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Impact of Microprojects Program on Poverty Alleviation in Rural and Peri-urban Eswatini / Swaziland

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Authors' contributions

This work was carried out in collaboration among all authors. Author WMM did the review of literature, collected data with assistance of Author STM and performed the analyses. Author MPD drafted and formatted the paper. Author STM also assisted with organising the transport and the participants for data collection. All authors read and approved the final manuscript.

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ABSTRACT

The aim of the study was to determine the variables explaining and predicting the impact of Microprojects Programme (MPP). Purposive stratified samples of infrastructure projects target beneficiaries were drawn. A descriptive-correlational survey was conducted in the four administrative regions of Eswatini whose projects were within 2009 to 2011. Four different projects (cattle dip tanks, rural electrification, water supply schemes, and neighborhood care points) of the MPP were used in the study. A questionnaire containing both ratings and factual items was developed, validated and pretested before collecting data. The analyses used were percentages, means, standard deviations and multiple linear stepwise regression. Results showed that the MPP

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infrastructure projects made impact towards poverty alleviation on five of eleven measures but with high response variance: Human rights, basic needs, quality of life, access to public goods and services, and on consumption and diet. Most substantial amount of funding was invested on water supply schemes. The importance of knowledge and skills from MPP project development trainings were very highly rated with low response variance in: MPP procedures; group dynamics; project sustainability; and project management. Knowledge and skills attained through MPP trainings were found very effective especially in project planning and management. Beneficiaries' attitudes were described by them with semantics: valuable, beneficial, successful and effective. Positive attitudes developed from MPP training, project type - rural electrification, and administrative region - northern Hhohho, explained the impact of MPP in descending order; while project type had the highest impact weight followed by positive attitudes developed and the administrative region. The MPP infrastructure projects have had some forms of impact but overall, only slightly positive. In order to improve service delivery, MPP has to decentralize its services and advertise its programs through radio, TV, and printed materials for better information reach.

Keywords: *Infrastructure project; poverty alleviation; impact measure; Swaziland / Eswatini.*

1. INTRODUCTION

Poverty is a global phenomenon that remains a major challenge to many world nations. According to Government of Swaziland [1], over 69% of people in Swaziland / Eswatini live in poverty. This has remained a disproportionately a rural phenomenon. Reducing poverty is the central challenge confronting Eswatini today and in the long term [2]. That was why Eswatini Government formulated policies for poverty alleviation. These include the National Development Strategy (NDS) in 1997, National Development Plan (NDP) in 1999, and the Economic and Social Reform Agenda (ESRA) in 2001 and the Poverty Reduction Strategy Action Plan (PRSAP) in 2006 [1]. All these policies addressed improving the socio-economic standing of the poor Swazi / Emaswati people, majority of whom are in the rural and peri-urban areas, with no or poor social and economic infrastructure.

Poverty alleviation could be achieved through economic liberalization, developing capital infrastructure and technology, local and foreign aids, building good institutions and empowering the marginalised [3], which the Microprojects Program (MPP) aligned itself with. The purpose of MPP is to contribute towards sustained social and economic development through empowering poorer Swazis and establishment of self-help infrastructure projects in rural and peri-urban areas. The infrastructure projects are aimed at poverty alleviation through social and economic development. Besides providing infrastructure projects, MPP promotes proactive approach to development and also employs the concept of community participation [4]. The key to the fight

against poverty is the development of infrastructure [1] as poverty alleviation and its eventual elimination are central objectives of development [5].

The Microprojects Program (MPP) was established in 1975 as a joint cooperation between the Kingdom of Eswatini and the European Union (EU). The program receives support from the Government of Eswatini and European Commission in the form of grant funding and technical assistance [6]. The Ministry of Economic Planning and Statistics (MEPS) established the MPP Coordination Unit in 1988 as a semi-autonomous unit. The unit is responsible for recommending the best proposals among many, supervision and monitoring of new projects, evaluation of completed projects and advising grassroots communities concerning their priorities and project ideas. Today, MPP operates both as development agency and as an implementing agency for government's small scale capital projects [6]. MPP field officers serve as development extension and also development communication officers as they do their work, because they bring about and facilitate the government's development micro-projects with a goal of empowering the poor and giving them knowledge and skills for sustaining their projects for their livelihoods.

