

CDM As A Social Development Mechanism

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Abstract

The Green House Gas (GHGs) emitted by various activities through heavy industrialization is the major factor affecting negatively to the global climate at very harsh level and for protecting and saving the environment, the concept of Clean Development Mechanism (CDM) came in existence. The Clean Development Mechanism (CDM) is a project-based flexible offset mechanism that allows the crediting of emission reductions from greenhouse gas (GHG) abatement projects in developing countries. This concept enables Industrialized Developed Countries to invest in Non Industrialized Developing Countries through stabilization of emission-reduction projects at there and in return of their investment it will receive certified emission reductions (CERs) to make up the difference and can go on producing more of their own product. This Concept has significantly performed in cleanliness of environment at world level but it also objected to assist the host (developing) countries in making of sustainable development. Since a developed Society makes the nation strong and healthy because it gives the morality to the people and it also provides a platform to work together for betterment of the nation, that's why, social growth plays a major role in the measurement of sustainability level. In this context, this study aims to analyze that how the CDM project contributes in Social growth of a developing country and to achieve this aim, it presents CDM activities' impact on Indian society from the perspective of Education, Employment, Health & safety and welfare because India, as a second largest spot in the world, has remarkably acted for growing the CDM concept. For data analysis sampled secondary data from UNICEF website have been analyzed with descriptive statistics and test of significance. After analyzing 114 different Indian CDM projects, it is found that CDM is a powerful factor to influence the social growth.

Introduction

The issue of climate change is the most important issue of concern today throughout the globe. The Green House Gas (GHGs) emitted by various activities through heavy industrialization is the major factor affecting the global climate changes. For protecting the global climate from the negative effects of climate change, the United Nations Framework Convention on Climate Change (UNFCCC, 1992) and the Kyoto Protocol (1997) set binding emission reduction targets for 37 industrialized countries and the European community to reduce collective emissions of six key Greenhouse Gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆) by at least 5% emissions reduction compared to 1990 levels by the first commitment period of 5 years (2008-2012) through of three market-based mechanisms :

1. International Emissions Trading (IET)
2. Clean Development Mechanism (CDM)
3. Joint implementation (JI)

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The Clean Development Mechanism (CDM) enables Annex I Parties (Industrialised Developed Countries) to invest in emission-reduction projects in the countries of non-Annex I Parties (Non Industrialised Developing Countries). These Annex I Parties in return of their investment will receive certified emission reductions (CERs) to make up the difference and can go on producing more of their own product.

Keywords: Clean Development Mechanism, Sustainable Development, Social Growth.

Significance of analysis

The CDM concept has two purposes as to help industrialised countries to reduce the costs of greenhouse gas abatement without any financial loss and to assist developing countries to achieve sustainable development. CDM not only brings the favourable changes in the surviving environment but it also affects a nation in a way of economically and socially. So to achieve the sustainable development in developing countries, CDM must be economic and social friendly along with environmental development. A society gives the morality to the people and it provides a platform to work together for betterment of the nation as a developed Society makes the nation strong and healthy. India is the second largest host country for CDM Projects, so it is essential to

analyse the influence of CDM activities on Indian Society as a major role of it for sustaining the development.

Review of Literature

After extensively reviewing existing literature relating to CDM impacts on sustainable development. Some scholarly work has been found and the details of these literatures have been summarized in the following paragraphs:

Chittawadagi M.B. (2015) explained about Sustainable Development benefits of CDM projects in the form of employment generation, generation of green energy, mitigation of carbon emission thereby protecting health of the people, development of rural areas through setting up of CDM projects, and helping the developed countries to achieve their carbon emission reduction targets, on the other hand serious challenges faced by the mechanism like decline in demand for CERs, crisis in CER prices, reduced number of parties participating in the Kyoto Protocol post 2012.

Jingjing et al. (2014) studied on “Has as the clean development mechanism assisted sustainable development?” and concluded that CDM has been proved the only existing climate change mechanism that offered an innovative solution to incorporate sustainable development considerations into emission mitigation activities. By attracting foreign financial and technological resources to help address host nations’ development concerns, CDM played a very positive role in encouraging developing countries to participate in the world’s GHG abatement efforts.

Maltha M. (2014) analysed emission reductions and sustainable development benefits of Clean Development Mechanism (CDM) projects in East Africa and provided recommendations on improving the performance of such projects. He found the hydro and reforestation projects and large scale projects as performing best in promoting sustainable development and there is more need for a market-friendly environment for investment in CDM projects.

