

## **Effects of Demographic Factors on Risk Management in Community Driven Development Projects in Sri Lanka: A Preliminary Study Based on “Gemidiriya” Project**

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### **Abstract**

Livelihood development of poor households has been addressed through various approaches in Sri Lanka since independence. Some of these approaches have successfully addressed the issues and fulfilled the requirements of the poor households in the country. However, expectation of the poor community may change due to changing pattern of their livelihoods and needs. Community Driven Development (CDD) is the newest approach implemented for addressing these changing issues in rural areas in Sri Lanka. Though this approach is an extension of the Community Based Development process, the methods of implementation of it is different. As suggested in the literature, one of the important aspects is that project managers need to consider particularly the risk component of projects. However, this aspect is significantly lacking as far as both approaches are concerned. Sri Lanka spends a large sum of money per annum for livelihood development programmes. The outcome of such programmes depend on the capacity and the demographic factors of the rural organizations that take the responsibility of implementing such programmes. Accordingly, this paper aims at examining the effect of demographic factors on the nature of risk management of CDD projects in Sri Lanka. The results of this study will provide a background for future researchers related to similar risk management issues. This will be an eye opener to policy makers and planners alike for formulating policies and plans for livelihood development of the country. Objectives of the study are to identify the relationship between various demographic factors of people concerned and their tendency towards and nature of project risk management. “Gemidiriya”, which has applied CDD approach in Sri Lanka, was selected as the research site. Data were collected from project village organization leaders using a pre-tested questionnaire which includes primarily the Likert-scaled questions. Descriptive statistics and a detailed correlation analysis were used to identify the relationships. Accordingly gender, age, level of education and experience seem to be significant demographic factors determining the nature of project risks. Also we found that the village organizations leaders are expected to face financial risk in particular despite the fact that such grass root level organizations consist of well-known neighbours as organization members.

**Keywords:** Project Risk Management, Community Driven Development, “Gemidiriya”, Village Organization Leaders.

## INTRODUCTION

Large-scale development projects contribute to a greater extent to the national economy of developing countries, including substantial funding for rural poverty alleviation programmes (Asmorowati, 2011; Baroi and Rabbani, 2011). Most of these programmes have been implemented through community-based development programmes and projects. The participation of the community in the process of development planning, implementation, and even in sharing project benefits, is the key factor of Community Driven Development (CDD). In spite of some debates surrounding minor differences between the terms Community Based Development (CBD) and CDD, they are largely used interchangeably (Asmorowati, 2011; Baroi and Rabbani, 2011).

CBD and CDD are very familiar development concepts in developing countries. In Sri Lanka, several rural welfare-focused development and poverty alleviation initiatives were implemented since independence. In the late 1980s, the “*Janasaviya*” programme was introduced as the main public participatory development programme, driving rural development and poverty alleviation in Sri Lanka. Three subsequent state-initiated poverty alleviation and rural development schemes were introduced namely, “*Samurdhi, Gemidiriya and Gama Neguma*”. “*Gemidiriya*”, which is known as the Second Community Development and Livelihood Improvement Project has received funding from the World Bank for a period of 12 years (De Silva et al., 2010). Eventhough the “*Janasaviya*” programme had focused on a participatory approach to implement development programmes, the “*Gemidiriya*” project further enhanced the participatory component particularly by empowering rural communities and giving them discretionary authority.

Risk management has become one of the key focuses in project management in the recent past as effective risk management underpins a successful project. After World War II, new development interventions were required due to the damage undergone by most of developing countries increasing the importance of study of risk management (Dionne, 2013; Bado, 2012). Therefore, the study of project risk management has become important. As the lessons learnt from the previous failed-projects indicated, giving a considerable attention on project risk management is of paramount importance for project managers to achieve the expected outcomes. Weak risk management contributes to increase project delays, which can lead to time and cost related impediments to the programme. In achieving the effectiveness of a project in today’s dynamic and complex world, efficient and effective project risk

management is required (Dionne, 2013; Bado, 2012). As discussed by De Bakker (2010) risk management significantly contributes to project success. They raised the question “Does risk management contribute to project success?” in their scholarly works. Similarly, Wood and Ellis (2003) highlighted the importance of project risk management claiming that it is essential and a vital tool in project management practices at present. Kutsch and Hall (2010) and Hwang et al. (2014) have also emphasized consideration of risk management regardless of the project size, to ensure the achievement of project objectives.

A number of factors determine the success of risk management processes in projects. It has been found that poor risk management of a project is due to a lack of experience in implementing project risk management processes and unpreparedness to deal with project risks (Hopkinson, 2010).