MPP offers participatory development, electrification, community facilities, cattle dip tanks, health and welfare, neighborhood care points, and water supply projects. These are provided in deprived rural and peri-urban areas of Eswatini [7]. MPP works with other ministries or development organizations like the Ministry of

Education and Training, Ministry of Natural Resources and Environment, Ministry of Agriculture and Cooperatives, Office of the Deputy Prime Minister, Ministry of Public Works and Transport, Ministry of Health, the National Emergency Response Council on HIV/AIDS (NERCHA), World Vision (WV) and African Cooperative Trust (ACAT) prominently [7], to empower the rural Swazis in order to improve their social and economic conditions for poverty eradication.

The MPP needs to be critically examined on its impact on poverty alleviation from external perspective through its programs providing infrastructure projects and it is imperative that its examination indicate if the implementation of the projects is serving its purpose. The general indicators of poverty reduction used in the study as suggested by [8] are the following: (i) improved income levels of different poor categories, (ii) changes in household food security, (iii) improved basic needs, (iv) changes in income distribution and decreases in inequities, (v) diversification of income sources, (vi) changes in income security, (vii) improved human rights, (viii) increased access to public goods and services, (ix) increased maize yields, (x) changes in food consumption and diet, and (xi) improved quality of life. The purpose of the study was to determine the variables and how much each is explaining on the impact of MPP towards poverty alleviation in rural and peri-urban areas of Eswatini. The objectives of the study were to: (i) determine the impact of Microprojects Program towards poverty reduction through the provision of social or economic infrastructure; (ii) describe the amount of money invested by MPP on community infrastructure projects; (iii) describe the level of importance of knowledge and skills attained from training by Microprojects Program; (iv) describe the effectiveness of knowledge and skills attained from the training offered by Microprojects Program; (v) ascertain the attitudes developed from training by Microprojects Program; and, (vi) identify and quantify explanatory and predictor variables for the impact of MPP.

1.1 Theoretical Framework on Poverty and Poverty Alleviation

The meaning of poverty is with the individual defining it [9]. The definition of an individual reflects the level of education or training, experiences, mind-set and power. Therefore, the design of any poverty alleviation, reduction or

elimination program is influenced by these characteristics or precepts held. The expressions of poverty by individuals however will fall in any of the following interdependent disadvantages: lack of capabilities; lack of information; lack of political clout; ascribed and legal inferiority; poor social relations; material poverty; physical ill-being; insecurities; place of the poor; seasonal dimensions; poverty of time; and institutions and access.

In order to address poverty, development strategies are implemented by international, regional and national organisations or units. The goal of any development strategy is change for the betterment of the poor. The World Bank participatory research programs have come up with the change scenario that results from any poverty alleviation, reduction or elimination program based on summary of submissions of the poor in many countries surveyed. The change is from ill-being to well-being. Ill-being is characterised by powerlessness, insecurity, physical weakness/illness, material lack and bad social relations. Well-being is defined by freedom of choice and action, security, physical well-being, enough for a good life and good social relations [1]. The shift from ill-being to well-being could be fast-tracked by provision of social and economic infrastructure, which the rural and peri-urban poor people need in order to participate and contribute towards development of self and their communities. This was echoed by Owens [10] that provision of rural infrastructure may increase productivity and decrease poverty among rural poor especially farmers. Opinion leaders also recognized government, infrastructure, and corruption as fundamental weaknesses related to agricultural development [11]. Shao, Konovalchuk, Clark, and Bruening [12] also identified the problems facing smallholder South African farmers, and these include infrastructure.

The meaning of poverty in Eswatini had been described in terms of income inadequacy to purchase the minimum amount of food (income poverty) and in terms of suffering from poor living conditions, social deprivations and isolation (human poverty). In 1997, a Poverty Assessment was conducted in Eswatini to determine the causes of poverty. The poor submitted the following: Lack of employment opportunities, chronic drought accompanied by crop failure, death of domestic animals and lack of drinking water; lack of adequate agricultural land; isolation from mainstream markets and

information sources; limited options for diversification of opportunities for income generation; and lack of competitive skills acquired through education. The Poverty Reduction Strategy and Action Plan (PRSAP) was then formulated in 2006 and the goal for this is the reversal or neutralisation of the causes raised by the poor. The concern of the PRSAP was to raise income of poor Swazis to be able to acquire the basic food needs and non-food requirements. The goal of the PRSAP was further subdivided into two: reduction of the prevalence of poverty from 69% in 2001 to 50% in 2015 and to eliminate it by 2022; and, raising the quality of life of all people in Eswatini to levels aspired in the National Development Strategy of 1997 to be able to participate in growing the economy of the country. The strategies and measures to achieve the two goals were elaborated in the PRSAP program document [1].