Aggarwal A. (2012) focused on social, economic and ecological issues affecting sustainability of the selected forestry clean development mechanism (CDM) projects from India. The findings of the study were that some of those projects were economically unsustainable for local people because of high opportunity cost of land and labour, and delayed and low benefits and social and institutional issues such as low participation of local communities, weak or non existing community institutions, inflexible design and rigid CDM rules affect sustainability of these projects.

Spalding-Fecher R.et all. (2012) aimed to provide an independent assessment of the impact of the CDM on private and public sector. The analysis resulted that for the private sector, the CDM may have reduced compliance costs for firms in the European Union emissions trading scheme and Japan. For the public sector, the use of CERs by

Annex I governments to meet their national emission limitation commitments will yield an additional in savings.

Monceau T.D. & Brohe A. (2011) explained how sustainable development and social equity considerations are currently incorporated in the development of Clean Development Mechanism (CDM) offsetting projects. They compared the sustainable development criteria defined by six different Designated National Authorities (DNAs). The results shown that these categories of projects do little to contribute to sustainable development and social equity.

Castro P. & Benecke G. (2008) evaluated the Indian CDM projects in terms of their lead times and expected CER generation, additionality argumentation, stakeholder participation and sustainability benefits. The results shown that there is no standard procedure for inviting stakeholders to issue comments on CDM projects and India's CDM project approval procedure and sustainable development criteria did not seem sufficient to successfully ensure the delivery of the sustainability benefits expected from the CDM.

Schneider L. (2007) described about the additionality of CDM for fulfilling its environmental and sustainable development objectives. It found that additionality was questionable for roughly 40% of the registered projects based on an analysis on the average situation of the past three years. It suggested to the CDM Executive Board to strengthen its procedures to assess projects, since Improving the assessment of additionality is particularly important if the CDM is to continue to grow and to play an important role in future.

Hahn, R. & Richards, K. (2009) developed an approach, namely the Sustainability Management Approach (SMA), which considered both management needs of the CDM project developers and the evaluation needs of the DNAs. The study in Peru and a worldwide survey demonstrated that there is a broad acceptance for the SMA because it delivers the basis information needed for the assessment and management of project activities. They recommended for using the SMA to further strengthen the evaluation process of CDM project activities with regard to their contribution to sustainable development.

Liu L. (2006) analyzed the dynamics of the CDM scheme and evaluate China's performance in current CDM implementation seeking synergies to achieve sustainable development. It concluded that after the entry into force of Kyoto Protocol in early 2005, the CDM gained momentum but besides the emission reduction benefits, the sustainability benefits for developing countries have been continuously doubted.

Nussbaumer P. (2006) presented a discussion about the potential role of Clean Development Mechanism (CDM) for Sustainable Development. For this, a multi-criteria assessment method was applied to analyse the influence of additional incentives from a

local Sustainable Development point of view. It revealed that projects which are being benefited from additional incentives, perform relatively well in terms of local Sustainable Development and other CDM projects behave similarly well, or even better, both in terms of overall performance and in terms of balanced repartition amongst the different Sustainable Development criteria.

Research Methodology

It includes the following points:

Objective

The objective of this paper is to describe that how the CDM Projects influence the sustainability of development level of an Indian Society status

Null Hypothesis

H₀₁:- There is no significant impact of CDM Project on Health & Safety

H₀₂:-There is no significant impact of CDM Project on Education

H₀₃:-There is no significant impact of CDM Project on Employment

H₀₄:-There is no significant impact of CDM Project on Welfare

Scope of Study

This research paper mainly focuses on providing the knowledge of Indian CDM activities' impact on Indian society.

Statistical Tools

For the Data Analysis, Descriptive statistics and test of significance have been used. For the analysis of the factors Z test have been applied with the help of SPSS 21 at 5% level of significant level.

Sampling Technique

To carry out of the purpose of this paper, 114 different Indian CDM projects have been sampled on judgmental base

Data Collection

The present study has used secondary data. The relevant secondary data have been collected from UNICEF website for analysis.