In line with the experiences of other developing countries, Sri Lanka has already implemented a number of CDD projects aimed at rural development since 2009, (De Silva et al., 2010). “Gemidiriya” was implemented in 2004 as one such CDD project in Sri Lanka. However, assessment of the level of uncertainty and planning are not being properly considered as its Mid Term Review 2007 states that “it is precisely because of what is new and different in “Gemidiriya” project design and implementation process in which more attention has to be paid to sign, and tendencies of weakness or potential failure. ... However, the project has to develop skills and analytical capability to detect early warning signs” (Mid Term Review, 2007 p8). Although the consideration of risks is an essential and vital element in project success, the readiness to address these risks is poor in “Gemidiriya” Project (Mid Term Review, 2007).

Carbone and Tippett (2004) assert that in order for projects to be successful there should be an effective risk management process in place. According to Datta and Mukerjee (2001) identification of immediate risks activities early in project process leads to successful project completion. Although research on risk management in small-scale CDD projects is scant, the study of risk management in broader, small-scale projects has been attracting academic attention. Hwang et al. (2014) suggest by concluding the study that future risk management implementation studies should be carried out with regard to the small-scale projects in small and medium level companies.

Accordingly, this research examines the process of risk management in the implementation of “Gemidiriya” CDD Project which is dispersed over nine districts in Sri Lanka. Specifically, the study examines the effects of demographic factors on the nature of risk management in “Gemidiriya” projects. It aims at addressing the research problem “How do the demographic factors affect the risks management of CDD projects in Sri Lanka?”

This study will contribute to both theory and practice, enhancing our understanding of key factors relating to risk management and aiding public policy development in terms of future CDD projects. Although the study focuses on the “Gemidiriya” project as a CDD project at the grass-root-level, the findings can also be applied to similar projects in other sectors. Given the large number of studies on rural development projects, a study of risk management in CDD in Sri Lanka is scant and not widely discussed. Therefore, this research will be useful to central and provincial governments, the research field of CDD, and the broader field of risk management in other developing countries.

### **The Objectives**

The overall objective of the study is to analyse the effect of demographic factors for risk management in Community Driven Development projects in Sri Lanka.

#### **The Specific objectives are:**

1. To prioritize the types of risks faced in managing Community Driven Development projects in Sri Lanka;
2. To identify the relationship of demographic factors and risk management of Community Driven Development projects in Sri Lanka.

### **LITERATURE REVIEW**

Projects are defined in different ways in different contexts. The Oxford Dictionary defines a project as “a proposed or planned undertaking”. Regev et al. (2006 p13) explain that “a project is a set of activities that has been implemented”. Project Management Institute (2004 p5) says that it is an earnest and conscientious undertaking. Price Gittinger (1982 p4) defines a project “as an investment utilizing financial resources to produce benefits that are useful to the beneficiaries within the given timeframe”.

Importance of risk management in general was highlighted and research on the subject began after the huge damage caused by World War II (Dionne, 2013). Therefore, initially risk

management considered individuals and the market aspect through insurance for protecting markets and the individuals (Dionne, 2013). Risk management is essential to recognize and develop inputs to meet the different needs of the project (Nielsen, 2006). Risk management in projects has developed in recent years into an accepted discipline with its own language, techniques and tools. The Project Management Institute (2004 p238) explains that project risk is an uncertain event or condition that, if it occurs, affects on at least one project objective.

Another study carried out by Gohar et al. (2012) found that construction project managers usually consider risk factors before the start of the project to be more important than other risk factors. Studies show that risks associated with project contracts and external risk factors are ranked well below those pertaining to project commencement. These risks can therefore be managed effectively through the employment of an effective project team that undertakes careful planning and in particular risk response planning (Gohar et al., 2012).

Community-driven development is an approach developed by the World Bank that explicitly seeks to empower poor people. Community-based forms of development have a long history. Mansuri and Rao (2004:4), highlighting cooperative movements, Gandhian notions of village self-reliance, small-scale development and Paulo Freire's Pedagogy of the Oppressed, say that these concepts led to a first wave of participatory development in the 1950s. They argue that one of the main difficulties in CDD programme lies in their vulnerability to capture by local elites (Platteau and Gaspart, 2003). CDD is a widely-used term in development discussions in Third World countries. Community participation in development planning, implementation and also in benefit sharing is like a foundation stone for CDD (Baroi and Rabbani, 2011).

Community-based development (CBD) and its more recent variant, CDD, are among the fastest growing mechanisms for channeling development assistance. CBD is an umbrella term that refers to projects which actively include beneficiaries in their design and management. CDD is a term originally coined by the World Bank that refers to CBD projects where communities have direct control over key project decisions, as well as the management of investment funds (Mansuri and Rao, 2003).

Bowen (2009) says that small-scale community-based development projects, aimed primarily at reducing poverty, were supported by social funds. The Philippines experience of CDD, according to Reid (2011 p70), was that ‘Local impact of CDD in poverty alleviation was very weak’. Baroi and Rabbani (2011 p80) have concluded in a study in Bangladesh that Community actors play a vital role in encouraging community development. “Both formal and informal organizations have significant parts in bringing out people centric development initiatives through empowerment of the marginalized community.”

