UK Department for International Development

THE IMPACT EVALUATION OF THE MILLENNIUM VILLAGES PROJECT:

ANNEX E: FINANCING OF THE MILLENNIUM VILLAGES PROJECT (BY SECTOR)

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Results in development

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Report

Annex E: Financing of MVP (by sector)

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Acronyms

CEA	Cost-Effectiveness Analysis
CHW	Community Health Worker
CV	Comparison Village
DD	Difference-in-Difference
MVP	Millennium Villages Project
MV	Millennium Village

1. Introduction

This annex sets out the detailed finances of the MVP by sector and sub-sector. The analysis here supplements the cost-effectiveness analysis (CEA) chapter of the main report (Chapter 11).

This annex explains the detail of how these costs are calculated more fully than appears elsewhere. It follows this with a presentation of how the financing is divided up within a sector, presenting first the methodology of accounting for the financing of MVP and then the calculation for each sector. There are six sectors that directly yield benefits (health, infrastructure, education, agriculture, environment, and community development), plus three areas that comprise the management and overheads of the MVP (management, monitoring and evaluation, and technical support).

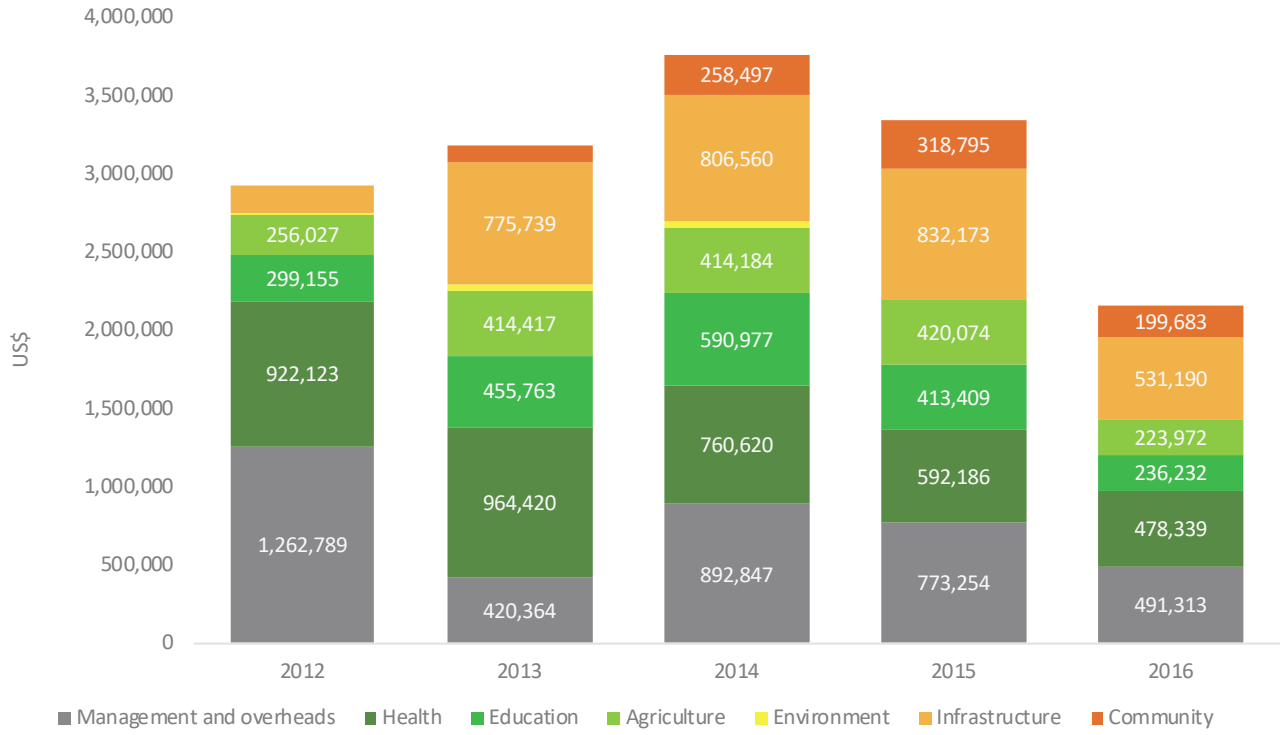
In addition to this, around US$ 880,000 was spent on research over the course of the project. We do not include these costs, however, as they are not considered to have been necessary for implementation. For further discussion on this issue, see the sensitivity analysis around management costs in Chapter 12.