2. METHODOLOGY

Eswatini is located in the latitude and longitude 26.6474° S, 31.5516° E, respectively (Fig. 1). It has four administrative regions. In the north is Hhohho, in the east is the Lubombo, in the south is Shiselweni and in the central-west is Manzini. The population of Eswatini is estimated at 1,119,000 people in 2015, and the nation has an area of 17, 364 square km with a density of 81 people per square kilometer.

The Eswatini natural vegetation is mainly grassland with very small patches of evergreen forest in the high lands, and tropical woodland, bush and savannah in the lowlands. Emaswati as the people are called, are scattered over the four physiographic regions, Highveld, hilly Middleveld, Lowveld and Lubombo plateau [13]. Eswatini's economy is extremely open, closely linked to neighbouring countries through its trade and financial relationships and specifically to that of the Republic of South Africa (RSA), which accounted for some 84% of Eswatini's imports and about 60% of its exports in 2001 [14]. Main exports of Eswatini are soft-drink concentrates, confectionery, canned fruit and other food products, especially those based on sugar and fruit; clothing and textiles; and wood pulp, timber and paper/board products. Main imports are motor vehicles, machinery, transport equipment, foodstuffs, petroleum products and chemicals [15].

The study design was correlational and used survey method. The target population was all the

beneficiaries (N = 1550) from the four types of projects funded by MPP. An up-to-date list of projects and total number of beneficiaries was obtained from the Microprojects Program Coordination Unit (MPPCU) of the Ministry of Economic Planning and Statistics. The purposive representative sampling [16] of beneficiaries by infrastructure project was used (total n = 449). The sampling procedure followed is presented in Table 1.

2.1 Variables Measure

The impact of MPP projects was measured by community members indicating their extent of agreement on a summated rating scale of 1.00 to 6.00. The scale points were anchored as: lowest of 1.00 = Strongly Disagree; 2.00 = Disagree; 3.00 = Slightly Disagree; 4.00 = Slightly Agree; 5.00 = Agree, with highest 6.00 = Strongly Agree, regarding the change in the dimensions of their life resulting from having a project with MPP. The dimensions are: income levels of different poor categories, household food security, basic needs, income distribution and inequities, income source, income security, human rights, access to public goods and services, crops yield, food consumption and diet and quality of life.

The actual amount of money invested by MPP (emalangeni or dollars with an exchange rate of E12.12 to \$1 at the time of study) in the different projects was determined by requesting the respondents to indicate how much money was invested by MPP in their projects.

The importance of knowledge attained from trainings by MPP was measured by community members indicating the level of importance of each of the project management training sessions on a summated rating scale of 1.00 to 6.00 anchored as: lowest 1.00 = Very Unimportant; 2.00 = Unimportant; 3.00 = Slightly Unimportant; 4.00 = Slightly Important; 5.00 = Important; with highest 6.00 = Very Important. The measurement of effectiveness of skills attained through trainings was through indication of level of effectiveness of skills attained using another summated rating scale of 1.00 to 6.00 anchored as: lowest 1.00 = Very Ineffective; 2.00 = Ineffective; 3.00 = Slightly Ineffective; 4.00 = Slightly Effective; 5.00 = Effective, and highest 6.00 = Very Effective.

The measurement of attitudes developed from trainings by MPP used a seven-point Semantic Differential scale [17] starting from negative or positive adjective scale point (see Table 1). The



Fig. 1. Map of Eswatini / Swaziland showing its administrative regions
Source: Ontheworldmap.com

Table 1. MPP project types, populations and samples for the study

Project type	Dip tank	Rural electrification	Water supply scheme	Neighbourhood care point	Total
No. of target projects	4 1 in each region drawn randomly	4 1 in each region drawn randomly	4 1 in each region drawn randomly	1 1 only in the northern region Hhohho	13
No. of beneficiaries	54+20+36+60 = 170	21+15+19+30 = 85	110+378+331+431 = 1250	45 = 45	1550
Sample size reached by region	37+14+25+41 = 117	17+12+16+25 = 70	21+72+63+82 = 238	24 = 24	449

scale point starting from negative adjective end was assigned the lowest value of 1.00 increasing to 7.00 for the most positive adjective end and vice versa.