Padawangi (2010 p117) in a study carried out in Pakistan has pointed out that “success, effectiveness, and sustainability of the CDD projects as the criticisms against CDD approach, is precisely the responsibility of the public sector to provide continuous monitoring and guidance to the community organizations”.

CDD programme have been shown as successful programme based approaches for utilizing international development aid (Adusei-Asante and Hancock, 2012). Also CDD gives opportunities to the community to enhance sustainability, improve efficiency and effectiveness, earmark poverty reduction efforts to be taken up, make development more inclusive, empower poor people, build social capital, strengthen governance, and complement market and public sector activities (Adusei-Asante and Hancock, 2012).

In a recent study by Likhi (2013), community participation has been identified as an effective mechanism to improve access, voice, and accountability when the public sector delivers services to the poorest in the population in developing countries. In this situation, CDD is one model amongst many development interventions that try to determine the benefits of various community actors in the achievement of results. Therefore, a study on risk management of the CDD project may provide valuable insights to future development activities.

#### **“Gemidiriya” in Sri Lanka:**

The “Gemidiriya” (instilling self-reliance in rural people) Project commenced in 2004, to support the Poverty Alleviation Strategy of the Sri Lankan government in 2003. The project has used the CDD model focusing on the livelihood improvement of rural communities by forming of self-governed local institutions (Village Organizations - VOs), enhancement of community level decision-making, mobilization of resources, effective monitoring and

evaluation of village level development activities (De Silva et al., 2010). “Gemidiriya” has received funding from the World Bank for a period of 12 years, and the project covers 11 districts in Phase I and Phase II. Phase II is implemented in 962 villages and covers seven districts i.e. Badulla, Ratnapura, Hambantota, Monaragala, Kegalle, Nuwara-Eliya and Polonnaruwa (De Silva et al., 2010).

Overall the project activities are controlled by the Project Management Units (PMU). Under the PMU there are District Project Management Units (DPMU) and seven Project Implementation Units (PIU) under the DPMUs. All the VOs selected for the implementation of village level project activities come under the DPMUs. Sub committees are formed under the VOs to implement village level project functions i.e. infrastructure development, capacity development, livelihood improvement and operating the revolving fund. Small groups (consisting 5 members) are formed for the easy operation of sub committees. Each village organization headed by a leader (Chairperson), with 4 members for the other functions - Secretary, Treasurer and Auditor. For this study the researcher has selected the village organization leaders to administer the questionnaire and get their responses

### Conceptual Framework of the Research

The conceptual model for the study was developed based on the literature that have been discussed under the literature review section. The concept of the research is ‘Risk Management’. This is also named as the dependent variable. It depends on different demographic factors. These factors are identified as independent variables in this research, i.e. Gender, Age, level of Education and Experience are taken as independent variables (Figure 1).

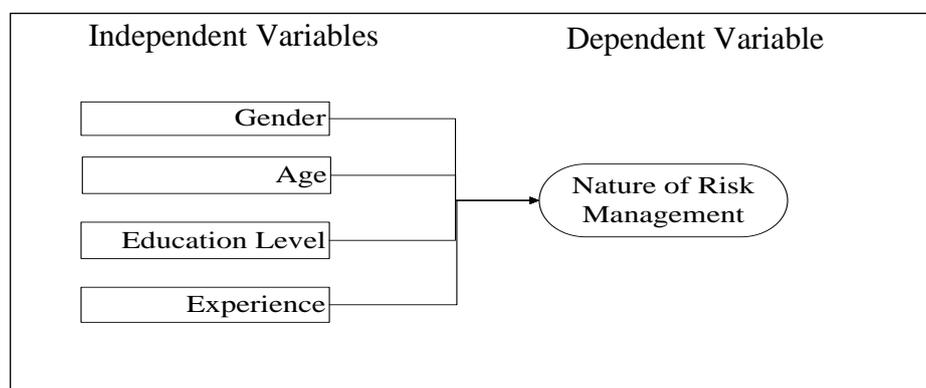


Figure 1: Conceptual Model of the Research

## **METHODOLOGY**

This is a quantitative research. It is based on primary and secondary data. Primary data were collected through the questionnaire survey. Secondary data was gathered by reviewing official documents and the statistical reports of the “Gemidiriya” Project Office and other relevant authorities. The main research problem has been formulated by initially identifying a problem faced by the staff of CDD projects. Main objective of the research has been developed in order to find out the solution for the main research problem. To achieve the main objective, two specific objectives have been set. The main research problem was broken down into two research questions to maintain proper linkage with the specific objectives. They are (1) what are the types of risks faced in managing CDD projects in Sri Lanka? And (2) what is the relationship between demographic factors and risk management of CDD in Sri Lanka?

The process of concepts and the theory formulation demonstrate the relationship of each component. The conceptual model of the research depicted in Figure 1 was formulated by reviewing the literature. The concept of the research is identified as Risk management. It is also named as dependent variable of the study.