2. Methodology

2.1. Expenditure, costs and investment

Total expenditure on the MVP was US$ 15.4 million over five years (2012-16) (Figure 1). Management and overheads costs (which in some years include technical assistance and monitoring and evaluation) were highest in Year 1 during the project setup and lower thereafter. Health was initially the largest programme area, although infrastructure became the largest by Year 3. Education and agriculture remained relatively constant expenditure areas throughout, whilst increasing amounts were spent on community development later in the project. Small amounts were spent on environmental interventions in the early years only.

Figure 1: Total MVP expenditure (2012-16, unadjusted)



In order to assess the cost effectiveness of the project (see Chapter 11), we make a number of adjustments to the raw expenditure data as follows in order to arrive at what we refer to as 'costs' and 'investment':

1. Expenditure on assets (including physical assets such as computers and vehicles, as well as human capital generated through training and education) has been split across multiple years during which the asset in question was expected to generate returns.

   For most equipment, training and bicycles we assumed a useful life of three years. For building renovation and motorbikes, we assumed a life of five years. For four-wheel drive vehicles and new constructions, we assumed a life of ten years.

   The purchase value of these capital goods has been annuitised using a 5% interest rate (the average Ghanaian GDP growth rate over the period and assumed opportunity cost of capital).

   All other goods and services were assumed to have been consumed during the year of purchase.

2. Where assets were expected to continue to be productive beyond the project period, the share of their value falling beyond 2016 has been classed as 'investment'.

   For example, consider a car with an expected life of 10 years purchased in 2014. Whilst the purchase value of the car will fall under 2014 expenditure, in order to calculate 'costs' and 'investment' we first annuitize this expenditure over 10 years, before discounting each of these years in order to arrive at present values relative to the purchase year. The first three years of the car's use (2014, 2015, 2016) fall within the project and are counted under 'costs' in each of these years respectively. The remaining seven years fall outside of the project and are therefore summed and classified as 'investment'. For the sake of cost effectiveness analysis, future investment values are not compared with current benefits, as they are expected to continue to generate additional benefits in future years.

3. All costs and investments have been discounted at a rate of 5% (as per the above rate) to arrive at 2012 US$ present values (PV). The figures were not adjusted for inflation due to the limited US$ inflation over the period.

Following these adjustments, Table 1 presents the MVP costs per year in 2012 present value US$ terms.

Table 1: MVP costs (2012 present value US$)

	2012	2013	2014	2015	2016 (1/2)	*Total (CEA)*	2016 (2/2)	Investment	*Total*
Management	883,601	355,435	532,576	468,223	207,978	*2,447,813*	207,978	98,005	*2,753,796*
M&E	89,103	14,817	32,701	41,233	9,888	*187,743*	9,888	0	*197,630*
Technical Assistance	0	0	294,449	202,021	0	*496,470*	0	0	*496,470*
Subtotal	*972,704*	*370,252*	*859,726*	*711,478*	*217,866*	*3,132,026*	*217,866*	*98,005*	*3,447,897*