The demographic characteristics of members investigated were sex, age, marital status, number of members in household, number of others being supported, level of education, administrative region, project type, employ status, whether trained or not by MPP, number of members in project, involvement entry mode in project and whether have or no business after project.

Data were collected using a validated and pilot-tested questionnaire. A panel of eight experts was used to validate the instrument: three teaching staff at the University of Eswatini, two senior officials from the Microprojects Program, one World Vision Area Development Program Manager, one former parliamentarian and one former director of an NGO dealing with human rights. They attested to the content and face validity of the instrument. The pilot test was

conducted to establish the reliability of the instrument and was administered to MPP project beneficiaries ($n = 50$) at Macetjeni and Ngcoseni in the rural areas of Manzini district. These beneficiaries were not part of the study sample. The Cronbach alpha model [18] calculation was used to determine the reliability coefficients of the relevant sections of the instrument. The reliability coefficients of the impact dimensions were: income levels ($r = .61$); household food security ($r = .89$); basic needs ($r = .59$); income distribution ($r = .63$); income source ($r = .80$); income security ($r = .54$); human rights ($r = .69$); public goods and services ($r = .87$); maize yields ($r = .95$); consumption and diet ($r = .93$); quality of life ($r = .65$). Reliability coefficients of the training of the beneficiaries dimensions were: skills attainment ($r = .77$); attitudes development ($r = .68$); and knowledge attainment ($r = .84$). The total instrument reliability was .86. Unreliable items were deleted from the scaled dimensions of the instrument.

The questionnaires were personally distributed to the beneficiaries present in the organised

meetings and the researchers explained to the community members how to respond to the items of the questionnaire by translating each item in siSwati (local language) for everyone to understand. The control of errors in a survey research was in accordance with suggestions by Miller and Smith [19].

Inter-correlations between independent variables with dependent variable were computed to detect the independent variables that are highly correlated with the dependent variable [20]. This was conducted to determine independent variables that are highly correlated to each other (collinearity) and to foretell if there is any need to collapse these independent variables to narrow down the number of explanatory variables [20]. Multiple linear stepwise regression procedure [20] was used, because there were enough cases for the study and to ensure that the smallest possible set of independent/predictor variables were included in the model.

3. RESULTS AND DISCUSSION

3.1 Infrastructure Projects Implemented by MPP

The infrastructure projects studied and the number and percentage of beneficiaries reached were in: rural electrification (70; 17%), cattle dip tanks (117; 26%), water supply schemes (238; 53%), and neighbourhood care point (24; 4%). Electricity as well as water infrastructures remain great need for rural Swaziland [21]. Cattle are an important livestock for rural families as these are a great store for cash [22]. Therefore, community cattle dips continue to be needed. Swaziland having a high children orphaned population emanating from high HIV and AIDS incidence, care and feeding points for children are still wanted by communities [21].

3.2 Impact of MPP Projects

The findings in Table 2 showed that the impact of the MPP projects was highest on the human rights aspect ($M = 4.68$ = agree, $SD = 1.19$), then on basic needs ($M = 3.80$ = slightly agree, $SD = 1.37$), on quality of life ($M = 3.74$ = slightly agree, $SD = 1.16$), on access to public goods and services ($M = 3.74$ = slightly agree, $SD = 1.21$), and lastly, on food consumption and diet ($M = 3.50$ = slightly agree, $SD = 1.50$). Overall, the beneficiaries slightly disagreed ($M = 3.39$; $SD = .90$) that MPP projects have had impact on the dimensions of their life. It is apparent from the findings that the Microprojects programme need

to target direct poverty alleviation projects, as the impact seem to be wanting in the food and income dimensions.

3.3 Amount of Money Invested by MPP

The findings as presented in Table 3 show that a substantial (maximum) money is invested on water supply schemes (E 2 800 000.00, \$ ±339393.94), then on electricity schemes, neighbourhood care points (NCPs) and the least amount of money invested by MPP was on dip-tanks (E 151 350.00, \$ ±18345.45).