Leaders of the village organizations have selected as the population of the study. Total population of the study is 949. The sample was selected by using Stratified Random Sampling Technique. Selection criteria of the VOs was their performance<sup>1</sup> (well-functioning, moderate functioning and weak). Although there are two phases, only one phase was selected based on the time of completion of the projects. Considering the performance of the VOs, Badulla, Kegalle and Polonnaruwa districts were selected. Following the above classification, code numbers of all the VOs were arranged district wise. Sample size has been calculated in the case of Stratified Sampling Proportional Allocation (Miah, 1993).

## **DATA ANALYSIS**

The data collected using primary and secondary data collection methods were coded and tabulated in order to analyse them quantitatively. Data on risk management were analysed quantitatively by using the Statistical Package of the Social Sciences (SPSS) and the Excel

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<sup>1</sup> Performance of the VOs has been evaluated by the SCDLIP using a grading system. The all VOs have been grouped into three separate levels – Well Functioning organizations, Moderate Functioning organizations and Weak organizations.

computer software packages. The SPSS programme was used for the cross tabulation analysis – for demographic data of the research. Priority index (Miah, 1993) was used to identify the most prioritized event or type among several. Relationship of variables was analysed through bivariate analysis of SPSS. All data were transformed into tabular form by using the SPSS. Data were presented by using visual and tabular modes.

The research exercise was carried out in July and August 2014, by the researcher in three districts in Sri Lanka. Two hundred and forty five (245) questionnaires were obtained from the village organization leaders from the districts. This data was entered into the SPSS package and tables were prepared cross tabulation methods. The procedure that has been followed for the analysis is based on specific objectives and the research questions that were developed at the beginning of the research. Three hundred and twenty questionnaires were distributed to obtain 280 sample. Two hundred and forty five completed questionnaires were received with a 77 percent response rate.

### **Demographic aspects of Village Organization Leaders**

This data was entered into the SPSS package and the Tables were prepared by cross tabulation methods. Tables 1 and 2 show the demographic aspects of the respondents. Table 1 includes gender and age profile and Table 2 depicts the level of education and the working experience in the field of project risk management in community-driven development projects.

Majority of the respondents from all districts were female. i.e. Badulla district has 68 percent female, Kegalle district 74 percent and Polonnaruwa 90 percent. It shows that the female contribution for the “Gemidiriya” project in the village level is relatively high (average 77%).

When considering the age of the respondents, the results from all three districts indicate the different range of age groups. While Badulla districts has 33 percent between the years of 36 – 45 years category, Kegalle district has 33 percent between 26 – 35years of age category and Polonnaruwa has 46 percent between 36 – 45years age category. Both categories taken reveals a better picture Badulla 58 percent, Kegalle 56 percent and Polonnaruwa 60 percent. It shows that young labour force has been involved in the implementation of community-driven development activities at the operation level. In other words, elderly people play a negligible role in implementing such CDD projects.

**Table 1: Profile of Respondents in terms of Their Gender and Age by District**

Category	Groups	Badulla		Kegalle		Polonnaruwa		Total	
		Count	%	Count	%	Count	%	Count	%
Gender	Male	27	32.14	23	25.84	07	9.72	57	23.27
	Female	57	67.86	66	74.16	65	90.28	188	76.73
	<i>Total</i>	84	100.00	89	100.00	72	100.00	245	100.00
Age	< 25yrs	16	19.05	16	17.98	10	13.89	42	17.14
	26 - 35yrs	21	25.00	29	32.58	10	13.89	60	24.49
	36 - 45yrs	28	33.33	21	23.60	33	45.83	82	33.47
	46 - 55yrs	14	16.67	12	13.48	17	23.61	43	17.55
	55yrs <	5	5.95	11	12.36	2	2.78	18	7.35
	<i>Total</i>	84	100.00	89	100.00	72	100.00	245	100.00

Source: Field survey 2014

This project has provided a good opportunity for village level educated unemployed groups. They can use the opportunity for gaining experience for their future endeavours. A majority of the respondents (50%) are GCE Advanced Level qualified, Badulla district has 49 percent, Kegalle district 62 percent and Polonnaruwa 38 percent. However, that Polonnaruwa district, majority (61 percent) are GCE O/L qualified. As far as work experience of VOLs is concerned, majority (49 percent) of the sample is in the view that they have very low experience. Though the project was started in 2004 it has revealed that a majority (51%) has less than three years of experience in working in the project district wise. It reveals that Badulla district reported 47 percent, Kegale 45 percent and Polonnaruwa district 63 percent of VOLs with less than 2 years experience.