	2012	2013	2014	2015	2016 (1/2)	*Total (CEA)*	2016 (2/2)	Investment	*Total*
Health	468,808	508,071	814,170	704,957	246,796	*2,742,801*	246,796	346,759	*3,336,356*
Education	125,430	185,446	271,563	359,942	155,636	*1,098,017*	155,636	628,711	*1,882,363*
Agriculture	203,239	337,994	273,537	354,213	97,643	*1,266,625*	97,643	171,570	*1,535,838*
Environment	14,030	29,001	47,873	0	0	*90,905*	0	0	*90,905*
Infrastructure	122,038	196,749	290,369	438,326	208,623	*1,256,105*	208,623	1,390,872	*2,855,600*
Community	0	100,377	162,516	275,387	82,017	*620,296*	82,017	40,126	*742,440*
Subtotal	*933,546*	*1,357,638*	*1,860,027*	*2,132,823*	*790,714*	*7,074,749*	*790,714*	*2,578,039*	*10,443,502*

Grand total	*1,906,250*	*1,727,891*	*2,719,754*	*2,844,301*	*1,008,580*	*10,206,775*	*1,008,580*	*2,676,043*	*13,891,399*

The following sections set out the sub-sectoral cost breakdowns for each sector.

2.1. Facility survey results

As well as the project finances, this annex also presents an account of the basic infrastructure put in place using these funds in order to facilitate service delivery in the different sectors. It is important to understand that

construction of this infrastructure is viewed as the first step on the continuum towards impact. It is also necessary to verify that steps being undertaken in MVP were not also being undertaken within the near and far CV areas, where other organisations or the government could have been financing development in parallel with MVP. This would in effect imitate MVP and violate the parallel trend assumptions behind the DD analysis.

A facility survey was conducted in 2012 to ascertain how well public facilities were able to deliver publicly promised goods to the population. Subsequently, more limited surveys were conducted yearly; only the survey in 2016 is as complete (and comparable) as the one conducted in 2012. For the 2016 survey, it was necessary to update a number of questions from the 2012 survey, and as such they are not perfectly comparable. Whilst the analysis is somewhat restricted in its ability to report on changes over time between the MV and CV areas, it provides a useful overview of how infrastructure and services have changed since the start of the programme.

3. Costs and facilities by sector

3.1. Management and overheads

The management and overhead costs represent a large proportion of the total project expenditure. However, it may be possible to reduce these costs if the project was replicated. For example, learning from the management of the project may produce efficiencies, and the staff used may be from the Government of Ghana rather than international staff. Table 2 presents management and overhead costs. At a present value of US$ 3.35 million, larger than any single programme category is management and overhead which include management, administrative and operating costs along with technical assistance and monitoring and evaluation. This amounts to 30% of all costs of implementation of MVP without the research funding. The figures for costs are given in terms of total costs and, at the end, they are totalled to a present value. The investments are already presented in present value terms. They only indicate the capital investment that can be used after 2016. Some of their usage can last until 2025.

Table 2: Management and overhead costs (2012 PV US$)

	2012	2013	2014	2015	2016	*Total*
Management	883,601	355,435	532,576	468,223	415,956	*2,655,791*
M&E	89,103	14,817	32,701	41,233	19,776	*197,630*
Technical Assistance	0	0	294,449	202,021	0	*496,470*
Subtotal	*972,704*	*370,252*	*859,726*	*711,478*	*435,732*	*3,349,892*
Investment (post-2016)	82,402	15,603	0	0	0	*98,005*
Total (inc. investment)	*1,055,105*	*385,855*	*859,726*	*711,478*	*435,732*	*3,447,897*

3.2. Health

3.2.1 Costs

Health was the largest single programme sector in the MVP, amounting to around a quarter of programme spend. Much of the resources allocated to health expenditure went towards resources used within the project period, with investment in capital goods left over beyond the project duration amounting to US$ 346,759. The total cost of goods and services used during the project amounts to US$ 2,989,597 in 2012 present value terms.