3.4 Importance of Knowledge and Skills Attained from Microprojects Program Trainings

Project committees were elected and trained in project management, MPP procedures, and leadership skills for every project undertaken. The trainings were aimed at equipping project communities with knowledge and skills to effectively implement and manage their projects. The project management skills included in the training were planning, project cycle, leadership, record keeping, and group dynamics. The findings on the importance of knowledge and skills from MPP trainings are summarized in Table 4. The overall mean of 5.56 indicates that the knowledge attained from the trainings provided by MPP was very important to the members. Only on the variables project cycle and project application that the community members indicated that the knowledge attained from MPP training was important ($M = 5.23$, $SD = 1.25$ and $M = 5.32$, $SD = 1.03$, respectively). The beneficiaries of the projects appreciate highly the knowledge and skills offered by the MPP. The MPP reports that the "implementation model is grounded in the empowerment of the communities in various skills, i.e. leadership skills, planning, project management and participatory development methodologies" [21, p 8].

3.5 Effectiveness of Skills Attained through Trainings by the Microprojects Program

As shown in Table 5, the overall mean and standard deviation of 5.55 and .70, respectively, imply that the beneficiaries found that knowledge and skills attained through MPP trainings are very effective, with low variance indication. The MPP trainings are "empowering beneficiaries

Table 2. Impact ratings of MPP infrastructure projects on poverty dimensions (n = 449) arranged by magnitude

Dimension	M	SD
Human rights	4.68	1.19
Basic needs	3.80	1.37
Quality of life	3.74	1.16
Access to public goods and services	3.74	1.21
Consumption and diet	3.50	1.50
Income security	3.33	1.36
Income levels of poor and non-poor	3.31	0.71
Income distribution and inequities	2.97	0.94
Maize yields	2.84	1.30
Household food security	2.81	1.44
Income source	2.60	1.35
Overall	3.39	0.90

Table 3. Mean actual amount of money (E & \$) invested by MPP on the different Infrastructure projects

Project type	N	Minimum(E)	USD(\$)	Maximum(E)	USD(\$)
Water supply schemes	238	255 703.59	30 994.37	280 000.00	339 393.94
NCPs	24	151 769.95	18 396.36	151 769.95	18 396.36
Dip-tanks	117	110 078.00	13 342.79	151 350.00	18 345.45
Electricity schemes	70	65 948.00	7 993.70	208 490.00	25 271.52

Table 4. Level of importance ratings of knowledge and skills attained through trainings in different aspects of project development by the microprojects program (n = 449) arranged by magnitude

Project management aspect	M	SD
MPP procedures	5.80	0.63
Group dynamics	5.71	0.75
Project sustainability	5.69	0.86
Project management	5.64	0.98
Conflict management	5.55	0.90
Leadership skills	5.55	0.86
Planning procedures	5.51	0.99
Project application	5.32	1.03
Project cycle	5.23	1.25
Overall	5.56	0.69

Table 5. Level of effectiveness of knowledge and skills attained through trainings in project management ratings by the MPP (n = 449) arranged by magnitude

Project development aspect	M	SD
Project planning	5.63	0.94
Project management	5.61	0.92
Record keeping	5.57	0.95
Goods receiving system	5.57	0.98
Dispatching procedure	5.53	0.99
Leadership development	5.48	1.01
Overall	5.55	0.70

Table 6. Attitudes developed through trainings by the MPP (n = 449) arranged by magnitude

Rating in the semantic differential scale of 1 to 7	M	SD
Worthless to Valuable	6.43	1.11
Unbeneficial to Beneficial	6.43	1.29
Unsuccessful to Successful	6.22	1.42
Ineffective to Effective	6.01	1.34
Sadness to Happiness	5.74	1.69
Painful to Pleasurable	5.68	1.74
Unchanged thinking to Changed thinking	5.68	1.80
Did not keep me busy to Kept me busy	5.54	3.95
Did not gain experience to Gained experience	5.23	2.15
Unprofitable to Profitable	5.02	2.05
Uneconomically viable to Economically viable	4.57	2.29
Overall	5.69	1.06

Table 7. Explanations and impact weights of MPP variables on poverty alleviation

Independent variables	R	R ²	R ² change	B	β	t - value	P
1. Attitudes developed from MPP training	.41	.17	.17	.35	.30	9.36	.00
2. Project type (rural electrification)	.54	.29	.12	.38	.94	10.08	.00
3. Administrative region (northern Hhohho)	.62	.38	.09	.31	.62	8.22	.00
Constant	1.38						
Adjusted R ² = .38		Standard error = .71					

with knowledge and skill to effectively implement and manage their own projects" [21, p17] . This is highly commendable.