**Table 2: Profile of Respondents in terms of Their Education and Experience by District**

Category	Group	District						Total	
		Badulla		Kegalle		Polonnaruwa		Count	%
		Count	%	Count	%	Count	%		
Education	GCE - OL	40	47.62	25	28.09	44	61.11	109	44.49
	GCE - AL	41	48.81	55	61.80	27	37.50	123	50.20
	Diploma	03	03.57	05	05.62	0	0	08	3.27
	Degree & above	0	0	04	04.49	01	01.89	05	2.04
	<i>Total</i>	84	100	89	100	72	100	245	100.00
Experience	less than 1year	13	15.48	15	16.85	09	12.50	37	15.10
	2yrs	26	30.95	25	28.09	36	50.00	87	35.51
	3yrs	13	15.48	25	28.09	03	04.17	41	16.73
	4yrs	22	26.19	22	24.72	24	33.33	68	27.76
	More than 5yrs	10	11.90	02	02.25	0	0	12	4.90
	<i>Total</i>	84	100	89	100	72	100	245	100.00

Note: GCE/OL – General Certificate of Examination Ordinary Level, GCE/AL- General Certificate of Examination Advanced Level

Source: Field survey 2014

### Analysis of Project Risk Management in “Gemidiriya”

The responses were obtained on the types of risks that the VOLs face during the implementation of project activities at village level. The responses were analysed by using the priority ranking (Priority Index) methods (Miah, 1993).

**Table 3: Types of Risks Faced by the Project Staff**

No	Risk type	Weighted Score on Priority						Total Weighted Score	Priority Index	Rank
		1	2	3	4	5	6			
1	Financial risks	120	39.01	11.39	9	4.76	4.93	189.09	0.77	1
2	Technical risk	12	80.51	36.18	23	10.54	0.85	163.08	0.67	2
3	Management risk	17	46.48	54.94	24	11.56	1.36	155.34	0.63	3
4	Operational risks	28	34.86	23.45	35	13.94	4.93	140.18	0.57	4
5	Political risk	26	27.39	8.71	10	26.18	12.92	111.2	0.45	6
6	Environmental risk	32	33.2	20.1	13	11.9	13.94	124.14	0.51	5

Note: Weighting system 1/6, Priority 1=1.0, Priority 2=0.83, Priority 3=0.67, Priority 4=0.5, Priority 5=0.34, Priority 6=0.17

Source: Field survey 2014

According to the analysis, it clearly points out that most of the leaders face the finance-related risk in the implementation of village level project activities i.e. repayment of loans taken by the villagers, fraud risks even among project staff and market risks (Table 3). Technical and Management risks also prevail, but they have obtained relatively lower levels of priority when compared to the financial risk. However, Technical and Management risks recorded higher priority indices than that of other risks. Therefore, these two risks become positioned as second and third.

The data with regard to the responsibility of managing risk activities of the “Gemidiriya” project is in Table 4. Even though the main responsibility of the implementation of overall project activities is actually done by the main Project Office, the respondents are of the view that the risk management of the project needs to be handled by the Village Organization (the highest weighted score 81.28) obtained). Therefore, it obtains the first rank. It means that the immediate responsible organization for project implementation activities also should take the responsibility of risk management of such activities as well. It also expresses that the people who are involved in village level project implementation activities have the clear understanding about the divisions of responsibility in implementing their risk management models. This understanding is very important for the achievement of better results from a project.

**Table 4: Responsibility of Implementation of Project Risk Management: Priority Indices and Ranking**

Reasons	Priority						Total weighted score	Priority Index	Rank
	1	2	3	4	5	6			
Project Management Unit	19	5.81	7.26	6.37	15.04	22.2	75.68	0.31	6
District Project Management	9	21.58	5.28	17.64	46.72	3	103.22	0.42	5
Project Implementation Unit	21	7.47	34.98	75.95	1.28	0.45	141.13	0.58	4
Village Organization	84	22.41	67.98	13.72	0.64	0.15	188.9	0.77	1
Sub Committee	20	141.93	9.24	0.49	11.84	0.3	183.8	0.75	2
Five Member Committee	100	3.32	33.66	6.37	4.16	9.6	157.11	0.64	3

Note: Weighting system 1/6, Priority 1=1.0, Priority 2=0.83, Priority 3=0.67, Priority 4=0.50, Priority 5=0.33, Priority 6=0.17

Source: Field survey 2014

### Readiness of Village Organizations for Project Risk Management

“Gemidiriya” project has been implemented through the formation of Village Organizations (VOs). Readiness of these organizations for managing risks is discussed here. Figure 2 below exhibits the consideration of different functional areas of an organization with regard to risk management. The data analysis reveals that utilization of computers for project risk management is very low (61% is in that view). To a certain extent, risk management-related training has been provided to the members of the organization; thirty one percent (31%) of the respondents says that organizations are interested in providing training for medium level. Level of risks and the interest in giving risk management related skills are also marked medium level, reporting 45 percent and 39 percent respectively. Same as the computer utilization, respondents have given the highest responses for ‘low’ level for losses caused by risks. It indicates that the respondents believe that though there are risks in the village level projects, losses caused by such risks are very low (35%).