Most of the expenditure went towards access to care (referred to as 'health systems operations' in later years). Table 3 presents the division of costs and investment. Expenditure on community health workers (CHWs) is high, but the long-term investment level is low. Much of the expenditure in this category is on salaries. Very little investment took place for child health, and nearly all the investments were for the health system or access to health care. Together with costs already expended by 2016 and investment value for health amount to US$ 3,336,356.

Table 3: Health costs (2012 present value US$)

	2012	2013	2014	2015	2016	*Total*
Access to Care	277,379	390,859	0	0	0	*668,238*
Health System Operations	0	0	632,524	498,589	304,334	*1,435,447*
Infectious & Tropical Disease	10,133	15,064	14,460	9,353	9,442	*58,451*
Real-Time Health Info Systems	22,537	13,378	27,449	33,821	28,647	*125,833*
Community Health Workers	115,931	24,888	70,923	62,043	65,673	*339,459*
Child Health (inc. WASH)	16,179	30,134	35,027	26,511	14,242	*122,091*
Nutrition	17,638	24,183	21,348	33,306	19,168	*115,643*
Reproductive & Maternal	9,011	9,564	12,441	41,334	52,086	*124,436*
Subtotal	*468,808*	*508,071*	*814,170*	*704,957*	*493,591*	*2,989,597*
Investment (post-2016)	*159,577*	*75,827*	*66,854*	*3,241*	*41,260*	*346,759*
Total (inc. investment)	*628,385*	*583,898*	*881,024*	*708,198*	*534,851*	*3,336,356*

3.2.1 Facilities

Table 4 compares health facilities in the two areas. In 2012 there were more health facilities within CV areas than in MV areas. The two districts where MVP was placed in 2012 subsequently split, and this split may have affected access to health care in the CV areas where there were already some health facilities.[1] By 2016 there were 11 health facilities in MV areas (if we include 'other' types of health facilities). We also find there are now more health care workers in the MV areas. Among the new cadre of workers in 2016 that were not listed in 2012 in the MVs are CHWs, and there are more CHWs in MV areas than in CV areas in 2016. As set out below, MVP activities extensively supported the activities of CHWs.

MV areas also saw an improvement in the cold chain, or the vaccine storage system, which is very likely to have been instrumental in improving vaccination rates.

No data exist to confirm the presence of electricity in the health posts, nor is it possible to identify health post buildings that are considered of poor quality in the MV areas.

In addition to the changes cited above, MV area health posts are better equipped than CV areas in 2016, and the number of people visiting health posts in the day on which the survey took place is far higher. Health centres in MV areas are equipped to transport patients for referral, and some of them charge user fees, although across both areas some do not. In general, more procedures, including emergency deliveries, take place in MV areas. Staff quarters are available in all areas to nearly the same level as before, once we take into account the number of health facilities.

Table 4: Health facilities

Indicators, item	2016 indicators			2012 indicators		
Categories (no. within category)	MV	CV near	CV far	MV	CV near	CV far
Health posts	0	0	0	1	1	2
Health clinics	0	0	0	0	4	5
Mobile clinics	0	0	0	0	1	1
Dispensaries	0	0	0	0	0	0
Hospitals	0	0	0	0	0	2
Other types of facilities, basic and primary health centres	11	7	5	2	1	3
Doctors	0	0	0	0	3	4
No. physician assistant posted	2	0	1	2	0	2
No. midwives posted	11	2	7	1	5	13
No. staff registered nurses	15	4	4	1	4	8

[1] With different district administrations making resourcing decisions that could differently affect MVP and CV sites.