Data Analysis and Discussion

The Data are analysed in three parts at different levels and to get the better information on impact of CDM projects on society's different aspects, all the aspects have been divided under four basic pillars of a Society:

Group A presented information regarding CDM projects impact on Health & safety

- Disease prevention
- Reducing accidents
- Reducing crime
- Preserving food
- Reducing health damaging indoor air pollution
- Enhancing health services
- Improving sanitation and waste management
- Other healthy and safety improvement

Group B presented information regarding CDM projects impact on Education

- Job related Training
- Enhanced Educational Services
- Project related knowledge dissemination
- Other educational benefits

Group C presented information regarding CDM projects impact on Employment

- New long term jobs
- New Short term Jobs
- New sources of income generation
- Other employment opportunities

Group D presented information regarding CDM projects impact on Welfare

- Improving Working conditions

- Community or rural advancement
- Poverty alleviation (more people above poverty level)
- Improving wealth distribution/generation of income and assets
- Increased municipal revenues
- Optimized women's empowerment
- Reduced traffic congestion
- Other Welfare benefit

Analysis Part I

This part analysed the impact of CDM projects at beneficial level for the aspects of Society.

Table I(a) CDM projects impact on Health & safety

<i>Aspects of Society</i>	<i>Agreements</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Disease Prevention	No Benefit	48	42.1	42.1	42.1
	Partly Beneficial	6	5.3	5.3	47.4
	Slightly Beneficial	6	5.3	5.3	52.6
	Highly Beneficial	54	47.4	47.4	100
	Total	114	100	100	
CDM Projects helps in Reducing Accidents	No Benefit	60	52.6	52.6	52.6
	Partly Beneficial	6	5.3	5.3	57.9
	Slightly Beneficial	9	7.9	7.9	65.8
	Highly Beneficial	39	34.2	34.2	100
	Total	114	100	100	
Reducing Crime	No Benefit	99	86.8	86.8	86.8
	Partly Beneficial	3	2.6	2.6	89.5
	Slightly Beneficial	6	5.3	5.3	94.7
	Highly Beneficial	6	5.3	5.3	100
	Total	114	100	100	
Preserving Food	No Benefit	102	89.5	89.5	89.5
	Partly Beneficial	3	2.6	2.6	92.1
	Slightly Beneficial	3	2.6	2.6	94.7
	Highly Beneficial	6	5.3	5.3	100
	Total	114	100	100	
Reducing Health Damaging Indoor Air Pollution	No Benefit	72	63.2	63.2	63.2
	Partly Beneficial	3	2.6	2.6	65.8
	Highly Beneficial	39	34.2	34.2	100
	Total	114	100	100	
Enhancing Health Services	No Benefit	93	81.6	81.6	81.6
	Partly Beneficial	12	10.5	10.5	92.1
	Highly Beneficial	9	7.9	7.9	100
	Total	114	100	100	
Improving Sanitation and Waste Management	No Benefit	81	71.1	71.1	71.1
	Partly Beneficial	15	13.2	13.2	84.2
	Highly Beneficial	18	15.8	15.8	100
	Total	114	100	100	
Other Health and Safety Improvement	No Benefit	84	73.7	73.7	73.7
	Partly Beneficial	6	5.3	5.3	78.9
	Highly Beneficial	24	21.1	21.1	100
	Total	114	100	100	

The table I(a) shows that, in case of disease prevention, out of 114 CDM project reports, 54 (47.40%) CDM projects reports shows that CDM projects were highly helpful. In case of reducing accidents, out of 114 CDM project reports, 39 (34.20%) CDM project reports shows that CDM projects were highly helpful. In case of reducing crime, 114 CDM project reports, 6 (5.30%) CDM project reports shows that CDM projects were highly helpful. In case of preserving food, out of 114 CDM project reports, 6 (5.30%) CDM projects reports shows that CDM projects were highly helpful. In case of reducing health damaging indoor air pollution, out of 114 CDM project reports, 39 (34.20%) CDM project reports shows that CDM projects were highly helpful. In case of enhancing health services, out of 114 CDM project reports, 9 (7.90%) CDM project reports shows that CDM projects were highly helpful. In case of improving sanitation and waste management, out of 114 CDM project reports, 18 (15.80%) CDM project reports shows that CDM projects were highly helpful. In case of other health and safety improvement, out of 114 CDM project reports, 24 (21.10%) CDM projects reports shows that CDM projects were highly helpful.