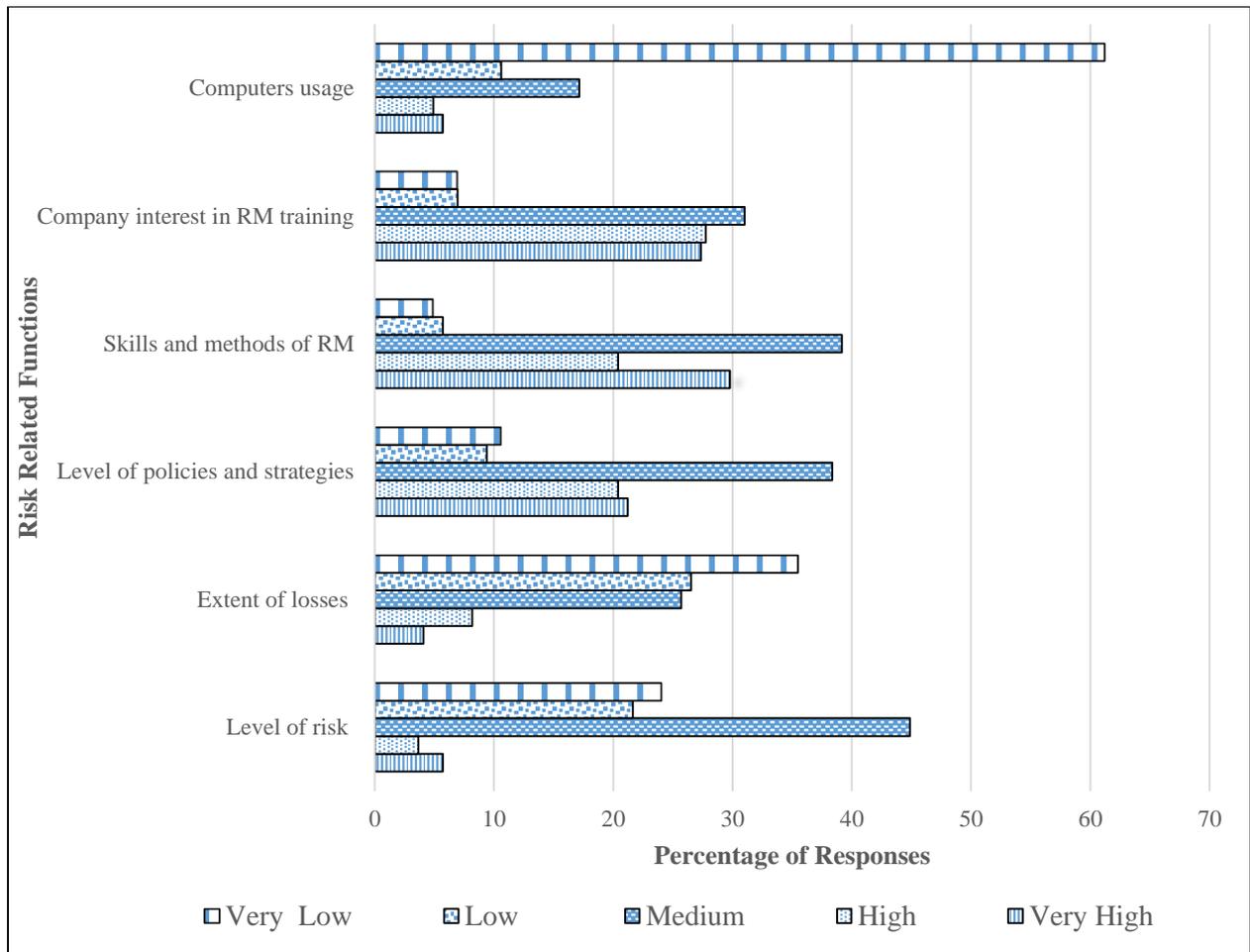


Figure 2. Project Risk Management: Activities for Preparedness

Source: Field survey 2014

Level of readiness for project risk management is measured by using different parameters. The Figure 3 exhibits that five parameters that have been used to show the readiness of village organization of “Gemidiriya” project. Organization’s pre-preparatory work for acceptance of projects provides necessary training for the risk management. It further ensures that the qualified and trained people handle risk management activities of such projects. The considerations of the risk factors of any event that may emerge when the projects are actually implemented are used to evaluate the readiness. In other words, pre-preparedness for project risk management is very important.