No. enrolled nurses/clinical health assistance	23	7	10			
No. community health nurses	24	12	13			
No. lab technicians	2	0	1			
No. pharmacy technicians	1	0	0			
No. records officers	6	0	2			
No. health promotion assistants	1	0	0			
No. health extension workers/ ward aids	4	1	1			
No. CHWs	21	4	0			
Cold chains, operative, Vaccine storage power	10	3	2	1	1	8
Total beds	n/f	n/f	n/f	3	10	273
Total no. rooms	106	18	37			
Condition of building	7	1	3			
No. new	0	5	2			
No. poor	0	1	0			
No. dilapidated						
Adequacy of supply (at least 15 of 30 indicators)	6	0	3			
Centres with treatment capacity (more than 10 of the 16 procedures reported)	1	4	1	1	0	7
Facilities with basic delivery emergency care	3	1	2			
Number with transport vehicle(s)	11	2	0			
Total number of patient on day visited	368	70	100			
Supply list, 5 out 9 items	8	5	4			
Medication available, 11 out 20	3	2	3			
Health centres with transport vehicle for referral	11	2	0			
No. health centres reporting staff quarters	10	5	5			
Number charging fees =1, no fees = 0	4, 7	2, 5	1, 4			

3.3. Education

3.3.1 Costs

The total five-year education costs amounted to US$ 1,253,652 (in 2012 present value terms), with additional capital investments beyond the life of the project totalling US$ 628,711.

In any given year, there were substantial salary costs for outreach and per diems, along with a large amount spent on training and workshops. In addition, a substantial amount is spent on equipment, with the largest single cost item being renovations and repairs.

Compared to other sectors, the amount of capital investment in education was relatively high. However, it remains to be seen whether these investments will be properly maintained by local authorities following the end of the programme.

Educational activities undertaken by MVP varied from year to year. For example, towards the end of the programme, no resources were spent on school meals, as MVP made use of other feeding programmes and other district funding that might be more fungible. For example, schools may not have spent district funding on books, as MVP bought textbooks, and so the allocated district budget could instead have been used for other items like school meals.
Table 5 lists the costs of different educational activities.

Table 5: Education costs (2012 present value US$)

	2012	2013	2014	2015	2016	*Total*
Quality	77,812	785	154,478	209,982	175,304	*618,361*
School Meals	52	31,291	0	0	0	*31,343*
Enrollment and Completion	0	0	39,656	8,468	23,528	*71,653*
Gender	9,149	2,815	5,393	19,753	12,993	*50,103*
CEW-Outreach	33,339	18,250	66,047	100,990	84,028	*302,654*
Secondary	5,079	132,306	5,988	20,748	15,418	*179,538*
Other	0	0	0	0	0	*0*
Subtotal	*125,430*	*185,446*	*271,563*	*359,942*	*311,271*	*1,253,652*
Investment (post-2016)	*31,149*	*153,107*	*244,525*	*125,868*	*74,063*	*628,711*
Total (inc. investment)	*156,579*	*338,553*	*516,088*	*485,809*	*385,334*	*1,882,363*

3.3.1 Facilities

MVP sought to improve school buildings, hire more teachers and promote community outreach by educationists. Studies have shown that smaller ratios for pupil to classrooms and teachers have been crucial in improving educational achievements. The most important inputs that help improve educational items are listed in Table 6. These are items that have been directly implemented by MVP. Unlike parent–teacher meetings or families actually reporting that they have received uniforms, Table 6 presents the items that almost solely depend on the efforts of the project and are not intermediated by other factors. To judge the level of effort, we make two comparisons: across time and across the MV and CV areas where the data allow.