Table I(b) CDM projects impact on Education

<i>Aspects of Society</i>	<i>Agreements</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Job-Related Training	No Benefit	39	34.2	34.2	34.2
	Partly Beneficial	12	10.5	10.5	44.7
	Highly Beneficial	63	55.3	55.3	100
	Total	114	100	100	
Enhanced Educational Services	No Benefit	90	78.9	78.9	78.9
	Partly Beneficial	9	7.9	7.9	86.8
	Highly Beneficial	15	13.2	13.2	100
	Total	114	100	100	
Project-Related Dissemination Knowledge	No Benefit	33	28.9	28.9	28.9
	Partly Beneficial	21	18.4	18.4	47.4
	Slightly Beneficial	15	13.2	13.2	60.5
	Highly Beneficial	45	39.5	39.5	100
	Total	114	100	100	
Other Educational Benefits	No Benefit	78	68.4	68.4	68.4
	Partly Beneficial	9	7.9	7.9	76.3
	Slightly Beneficial	6	5.3	5.3	81.6
	Highly Beneficial	21	18.4	18.4	100
	Total	114	100	100	

The table I(b) shows that in case of job-related training, out of 114 CDM project reports, 63 (55.30%) CDM project reports shows that CDM projects were highly helpful. In case of enhanced educational services, out of 114 CDM project reports, 15 (13.20%) CDM project reports shows that CDM projects were highly helpful. In case of project-related knowledge dissemination, out of 114 CDM project reports, 45 (39.50%) CDM project reports shows that CDM projects were highly helpful. In case of other educational benefits, out of 114 CDM project reports, 21 (18.40%) CDM project reports shows that CDM projects were highly helpful.

Table I(c) CDM projects impact on Employment

<i>Aspects of Society</i>	<i>Agreements</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Generate New Long-Term Jobs	No Benefit	21	18.4	18.4	18.4
	Partly Beneficial	24	21.1	21.1	39.5
	Slightly Beneficial	12	10.5	10.5	50
	Highly Beneficial	57	50	50	100
	Total	114	100	100	
New Short-Term Jobs	No Benefit	35	30.7	30.7	31.6
	Slightly Beneficial	6	5.3	5.3	36.8
	Highly Beneficial	73	64.1	64.1	100
	Total	114	100	100	
New Sources of Income Generation	No Benefit	42	36.8	36.8	36.8
	Partly Beneficial	15	13.2	13.2	50
	Slightly Beneficial	12	10.5	10.5	60.5
	Highly Beneficial	45	39.5	39.5	100
	Total	114	100	100	
Other Employment Opportunities	No Benefit	93	81.6	81.6	81.6
	Partly Beneficial	18	15.8	15.8	97.4
	Highly Beneficial	3	2.6	2.6	100
	Total	114	100	100	

The table I(c) shows that in case of generating new long-term jobs, Out of 114 CDM project reports, 57 (50.00%) CDM projects reports shows that CDM projects were highly helpful. In case of generating new short-term jobs out of 114 CDM project reports, 73 (64.10%) CDM project reports shows that CDM projects were highly helpful. In case of new sources of income generation, out of 114 CDM project reports, 45 (39.50%) CDM projects reports

shows that CDM projects were highly helpful. In case of other employment opportunities, out of 114 CDM project reports, 3 (2.60%) CDM project reports shows that CDM projects were highly helpful.