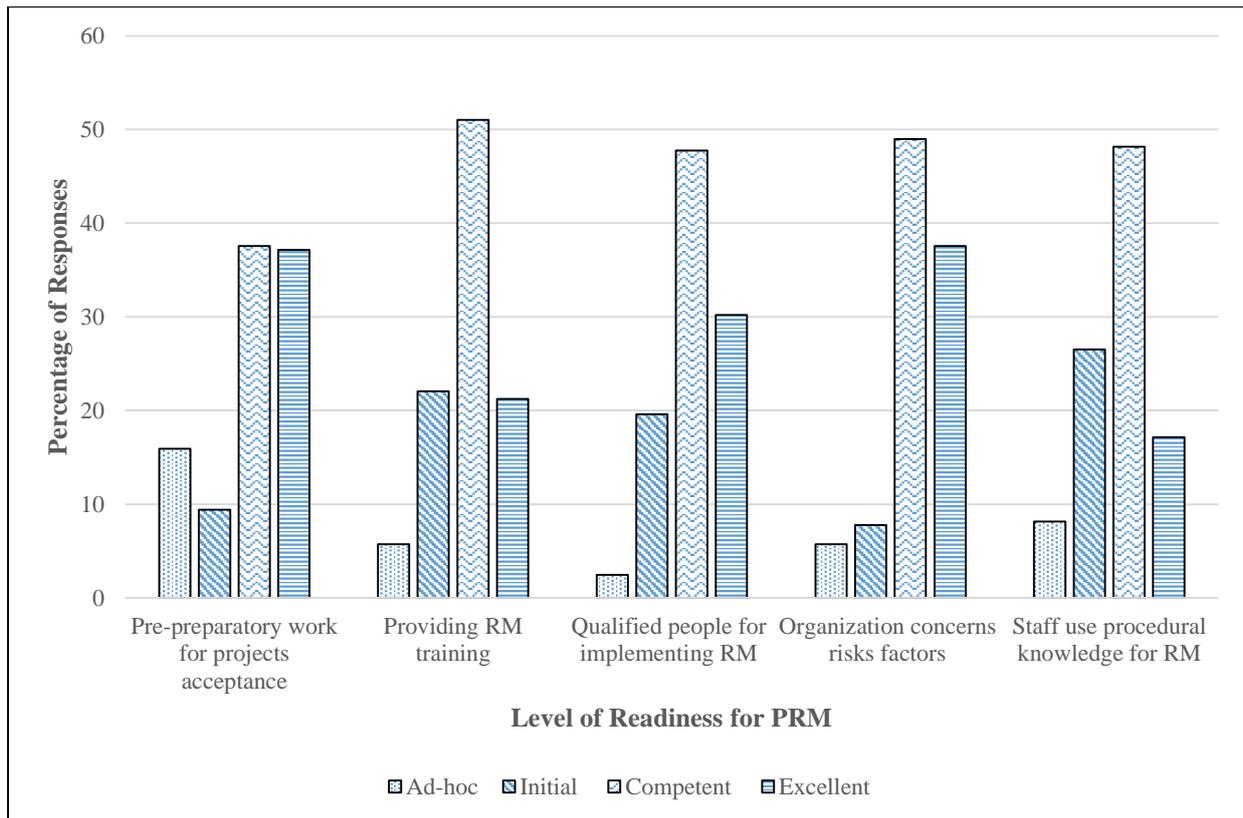


Figure 3: Level of Readiness for Managing Project Risks

Source: Field survey 2014

According to the views of a majority of the respondents, VOs are ‘competent’ enough to tackle project risks under all five modes of readiness concerned. Furthermore, highlighting the high level of readiness for project risk management, a significantly large group of respondents have marked ‘excellent’ category under all modes of readiness.

### **Correlation of Demographic Factors, General Project Risk Management and the Financial Risk Management**

As indicated in the Table in the Annexure I, male Village Organization Leaders (VOLs) believe that the project risks need to be managed by a separate project management unit and they further believe that they currently manage the project risk to a certain extent. Also, male VOLs are in the view that risk of small projects can be managed without seeking for external support. Also, they are ready to accept project risk therefore, gender of VOLs plays a significant role in determining the nature of risk management.

Moreover, more educated VOLs are focusing more on contingencies in managing risks. At the same time, educated VOLs try to identify the types of risks first and take steps to avoid

them. Furthermore, they believe more on outsourcing and insurance as remedies for dealing with risky projects. Furthermore, experience seems to be a significant determinant with regard to project risk management. More experienced VOLs focus more on contingencies and they tend to depend highly on outsourcing and insurance as remedies for controlling the risks.

## CONCLUSIONS

The study is concluded by highlighting a few points. Accordingly, the major risk faced by the VOLs is financial risk. A considerable level of female participation is visible when looking at the implementation stage of rural CDD projects. Also, this study reveals that the involvement of the young labour force is higher in rural level project implementation while the old people contribution in risk management is negligible.

While the organizational readiness for project risk management is at medium level, the technology utilization is very low. Therefore, it can be concluded that technical readiness of the village level project organizations is not sufficient for effective project risk management. However, village organization leaders' readiness for project risk management is at the competent level.

Also, the correlation analysis shows that gender, level of education and experience of VOLs play a significant role in determining the nature of project risk management. Since this is a very brief analysis of the project risk management, we provide only a snap-shot of the situation. We will extend this study to incorporate more analyses, including Structural Equation Modelling and Path Analysis to explore evidence on the same theme.

