receiving a reasonable amount of stipend from one institution for a whole year, then in the next year, another institution will take care of that child with a stipend. Local and Licensed marriage registrar will execute and ensure the legal procedures to prevent early child marriage and will inform related law- enforcing executive if needed. He will also report the regular marriage occurrence within the prescribed time.

These things will be followed up by UPC, UPM, CCC, Village Councilor, UWCO, USSO. DEO, UEO/ TEO, Volunteers. Representatives of NGOs' will assure educational awareness arranged by related Female Ward Councilor through many programs, courtyard symposiums, etc. Female legal aid will be secured by the local advocates and Government prosecutor. Renowned Persons and Organizations will perform for 'Fundraising.' Volunteer organizations will take care of prevalent agendas, executions, perform as a lead volunteer, arrange volunteer workshops, fetch worthy, sentient parents, students including people of the particular area to ensure with an authentic emotion sharing platform regarding education and child marriage demerits. A leading and orthodox Head-teacher will assist doctors at school and will be an executive of Food for Education, a Supervisor of other given facilities to students as well. Head Teacher will ascertain the schooling of every five years completed child. Representatives of

NGOs' will ensure parent's employment awareness and courtyard symposiums arranged by both related male and female Ward Councilors. Celestial of Mosque, priest of Temple, and all known public figures of the 'Entertainment' sphere of their own local area will establish social awareness.

Famous entertainment figures will make cognition through their artworks, performances, and advertisements will ensure a women-friendly entertainment and advertisement sector. Public exoteric figures of this sector can play an expedient role in raising acquaintance among their followers through their stage shows. The stage shows arranged by the local volunteers and committee with the help of the Government grants evolve consciousness ultimately. Public Representatives will collect Grants-in-aid from susceptible Industrialists and people. All these root-level works will be executed by DC, UNO, for the applicable localities. Then they will provide the entire accomplished and structured data to the MP / MLA after a week successively. The MP / MLA will execute the procedures and will provide instructions if needed. After the consummation of all methods, the MP / MLA will supply the plenary scenario to the Ministry / CM. Then the Minister / CM will administer the fatiguing process and will submit the whole execution to the PM through a consecutive meeting. Consequently, PM will conduct the entire project and instruct for embodiment.

After that, we have analyzed the data of women's empowerment and have gotten a prediction of upcoming years. The forecast has shown the current and future status of data. This helps us to take steps for any situation with some alertness. We can get some hints about what we need to do. To predict data, we have used natural selection techniques. We have done some improvisation of this technique for predicting future scenarios. The socio data prediction method has given below:

- Step 1 :** Start ;
- Step 2 :** Take the value of a, M, Y, t ;
- Step 3 :** Put all the values into this equation:

$$\prod_t a \cdot (M + Y)t^2 = \phi_{M=512}^p t + (M + Y)^a = \sum_{t=0}^a \binom{a}{p} M^a Y^{a-t} ;$$

- Step 4 :** Mutate M and a single time ;
- Step 5 :** Use $M \equiv t$, $a = Y$;
- Step 6 :** Repeat step 3 ;
- Step 7 :** Get the output ;
- Step 8 :** End ;

We have data on Gender development, 2018, from the United Nations Development Program. The table has given below:

Table.2. Gender Development Index

Country	Value	Group
Bangladesh	0.895463713494037	5
Sri Lanka	0.937501402709405	3
Maldives	0.938974186367784	3
India	0.828659271423645	5
Bhutan	0.893345815434905	5
Nepal	0.897374748629354	5
Myanmar	0.953281245175706	2

After putting data from Table.2. We get this output which we can integrate for further process of generating unique code:

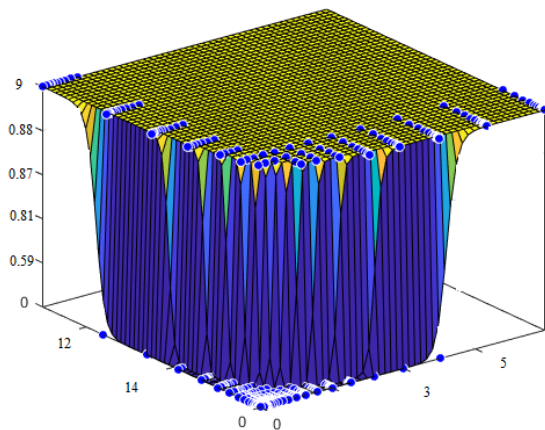


Fig.2. Gender development index tab view

Now, we will process life expectancy at birth data with the same process. Here:

Table.3. Life expectancy at birth index

Country	Female	Male
Bangladesh	74.291	70.637
Sri Lanka	80.121	73.415
Maldives	80.499	77.229
India	70.692	68.239
Bhutan	71.816	71.123
Nepal	71.9	68.989
Myanmar	69.874	63.761

The visualized output is:

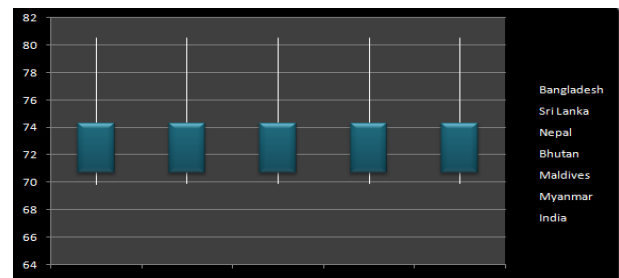


Fig.3. Visualization of Life expectancy

After taking some knowledge from previous data, we can analyze the schooling pieces of information from these countries.

Table.4. Expected Schooling index

Country	Female	Male
Bangladesh	11.6	10.8
Sri Lanka	14.2	13.7
Maldives	12.2	12.0
India	12.9	11.9
Bhutan	12.2	12.0
Nepal	12.7	11.7
Myanmar	10.5	10.1

After analyzing the graph is:

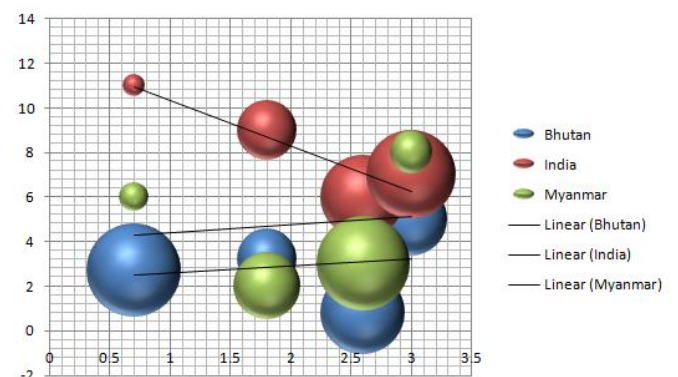


Fig.4. Schooling rate index

The early marriage rate in Bangladesh between (2015-2017) given below:

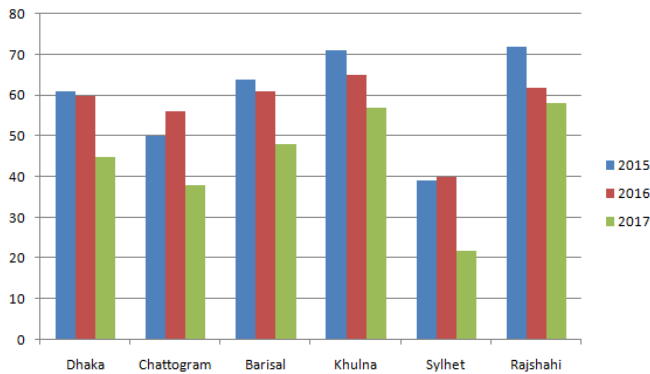


Fig.5. Early marriage rating from BBC

Finally, integrate all the output and show the upcoming data. A virtual robot also developed for checking all the interactions of data.