Table I(d) CDM projects impact on local living and working conditions

<i>Aspects of Society</i>	<i>Agreements</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Improving Working Conditions	No Benefit	48	42.1	42.1	42.1
	Partly Beneficial	6	5.3	5.3	47.4
	Slightly Beneficial	6	5.3	5.3	52.6
	Highly Beneficial	54	47.4	47.4	100
	Total	114	100	100	
Community or Rural Advancement	No Benefit	51	44.7	44.7	44.7
	Partly Beneficial	12	10.5	10.5	55.3
	Slightly Beneficial	9	7.9	7.9	63.2
	Highly Beneficial	42	36.8	36.8	100
	Total	114	100	100	
Poverty Alleviation	No Benefit	48	42.1	42.1	42.1
	Partly Beneficial	12	10.5	10.5	52.6
	Slightly Beneficial	12	10.5	10.5	63.2
	Highly Beneficial	42	36.8	36.8	100
	Total	114	100	100	
Improving Wealth Distribution/Generation of Income and Assets	No Benefit	63	55.3	55.3	55.3
	Partly Beneficial	27	23.7	23.7	78.9
	Highly Beneficial	24	21.1	21.1	100
	Total	114	100	100	
Increased Municipal Revenues	No Benefit	81	71.1	71.1	71.1
	Partly Beneficial	6	5.3	5.3	76.3
	Slightly Beneficial	15	13.2	13.2	89.5
	Highly Beneficial	12	10.5	10.5	100
	Total	114	100	100	
Optimized Women's Empowerment	No Benefit	54	47.4	47.4	47.4
	Partly Beneficial	15	13.2	13.2	60.5
	Slightly Beneficial	9	7.9	7.9	68.4
	Highly Beneficial	36	31.6	31.6	100
	Total	114	100	100	
Reducing Traffic Congestion	No Benefit	99	86.8	86.8	86.8
	Partly Beneficial	6	5.3	5.3	92.1
	Highly Beneficial	9	7.9	7.9	100
	Total	114	100	100	
Other Welfare Benefits	No Benefit	84	73.7	73.7	73.7
	Partly Beneficial	3	2.6	2.6	76.3
	Highly Beneficial	27	23.7	23.7	100
	Total	114	100	100	

The table I(d) shows that in case of improvement in working conditions, out of 114 CDM project reports, 54 (47.40%) CDM project reports shows that CDM projects were highly helpful. In case of community or rural advancement, out of 114 CDM project reports, 42 (36.80%) CDM projects reports shows that CDM projects were highly helpful. In case of poverty alleviation, out of 114 CDM project reports, 42 (36.80%) CDM project reports shows that CDM projects were highly helpful. In case of improving wealth distribution/generation of income and assets, out of 114 CDM project reports, 24 (21.10%) CDM project reports shows that CDM projects were highly helpful. In increased municipal revenues, out of 114 CDM project reports, 12 (10.50%) CDM project reports shows that CDM projects were highly helpful. In case of optimized women's empowerment, out of 114 CDM project reports, 36 (31.60%) CDM project reports shows that CDM projects were highly helpful. In reducing traffic congestion, out of 114 CDM project reports, 9 (7.90%) CDM project reports shows that CDM projects were highly helpful. In case of other welfare benefits, out of 114 CDM project reports, 27 (23.70%) CDM project reports shows that CDM projects were highly helpful.

Analysis Part II

This part analysed the impact of CDM projects at preference level of the aspects of Society.

Preference level on CDM Project Impact on Society

Area	Average of Preference Level
Health & Safety	1.75
Education	2.15
Employment	2.42
Welfare	2.02

This Table shows overall preference level of respondents on “which areas of society have highest impact of CDM project”. The average score (2.42) of employment shows highest preference, education average score (2.15) shows second preference, welfare average score (2.02) shows third preference and health and safety average score (1.75) shows lowest

preference. It has been concluded that preference level shows CDM project have huge impact on employment. The details are as follows:

Table II(a) Preference level on CDM Project Impact on Health & Safety

Area	Benefit	Average
Health & Safety	Disease prevention	2.58
Health & Safety	Reducing accidents	2.24
Health & Safety	Reducing crime	1.29
Health & Safety	Preserving food	1.24
Health & Safety	Reducing health damaging indoor air pollution	2.05
Health & Safety	Enhancing health services	1.34
Health & Safety	Improving sanitation and waste management	1.61
Health & Safety	Other health and safety improvement	1.68

In the table II(a), average score 2.58 shows that CDM, partly helps in disease prevention, average score 2.24 shows that CDM, partly helps in reducing accidents, average score 1.29 shows that CDM, no helps in reducing crime, average score 1.24 shows that CDM, no helps in preserving food, average scores 2.05 shows that CDM, partly helps in reducing health damaging indoor air pollution, average score 1.34 shows that CDM, no helps in enhancing health services, average score 1.61 shows that CDM, partly helps in improving sanitation and waste management, average score 1.68 shows that CDM, partly helps in other health and safety improvement.

Table II(b) Preference level on CDM Project Impact on Education

Area	Benefit	Average
Education	Job-related training	2.76
Education	Enhanced educational services	1.47
Education	Project-related knowledge dissemination	2.63
Education	Other educational benefits	1.74

In the table II(b), average score 2.76 shows that CDM, partly helps in Enhance job-related training, average score 1.47 shows that CDM, partly helps in enhanced educational services, average score 2.63 shows that CDM, highly helps in project-related knowledge dissemination, average score 1.74 shows that CDM, partly helps in other educational benefits.