Table 6: Education facilities

	2016			2012		
Facility/infrastructure productive input	**MV**	**CV near**	**CV far**	**MV**	**CV near**	**CV far**
No. primary schools	19	13	15	21	17	17
No. junior high school	12	10	8	16	6	9
No. students	7,873	5,158	5,430	6,756	3,835	5,841
No. classrooms in good condition	149	80	72	103	105	102
Student good classroom ratio	52.82	64.75	75.41	65.6	36.5	57.5
No. buildings needing repair:						
Minor repair	23	6	10			
Major repair	1	8	6			
Total no. qualified teachers	178	95	85	61	51	89
Student qualified teacher ratio	44.23	54.29	63.8	110	75.2	65.6
No. teachers per average day	214	113	120			
No. teacher previous day	198	89	98			
No. newly trained teachers	22	53	51			
No. teachers teaching more than one class	10	16	13			
No. students travelling more than 3km	1,371	991	553	687	512	329
No. students receiving meals	1,758	1,070	1,006	0	1,071	2,127
No. schools with sufficient staff quarters	2	9	8			
No. schools with electricity	5	0	1			
Average funding per school	1,707	1,507	1,209			
Percent staff paid last month	100	80	76.47			
Percent school health service	33.3	40	11.76			
Percent with sufficient benches	83.3	26.6	6			
School supply sufficient meeting 8 of 14 indicators	6	1	3			
Chalkboard in each classroom	22	14	12			
No. with toilets	22	14	16			
No. with female toilets	22	12	12			

In general, we see improvements over time, with more substantial improvements observed in MV areas than in CV areas. There are, however, some puzzling factors concerning the CV far areas, and occasionally the CV near areas as well – although it is possible that improvements in MV areas have affected the CV areas. It is interesting

to note that all areas saw fewer schools in 2016 when compared with 2012; and MV areas and CV far areas both saw fewer junior high schools. The key changes are:

- **Students:** Both MV and CV near areas had more students in 2016 than in 2012. CV far areas saw a small decline in the number of students over the period. One reason for this could relate to the divisions of the district that took place between 2012 and 2016. MV areas saw a proportionally smaller increase in students than CV near areas over the period.
- **Classrooms:** Student-classroom ratios improved only in MV areas. Even with a lower number of students in the CV far area, there was a significant deterioration of this ratio in this area over time.
- **Teachers:** Student-teacher ratios improved in the MV areas, with less absenteeism in the MV areas and fewer teachers teaching more than one class. Teachers were said to be paid in a timely manner in the MV areas. However, in the MV areas we see only two schools with adequate teachers' quarters.
- **School building conditions and education supplies:** More children are travelling greater than 3km in all areas (both MV and CV) in 2016 than they did in 2012. The number has increased in MV areas more than it has in other areas. As we find there are fewer schools in all areas, this is more of a concern for the MV areas. In general, buildings are in better condition in MV areas, although provision of electricity is inadequate in all areas. Health services within the schools are better in CV near areas. More schools in MV areas have toilets, and all schools with toilets have toilets for girls in MV areas. Schools are better funded in MV areas. We find more school supplies and a greater number of meals being served in MV areas compared with CV areas.

Overall, MVP facilitated large changes in school infrastructure, school educational supplies and presence of qualified teachers. It is also assumed that teachers are better motivated through regular salary payments and better school supplies. There is, however, a shortfall in teacher training and residencies in the MV areas, although it is possible that MVP encouraged the employment of older, more experienced teachers who have their own living arrangements.

3.4. Agriculture

3.4.1 Costs

Agriculture costs amounted to $1.4 million (US$ PV) for the period, plus over $170,000 in capital investments (Table 7). The largest single sub-sector cost was related to extension agents.

Table 7: Agriculture costs (2012 present value US$)

	2012	2013	2014	2015	2016	*Total*
Irrigation	77,449	81,173	0	0	0	*158,622*
Inputs	64,870	139,528	0	0	0	*204,399*
Productivity	0	0	78,663	125,943	75,232	*279,838*
Extension and Service Delivery	23,725	66,117	123,463	122,358	60,563	*396,227*
Market Access	10,057	953	0	0	0	*11,010*
Value Chain Development	0	0	12,189	3,133	9,587	*24,909*
Pre/Post-Harvest Losses	26,386	7,605	2,757	0	0	*36,749*
Business Development/Coops	0	39,550	0	0	0	*39,550*
Coops and Market Access	0	0	51,762	51,799	24,681	*128,242*
Microfinance	751	3,067	4,703	11,795	11,300	*31,616*
Environment and Ecotourism	0	0	0	39,184	13,922	*53,106*
Subtotal	*203,239*	*337,994*	*273,537*	*354,213*	*195,285*	*1,364,268*
Investment (post-2016)	*5,962*	*1,866*	*72,460*	*61,327*	*29,955*	*171,570*
Total (inc. investment)	*209,201*	*339,860*	*345,996*	*415,540*	*225,240*	*1,535,838*

