

8.5 Service Coverage by Target Year

8.5.1 Water Supply

(1) Population to be served by Level II system in Phase I

Twenty (20) untapped spring sources were confirmed to be suitable for Level II systems in rural water supply by the time of PW4SP preparation as shown in Table 8.5.1. Conditions and assumptions applied for this estimate are as follows:

Source capacity:

The average source capacity of untapped spring was assumed to meet the need of 50 - 100 households based on the review of existing Level II systems with spring sources.

Number of system:

Twenty (20) untapped springs identified during the course of RW4SP preparation were considered to serve twenty (20) Level II systems in twenty (20) rural barangays of 5 municipalities.

Table 8.5.1 Population to be Served by Level II System in Phase

| Name of Municipality | Number of Untapped Spring | Number of Barangay to be Served | Number of Households to be Served | Population to be Served |
|-------------------------|---------------------------|---------------------------------|-----------------------------------|-------------------------|
| Altavas | 4 | 4 | 277 | 1,448 |
| Balete | 2 | 2 | 200 | 1,010 |
| Banga | | | | |
| Batan | | | | |
| Buruanga | | | | |
| Ibajay | 9 | 9 | 501 | 2,443 |
| Kalibo (Capital) | | | | |
| Lezo | | | | |
| Libacao | | | | |
| Madalag | | | | |
| Makato | | | | |
| Malay | 2 | 2 | 200 | 1,050 |
| Malinao | 3 | 3 | 300 | 1,584 |
| Nabas | | | | |
| New Washington | | | | |
| Numancia | | | | |
| Tangalan | | | | |
| Provincial Total | 20 | 20 | 1,478 | 7,535 |

(2) Population to be served by target year

Phase I

For urban area, the additional service coverage was assumed as the population to be served by Level III service. For rural area, the population to be served by Level II systems with untapped springs was first calculated and the rest of additional service coverage was estimated to be served by Level I facilities.

Phase II

For urban area, the population served by Level I and II facilities in base year was considered to be absorbed by Level III service aside from the additional service coverage to be estimated by the sector target. For rural area, all existing facilities in Phase I were assumed to be utilized through the future.

The population to be served by target year is exhibited in Table 8.5.2 and Table 8.5.3.

Table 8.5.2 Population to be Served in Phase I (Water Supply)