Table II(c) Preference level on CDM projects impact on Employment

Area	Benefit	Average
Jobs	New long-term jobs	2.92
Jobs	New short-term jobs	3.00
Jobs	New sources of income generation	2.53
Jobs	Other employment opportunities	1.24

The table II(c) shows that with the average score 2.92 for New Long term jobs and 3.00 for New Short term jobs, CDM highly helps to generate new short-term jobs and new long-term jobs. Average score 2.53 shows that CDM, partly helps into generate new sources of income but with the average score 1.24 CDM, no helps into generation of other employment opportunities.

Table II(d) Preference level on CDM Project Impact on Welfare

Area	Benefit	Average
Welfare	Improving working conditions	2.58
Welfare	Community or rural advancement	2.37
Welfare	Poverty alleviation (more people above poverty level)	2.42
Welfare	Improving wealth distribution/generation of income and assets	1.87
Welfare	Increased municipal revenues	1.63
Welfare	Optimized women's empowerment	2.24
Welfare	Reduced traffic congestion	1.29
Welfare	Other welfare benefits	1.74

In the table II(d), average score 2.58 shows that CDM, partly helps in improving working conditions, average score 2.37 shows that CDM, partly helps in improving Community or rural advancement, average score 2.42 shows that CDM, partly helps in poverty alleviation (more people above poverty level), average score 1.87 shows that CDM, partly helps in improving wealth distribution/generation of income and assets, average score 1.63 shows that CDM, partly helps in increase in municipal revenues, average score 2.24 shows that CDM, partly helps in optimized women's empowerment, average score 1.29 shows that CDM, no helps in reduced traffic congestion, average score 1.74 shows that CDM, partly helps in other welfare benefits.

Analysis Part III

This part analysed at 5% level of significant level of the impact of CDM projects on the aspects of Society. Results have been considered on the bases of P-value of the test. If P-value is more than 0.05 then the statement shows that there is no significant difference among overall impact of CDM programs on society and if P-value is less than 0.05, than the

statement shows that there is significant difference among overall impact of CDM programs on society. The results are as follows:

Table III(a) Significance level of CDM Project Impact on Health & Safety

Aspects of Society	Mean	Std. Deviation	Z Value	Sig. (2-tailed)
Disease prevention	2.58	1.43	0.59	0.56
Reducing accidents	2.24	1.39	-2.02*	0.05
Reducing crime	1.29	0.8	-16.25*	0
Preserving food	1.24	0.74	-18.12*	0
Reducing health damaging indoor air pollution	2.05	1.42	-3.37*	0
Enhancing health services	1.34	0.84	-14.72*	0
Improving sanitation and waste management	1.61	1.09	-8.73*	0
Other health and safety improvement	1.68	1.22	-7.13*	0

In case of table III(a), Z test value 0.59 and P value 0.56 shows that there is no significant difference in reports of CDM projects which describes that CDM, highly helps in disease prevention. Z test value 2.02 and P value 0.05 shows that there is significant difference in reports of CDM projects which describes that CDM, slightly helps in reducing accidents. Z test value -16.25 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in reducing crime. Z test value -18.12 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in preserving food. Z test value -3.37 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes CDM, partly helps in reducing health damaging indoor air pollution. Z test value -14.72 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in enhancing health services. Z test value -8.73 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in improving sanitation and waste management. Z test value -7.13 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in other health and safety improvement.

Table III(b) Significance level of CDM Project Impact on Education

Aspects of Society	Mean	Std. Deviation	Z Value	Sig. (2-tailed)
Job-related training	2.76	1.41	1.99*	0.05
Enhanced educational services	1.47	1.02	-10.70*	0
Project-related knowledge dissemination	2.63	1.27	1.11	0.27
Other educational benefits	1.74	1.19	-6.85*	0

In case of table III(b), Z test value 1.99 and P value 0.05 shows that there is significant difference in reports of CDM projects which describes that CDM, highly helps in job-related training. Z test value -10.70 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in enhanced educational services. Z test value 1.11 and P value 0.27 shows that there is no significant difference in reports of CDM projects which describes that CDM, highly helps in project-related knowledge dissemination. Z test value -6.85 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in other educational benefits.