4. Results and Discussion

We have already done our visualization and prediction. Now, the final output of the Unique Id generator and robotic performances given below:

Applet Viewer: IDCardGenerator.class

Applet

Enter Person's Details

Name : John Hopneis

Occupation : Teacher

NID Number. : 1011254878

Date of Birth : 10/05/1998

Father's Name : Marwan Al Thunaibat

Address : North Sudan

Contact No. : +995544889977

View Socio ID Card

SOCIO CRYPTO CARD
(SEE YOUR UNIQUE ID)

IDENTITY CARD

Person's Name : John Hopneis

Occupation : Teacher

NID Number. : 1011254878

Date of Birth : 10/05/1998

Father's Name : Marwan Al Thunaibat

Address : North Sudan

Contact No. : +995544889977

Fig.6. ID Card generator view

CREATE UNIQUE CODE

Enter 1st ID : 1011254878

Enter Last ID : 1011254878

Renew Number : 0

No.of Zeros Before : 4

Save To : Choose Save Path

Make and Save

Fig.8.Unique Code creator tab view



Fig.9. Final Unique code view

The virtual robot which will make all these things observed given below:

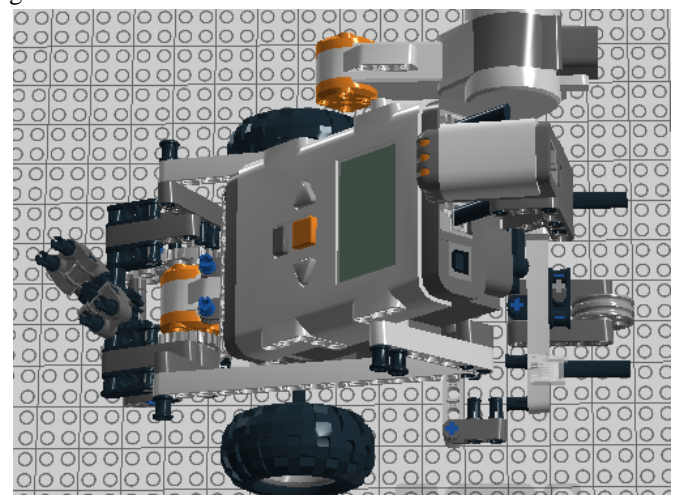


Fig.10. Robo-Checker tab view

We need to take the explode button for testing the performance of the virtual robot.

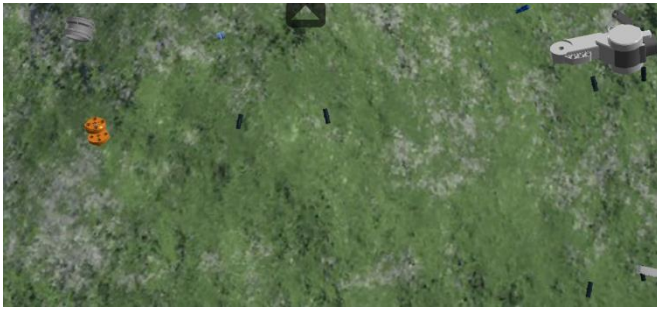


Fig.11. Scenario after pressing explode

After exploration :



Fig.12. View after exploration

Now, we need to look for some initial solutions for Major problems. The problems and solutions are given below:

Problem-1: (Perturbated mental and physical health)

The vulnerable circumstances are fostered due to the early marriage of a girl. The concept of “Women live longer than men” alludes a preface in the countries of the sub-continent. Besides, a girl is compelled to give birth to children at an early age when she is a child by herself. The girl remains mentally immatured and impaired. She suffers from mental trauma and other mental diseases.

Solution-1:

Government Executive officers of Upazila or city corporation or a thana along with volunteers and doctors based on a ward or a council may arrange different agendas or meetings or programs to ensure consciousness among the parents and to make them understand the proper parenthood which will result from the descending rate of occurrence of physical and mental diseases, such as maternal and infant mortality.

Problem-2: Financial insecurity.