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## Pearson Correlations of variables

## Annexure I

Latent Variable	Independent Variable	Correlation & Significance	Gender	Age	Education	Experience	All the risks are managed very well by the support of PMU	All the risks are managed very well by ourselves	We could managed them some extent	Without support we cannot manage them	I don't have idea about it	We identify risk early and avoid them	We prepare contingency plan and accept the risks	We keep contingency reserves and accept the	We use our money to mitigate the risks	We do outsourcing and insurance for severe	
Demographic	Gender	Pearson Correlation	1	-.207**	.012	-.208**	.152*	-.041	.045	.155*	.041	-.046	.107	-.010	.078	.024	
		Sig. (2-tailed)		.001	.848	.001	.017	.528	.485	.015	.525	.470	.095	.881	.225	.705	
	Age	Pearson Correlation	-.207**	1	-.178**	.026	-.016	-.120	-.047	.059	.104	-.073	-.036	.060	.041	.015	
		Sig. (2-tailed)	.001		.005	.685	.798	.060	.461	.354	.106	.253	.570	.354	.525	.815	
	Education	Pearson Correlation	.012	-.178**	1	-.057	.005	-.049	.078	-.046	-.093	.049	-.026	-.180**	-.072	.092	
		Sig. (2-tailed)	.848	.005		.371	.932	.445	.222	.477	.148	.445	.690	.005	.259	.150	
	Experience	Pearson Correlation	-.208**	.026	-.057	1	.006	-.062	.160*	-.014	-.016	.000	-.024	.243**	-.013	.085	
		Sig. (2-tailed)	.001	.685	.371		.923	.335	.012	.831	.801	.994	.713	.000	.844	.185	
General risk management	All the risks are managed very well by the support of PMU	Pearson Correlation	.152*	-.016	.005	.006	1	-.074	.077	.138*	-.039	.191**	.227**	-.069	-.002	.075	
		Sig. (2-tailed)	.017	.798	.932	.923		.246	.227	.030	.541	.003	.000	.285	.969	.245	
	All the risks are managed very well by ourselves	Pearson Correlation	-.041	-.120	-.049	-.062	-.074	1	.090	-.105	-.053	.240**	.192**	-.126*	-.149*	-.043	
		Sig. (2-tailed)	.528	.060	.445	.335	.246		.160	.101	.409	.000	.003	.049	.020	.506	
	We could managed them some extent	Pearson Correlation	.045	-.047	.078	.160*	.077	.090	1	.198**	.018	.132*	.224**	.026	.017	.280**	
		Sig. (2-tailed)	.485	.461	.222	.012	.227	.160		.002	.781	.039	.000	.687	.790	.000	
	Without support we cannot manage them	Pearson Correlation	.155*	.059	-.046	-.014	.138*	-.105	.198**	1	.245**	.071	.264**	.144*	.125	.088	
		Sig. (2-tailed)	.015	.354	.477	.831	.030	.101	.002		.000	.271	.000	.024	.051	.172	

I don't have idea about it	Pearson Correlation	.041	.104	-.093	-.016	-.039	-.053	.018	.245**	1	-.068	.010	.131*	.083	.001	
	Sig. (2-tailed)	.525	.106	.148	.801	.541	.409	.781	.000		.289	.874	.040	.193	.990	
Financial risk management	We identify risk early and avoid them	Pearson Correlation	-.046	-.073	.049	.000	.191**	.240**	.132*	.071	-.068	1	.208**	-.146*	.004	.091
		Sig. (2-tailed)	.470	.253	.445	.994	.003	.000	.039	.271	.289		.001	.022	.951	.158
	We prepare contingency plan and accept the risks	Pearson Correlation	.107	-.036	-.026	-.024	.227**	.192**	.224**	.264**	.010	.208**	1	.159*	.225**	.157*
		Sig. (2-tailed)	.095	.570	.690	.713	.000	.003	.000	.000	.874	.001		.013	.000	.014
	We keep contingency reserves and accept the risks	Pearson Correlation	-.010	.060	-.180**	.243**	-.069	-.126*	.026	.144*	.131*	-.146*	.159*	1	.323**	.251**
		Sig. (2-tailed)	.881	.354	.005	.000	.285	.049	.687	.024	.040	.022	.013		.000	.000
	We use our money to mitigate the risks	Pearson Correlation	.078	.041	-.072	-.013	-.002	-.149*	.017	.125	.083	.004	.225**	.323**	1	.170**
		Sig. (2-tailed)	.225	.525	.259	.844	.969	.020	.790	.051	.193	.951	.000	.000		.007
	We do outsourcing and insurance for severe risks	Pearson Correlation	.024	.015	.092	.085	.075	-.043	.280**	.088	.001	.091	.157*	.251**	.170**	1
		Sig. (2-tailed)	.705	.815	.150	.185	.245	.506	.000	.172	.990	.158	.014	.000	.007	
	N	245	245	245	245	245	245	245	245	245	245	245	245	245	245	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Source: Computed by the authors