3.6 Attitudes Developed from MPP Trainings

Table 6 presents findings on attitudes developed from MPP training. The overall ratings ($M = 5.69$, $SD = 1.06$) imply that community members developed positive attitudes through MPP training. The fact that MPP supports projects elected by the communities themselves [21] could be the source of positive attitudes. Additionally, communities must have seen the value of the trainings as they relate directly to the project they have to manage and sustain.

3.7 Explanations and Impact Weights of Microprojects Program Variables on Poverty Alleviation

Three (3) significant independent variables explained and predicted the impact of MPP towards poverty alleviation were found as shown in Table 7: (i) attitudes developed from MPP trainings (17%) with impact weight of .35; (ii) project type – rural electrification (12%) with

impact weight of .38; and, (iii) administrative region being the northern Hhohho (9%) with impact weight of .31. Attitudes developed from MPP training explained the greatest variance as attitudes already showed to be positively great for the projects. This is followed by project type of rural electrification, as communities appreciate much this infrastructure and probably the direct benefits of this. Lastly, the northern region (Hhohho) is where most of the projects funding have been invested [21]. The total R^2 (.38) is similar to the adjusted R^2 and the standard error (.71) is low, indicating the model is robust.

4. CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

The positive indications of impact were on five out of 11 dimensions measured: on human rights, basic needs, quality of life, access to public goods and services and on food consumption and diet. This show MPP still has to work on making impact. Provision of infrastructure is not an easy task even for the basic needs such as water and electricity, although more willingness is displayed in contributing towards these both by MPP and communities. However, both need to push on if economic development will have to result from

these. Trainings should continuously be given attention by the MPP as this seems to be the channels through which it touches the heart, especially in the attitudes of the projects leaders.

Attitudes developed from MPP trainings, project type (rural electrification), and administrative region (northern Hhohho) explained and showed impacts of MPP on poverty alleviation in rural and peri-urban areas of Eswatini. Actual amount of money invested by MPP was found not to have made impact towards poverty alleviation, even though it was investigated as the major independent variable.

The MPP has to work more towards making impact not only on provision of infrastructure projects but directly on the livelihoods of beneficiaries. Trainings provided have to be strengthened as these changed the attitudes of communities, such as by engaging experts in the trainings. Electricity schemes need to be given more consideration by MPP especially on the money invested on this, as this also appeared to be a factor of impact by MPP.

The MPP programs appear popular at the northern Hhohho region and this may be an indication of the skewness of the granted infrastructure projects toward this region. MPP has to promote equally the provision in the four regions. The findings also revealed that a large number of people in Eswatini still do not know much about MPP's operations, thus MPP needs to market itself by introducing a national radio program and also by distributing brochures through the regional administration centres.

The indication of impact was higher on human rights, and moderate on basic needs, quality of life, access to public goods and services and on consumption and diet. However, the response variance was quite high in these dimensions, making these indications quite unreliable.

Meanwhile, the investment of both MPP and the community members in terms of money and time was highest with water supply schemes and then with neighborhood care points, dip tanks and electricity schemes. This means bringing water to the communities is still a costly endeavour. However, bringing electricity may cost lowly or highly, depending on how scattered the homesteads are, which a lot of times is extreme in rural Swazi/Emaswati communities. This situation is affecting the provision of infrastructure in rural Eswatini. Electrification increases the opportunities to initiate electricity

powered income-generating projects which leads to poverty alleviation. The study concurred with the [23] which indicated that electricity schemes benefit community members and family members both socially and economically.

Indication of the level of importance of knowledge attained from the trainings in seven out of nine aspects of project development was very high while a little lower with two of the nine aspects. This means that the community members cherished the trainings provided by the MPP on all the aspects. The findings concurred with FAO [24] which stated that effective leaders become limited by lack of training. The findings also concurred with Lamming [25] which indicated that training develops participants' positive attitudes and they gain confidence in their work. The training of leaders is important as it improves their managerial skills and also for community members to sustain management and maintain shared facilities. The same trend of rating could be observed with the indication of the level of effectiveness of skills attained in the six project management aspects trainings.

The attitudes developed through the trainings were positive to very positive. This finding is encouraging for the MPP for strengthening their training program.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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