The archetypal problem in sub-continental countries is financial insecurity. Poor parents cannot afford their children’s education, food, and other vital demands and needs. The result of this kind of uncertainty is to compel a girl to stand out for marriage at an inchoated age.

Solution -2:

- a) Govt. may assure a policy for a child allowance for the impecunious and underprivileged children for a specified period.
- b) Banks and financial institutions may launch a project to provide financial support to 20 impoverished children every year under their branch to ensure their basic needs.

Problem - 3: Lack of proper education.

Financial insecurity and existed penetrable education are the upshots of early marriage. A girl can not be adequately educated due to poverty, the concept of gender discrimination, patriarchal communal structure, and ambivalent socio-cultural norms and values.

- a)She remains mentally weak.
- b) She can not make a decision
- c) She can not be self-reliant financially
- d) She cannot be diligent in any social progress
- e) She cannot be painstaking in the development of a country.

Solution - 3:

- 1) The primary levelled education officers may play the role of being a mentor to ensure education for each and every female child.
- 2) A law may be constituted for compulsory education for the female child, which will be executed thoroughly in every wards or council.
- 3) Entertainment may inspire children to attend school.
- 4) At least 2 doctors based on a ward or a council may be appointed for the children in a school with the alongside school committee or governing body to ensure their mental stability and competence.

5. Conclusion and Future Scope

In this study, we have emphasized that some problems are observed there if parents arrange their girl’s marriage at the age of 18 or less than 18. Since this is a significant problem in society, we also have suggested some practical solutions to solve it. If we don’t take the initiative to solve this problem now, it’s destructive effects will spread mostly in society. However, there have been some

substantive steps taken to resolve the issues of child marriage earlier, an expansion remains to be done to solve all the problems of child marriage.

This study sets out some goals and solutions to decrease the issues of child marriage conspicuously, and it will ameliorate everyone to understand the contradictory impact of the problem of child marriage in society.

Points will be solved when the implementation of the proposed solution methods in the community are clinched. Girls will be self-reliant, which will ensure their social status and economic security. Child marriage will be immobilized in the society, and girls will grow up spontaneously. Religious leaders escalate moral teachings in society. Volunteers and NGOs create awareness among the people of the community about this problem. Volunteers and NGOs encourage parents to work by proffering awareness and by arrangements of pieces of training, workshops for acquiring skills. Knowledge may be designed individually and accumulatively among everyone in society with a successful perspective.

The marriage registrar raises his voice against child marriage. Parents will be aware of the rights of their children. CCM, UPM, UCM arrange rations for parents' family welfare from the Government and amalgamated funds. UEO, TEO, and school teachers ensconce educational facilitation for girls and decorous learning environments. Local advocates and public prosecutors provide the legal aid protection of girls. Doctors make sure the physical and mental health of girls. Prominent personalities of the society and various social organizations raise funds to help the girls. The Government, banks and other financial institutions provide financial assistance. The local UP or municipality succours with the birth registration information of the children so that corruption can't be stood out in any way at the distribution of the financial aid. The whole process is accomplished by ensuring accountability through UNO. Here we have manoeuvred cryptosystem simultaneously; data will be affixed. Affixed data will fortify the entire manifestation of society as well as of a country throughout the vantage point of child marriage proportionately.

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- PM : Prime Minister
 CM : Chief Minister
 MP : Member of Parliament
 MLA : Member of Legislative Assembly
 DC :Deputy Commissioner / District Collector
 UNO : Upazilla Nirbahi Officer
 CCM : City Corporation Mayor
 CCC : City Corporation Councilor
 UPC : Union Parishad Chairman
 UPM : Union Parishad Member
 UWCO : Upazilla Women and Child related Officer
 USSO : Upazilla Social Service Officer
 DEO : District Education Officer
 UEO : Upazilla Education Officer
 TEO : Thana Education Officer

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Abbreviation words

- MSN : Marriage Subdue Number
 SAN : Symposiums Attendant Numbers