Table III(c) Significance level of CDM Project Impact on Employment

Aspects of Society	Mean	Std. Deviation	Z Value	Sig. (2-tailed)
New long-term jobs	2.92	1.21	3.73*	0
New short-term jobs	2.99	1.4	3.75*	0
New sources of income generation	2.53	1.34	0.21	0.83
Other employment opportunities	1.24	0.58	-23.07*	0

In case of table III(c), Z test value 3.73 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, highly helps in creations of

new long term jobs. Z test value 3.75 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, highly helps in creations of new short term jobs. Z test value 0.21 and P value 0.83 shows that there is no significant difference in reports of CDM projects which describes that CDM, highly helps in creations of new sources of income generation. Z test value -23.07 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in creations of other employment opportunities.

Table III(d) Significance level of CDM Project Impact on Welfare

Aspects of Society	Mean	Std. Deviation	Z Value	Sig. (2-tailed)
Improving working conditions	2.58	1.43	0.59	0.56
Community or rural advancement	2.37	1.37	-1.02	0.31
Poverty alleviation (more people above poverty level)	2.42	1.36	-0.62	0.54
Improving wealth distribution/generation of income and assets	1.87	1.18	-5.72*	0
Increased municipal revenues	1.63	1.07	-8.69*	0
Optimized women's empowerment	2.24	1.33	-2.11*	0.04
Reduced traffic congestion	1.29	0.83	-15.61*	0
Other welfare benefits	1.74	1.28	-6.38*	0

In case of table III(d), Z test value 0.59 and P value 0.56 shows that there is no significant difference in reports of CDM projects which describes that CDM, highly helps in improving working conditions. Z test value -1.02 and P value 0.31 shows that there is no significant difference in reports of CDM projects which describes that CDM, slightly helps in community or rural advancement. Z test value -0.62 and P value 0.54 shows that there is no significant difference in reports of CDM projects which describes that CDM, slightly helps in

poverty alleviation (more people above poverty level). Z test value -5.72 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in improving wealth distribution/generation of income and assets. Z test value -8.69 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in improving wealth distribution/generation of income and assets. Z test value -2.11 and P value 0.04 shows that there is significant difference in reports of CDM projects which describes that CDM, slightly helps in optimized women's empowerment. Z test value -15.61 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in reduced traffic congestion. Z test value -6.38 and P value 0.00 shows that there is significant difference in reports of CDM projects which describes that CDM, partly helps in other welfare benefits.

Conclusion

The CDM helps in improves health and safety

Analysis of CDM projects reports found that CDM projects highly helpful in disease prevention. It helps to establish medical units and other infrastructures for monitoring of diseases. Overall there is reduction of diseases. It is also slightly helpful in reducing accidents. The CDM projects shall implement Integrated Management Systems for project construction and operation phase. There shall be safety protocols to be followed for any activity. There are no accidents or hazards reported. Furthermore it has found that CDM projects partly helpful in reducing crime, preserving food, reducing health damaging indoor air pollution, enhancing health services, improving sanitation and waste management and other health and safety improvement.

The CDM helps in increases education facilitates dissemination of information or research awareness

Analysis of CDM projects reports found that CDM projects highly helps in the job-related training and project-related knowledge dissemination. Both the aspects increase knowledge level about the CDM working process and its growth. Although CDM projects not much enhance other educational services and other educational benefits for society.

The CDM project activity creates new job opportunities including income generation

Analysis of CDM projects reports found that CDM projects highly helpful in creations of new long term jobs, new short term jobs and new sources of income generation but it helps partly for creating the other employment opportunities.

The CDM project has created new jobs in the construction, maintenance, marketing, and financing and furthermore the CDM projects shall create ample job and business opportunities and lead to income generation in forms of shops, contractors, suppliers etc.

The CDM improves local living and working conditions

Analysis of CDM projects reports found that CDM projects highly helpful in improving working conditions and partly helpful in poverty alleviation (more people above poverty level), improving wealth distribution/generation of income and assets, improving wealth distribution/generation of income and assets, reduced traffic congestion and other welfare benefits but it does not have a very powerful role in community or rural advancement and optimized women's empowerment.

After this analysis finally it can be concluded that not only for environment but also CDM is very useful and helpful unit for a Society. It gave a positive growth to Society standard, so it is a beneficial and worthy way for development of each and every aspect.

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