3.4.2 Facilities

There were no improvements in agriculture-specific facilities or infrastructure. General infrastructure that is likely to have a positive effect on agriculture (including water and transport) is covered in the infrastructure section, below.

3.5. Infrastructure

3.5.1 Costs

Infrastructure expenditure at the beginning of the project was low compared with in health and agriculture. By far the largest amount of infrastructure funding was spent to develop better transport from 2013 onwards. A considerable amount of resources were invested in water and sanitation, although most of this did not commence until 2014. Electrification was not a direct activity of the project, although it seems MVP facilitated electrification in the area more generally rather than implementing it directly.

More than half of all infrastructure spending was made up of capital investment for future use beyond the life of the project, particularly in the transport sub-sector (Table 8). Discounting these capital investments to arrive at present values substantially reduces the value in some cases. For example, some infrastructure investments made towards the end of the project are expected to be in use until 2025. Discounting 2025 values using the 5% rate reduces their value by around two thirds.

Table 8: Infrastructure costs (2012 present value US$)

	2012	2013	2014	2015	2016	*Total*
Transport	70,472	104,983	178,779	214,453	213,491	*782,177*
Energy	0	13,528	12,733	21,115	20,129	*67,504*
ICT	44,206	73,523	52,374	69,625	54,900	*294,628*
Water and Sanitation	7,360	4,715	46,484	133,133	128,727	*320,419*
Other	0	0	0	0	0	*0*
Subtotal	*122,038*	*196,749*	*290,369*	*438,326*	*417,246*	*1,464,728*
Investment (post-2016)	*0*	*320,216*	*320,132*	*376,954*	*373,570*	*1,390,872*
Total (inc. investment)	*122,038*	*516,966*	*610,501*	*815,279*	*790,816*	*2,855,600*

3.5.1 Facilities

Table 9 presents the main infrastructural changes associated with the above investments. It should be noted that many of these improvements will have multi-sectoral benefits.

Table 9: Infrastructure development

	2016, infrastructure			2012, infrastructure		
Facility/infrastructure	**MV**	**CV near**	**CV far**	**MV**	**CV near**	**CV far**
Government building (no. within or near villages)	6	3	3	29	9	29
Food storage facilities	8	2	1	4	1	1
Religious centre (no. villages near a centre)	30	17	20	12	16	21
Market trading centre (no. centres in areas)	7	5	3	5	2	11
Transport infrastructure to settlement (villages connect by road)	25	16	22	Gravel: 19 Dirt: 18	Gravel: 7 Dirt: 9 Paved and dirt: 2	Paved and gravel: 1 Gravel: 13 Dirt: 11
Transport centre (no. centres in the area)	13	1	5	1	6	6
Mobile phone towers (no. villages nearby)	7	1	0	7	13	10
Water sources	799	561	623	263	238	374
Electricity connection	54	38	60			
Tarmac road connection	2	2	5			

Examining the overall level of village infrastructure, there are some surprising findings, although it is possible that these arise as a result of changes in the definitions used. The overall assessment is as follows:

- The number of government buildings has fallen in all areas. This may be due to definitional changes.
- Food storage facilities have increased in number in all areas, with MV areas seeing the greatest increases.
- The number of religious centres has increased in one of the CV areas and fallen in CV far areas marginally; MV areas have a greater number of religious centres from the initial 2012 period. Currently, religious centres in MV areas are far more numerous than in either of the CV areas.
- The number of market trading centres has declined for CV far areas, with the other two areas showing improvements. In 2016, MV areas have more trading centres than either of the CV areas, whereas in 2012 CV far areas had a greater number of trading centres than MV areas.
- The number of phone towers in the MV areas has stayed the same, while the CV areas have seen a strong decline. MVs have more towers than any of the other areas. This was not the case in 2012, when CV far areas had a far greater number of towers.
- All areas have a greater number of water sources, with MV areas now having a greater number.
- More villages in the CV far areas have electricity connections compared with the MV areas. The number in CV near areas is smaller than for both of the others.
- Road connections have declined for all areas. As before, though, villages in the MV areas are more connected, although there are more tarmac road connections in CV far areas.

MVP also aimed to improve water sources. Table 10 describes reported improvements in MVP areas that residents can expect when sourcing water. The data show significant improvements in water points in all areas since 2012, although there are some puzzling issues. For example, the number of boreholes has increased in all areas, and yet the number of protected boreholes has decreased—and it is in this category that we find under-performance in the MV areas with respect to CV near areas. The CV far areas have seen a more dramatic decline. There is also a greater number of functioning water points, with the percentage of water points that are functioning (out of the total number of water points) having increased in all areas. Although the number of water sources that have lift mechanisms has increased in MV and CV areas, the number has fallen in CV far areas. Furthermore, and for all areas, the percentage with lift mechanisms has declined. Overall, there is a high level of water infrastructural improvements and yet in Chapter 4 (on the Millennium Development Goals) the DD estimates do not show an improvement in the proportion of the population using an improved drinking water source. It is unclear why this might be so, and may owe to issues of quality.

Table 10: Water infrastructure

Categories	MV	CV near	CV far	MV	CV near	CV far
Total no. water source or water points	797	552	588	198	238	374
No. boreholes	138	110	112	70	75	113
No. protected water points	8	12	0	31	52	147
% protected	1.00%	2.17%	0%	0.156	0.218	0.393
No. functioning water sources	717	506	552	134	186	316
Proportion functioning	89.7%	88.22%	93.87%	0.676	0.782	0.845
No. new water source	41	31	20	2	7	20
No. with lift mechanism	292	353	286	128	188	346
% with lift mechanism in place	36.92%	63.94	48.63%	64.6%	79%	92.5%

The building of infrastructure affects all aspects of the Millennium Development Goals. For example, it is likely that improved road connections made accessing health care easier for patients as well as for health workers; plus, it would be easier to distribute health care supplies to health centres, and, make health centres accessible in many types of inclement weather. Similarly, for agriculture, infrastructure makes outside markets more accessible,

agricultural supplies flow in a more timely manner and family incomes are supplemented through commuting to work within more built-up areas.

3.6. Community development

3.6.1 Costs

Expenditure on community development commenced in 2014 and totalled over US$ 700,000 over the period (2012 PV US$), along with an additional US$ 40,000 in capital investments (Table 11). Some of the projects and were temporarily abandoned and then restarted. Adjustments have been made to the cost calculations to reflect this.

Table 11: Community development costs (2012 present value US$)

	2012	2013	2014	2015	2016	*Total*
Community Mobilization	0	88,123	3,444	99,584	123,520	*314,672*
Participation and Ownership	0	6,609	19,361	3,006	16,635	*45,611*
Community Governance	0	5,645	139,711	172,796	23,880	*342,031*
Other	0	0	0	0	0	*0*
Subtotal	*0*	*100,377*	*162,516*	*275,387*	*164,035*	*702,314*
Investment (post-2016)	*0*	*0*	*25,280*	*0*	*14,846*	*40,126*
Total (inc. investment)	*0*	*100,377*	*187,796*	*275,387*	*178,881*	*742,440*

3.6.2 Facilities

There were no improvements in facilities or infrastructure specific to community development. General infrastructure that is likely to have a positive effect on community development (including water and transport) is covered in the infrastructure section, above.