| Name of Municipality | Area | Population Served in the Base Year | | | | | | Phase I Coverage (2005) | | | | | | | | | | | | | |
|----------------------|-------|------------------------------------|----------|---------|-----------|----------|---------|-------------------------|----------|---------|-----------|----------|---------|------------------|----------|---------|------------------------------------|----------|---------|-------|-------|
| | | Level III | | | Level II | | | Level I | | | Total | | | Service Coverage | | | Additional Population to be Served | | | | |
| | | Level III | Level II | Level I | Level III | Level II | Level I | Level III | Level II | Level I | Level III | Level II | Level I | Level III | Level II | Level I | Level III | Level II | Level I | Total | |
| Altagas | Urban | 200 | 25 | 1,480 | 1,705 | 3,017 | 571 | 25 | 1,480 | 2,076 | 371 | | | | | | | | | | |
| | Rural | | 750 | 8,464 | 9,214 | 20,593 | | 2,198 | 8,464 | 10,662 | | | | | 1,448 | | | | | | |
| | Total | 200 | 775 | 9,944 | 10,919 | 23,610 | 571 | 2,223 | 9,944 | 12,738 | 371 | | | | 1,448 | | | | | | 1,819 |
| Balete | Urban | | 75 | 852 | 927 | 1,744 | 214 | 75 | 852 | 1,141 | 214 | | | | | | | | | | |
| | Rural | | 375 | 1,066 | 1,441 | 18,579 | | 1,385 | 1,362 | 2,747 | | | | | 1,010 | | | | | | |
| | Total | | 450 | 1,918 | 2,368 | 20,323 | 214 | 1,460 | 2,214 | 3,888 | 214 | | | | 1,010 | | | | | | |
| Banga | Urban | | | 2,044 | 2,044 | 2,310 | 284 | | 2,044 | 2,328 | 284 | | | | | | | | | | |
| | Rural | | 1,850 | 14,159 | 16,009 | 30,986 | | 1,850 | 16,338 | 18,188 | | | | | | | | | | | |
| | Total | | 1,850 | 16,203 | 18,053 | 33,296 | 284 | 1,850 | 18,382 | 20,516 | 284 | | | | | | | | | | |
| Batan | Urban | 1,225 | | 5 | 1,230 | 1,632 | 284 | | 5 | 1,431 | 201 | | | | | | | | | | |
| | Rural | 510 | 225 | 8,059 | 8,794 | 26,400 | 510 | 225 | 9,915 | 10,650 | | | | | | | | | | | |
| | Total | 1,735 | 225 | 8,064 | 10,024 | 28,032 | 1,936 | 225 | 9,920 | 12,081 | 201 | | | | | | | | | | |
| Buruanga | Urban | | 250 | 536 | 786 | 1,184 | 145 | 250 | 536 | 931 | 145 | | | | | | | | | | |
| | Rural | | 2,725 | 4,753 | 7,478 | 11,563 | | 2,725 | 5,566 | 8,291 | | | | | | | | | | | |
| | Total | | 2,975 | 5,289 | 8,264 | 12,747 | 145 | 2,975 | 6,102 | 9,222 | 145 | | | | | | | | | | |
| Ibajay | Urban | | | 2,147 | 2,147 | 2,804 | 345 | | 2,147 | 2,492 | 345 | | | | | | | | | | |
| | Rural | 8,108 | 1,200 | 15,956 | 25,264 | 34,745 | 8,108 | 3,643 | 15,956 | 27,707 | | | | | | | | | | | |
| | Total | 8,108 | 1,200 | 18,103 | 27,411 | 37,549 | 8,453 | 3,643 | 18,103 | 30,199 | 345 | | | | 2,443 | | | | | | |
| Kalibo (Capital) | Urban | 30,205 | | 18,614 | 48,819 | 74,782 | 39,393 | | 18,614 | 58,007 | 9,188 | | | | | | | | | | |
| | Rural | | | | | | | | | | | | | | | | | | | | |
| | Total | 30,205 | | 18,614 | 48,819 | 74,782 | 39,393 | | 18,614 | 58,007 | 9,188 | | | | | | | | | | |
| Lezo | Urban | 1,295 | | 351 | 1,646 | 2,297 | 1,577 | | 351 | 1,928 | 282 | | | | | | | | | | |
| | Rural | 829 | | 5,576 | 6,405 | 12,131 | 829 | | 6,429 | 7,258 | | | | | | | | | | | |
| | Total | 2,124 | | 5,927 | 8,051 | 14,428 | 2,406 | | 6,780 | 9,186 | 282 | | | | | | | | | | |
| Libacao | Urban | | | 2,231 | 2,231 | 3,069 | 377 | | 2,231 | 2,608 | 377 | | | | | | | | | | |
| | Rural | 2,695 | 1,150 | 10,213 | 14,058 | 22,906 | 2,695 | 1,150 | 11,824 | 15,669 | | | | | | | | | | | |
| | Total | 2,695 | 1,150 | 12,444 | 16,289 | 25,975 | 3,072 | 1,150 | 14,055 | 18,277 | 377 | | | | | | | | | | |
| Madalag | Urban | 696 | 100 | 227 | 1,023 | 1,893 | 929 | | 227 | 1,256 | 233 | | | | | | | | | | |
| | Rural | | 600 | 2,828 | 3,428 | 18,311 | | 600 | 4,116 | 4,716 | | | | | | | | | | | |
| | Total | 696 | 700 | 3,055 | 4,451 | 20,204 | 929 | 700 | 4,343 | 5,972 | 233 | | | | | | | | | | |
| Makato | Urban | 1,506 | | 800 | 2,306 | 3,529 | 1,940 | | 800 | 2,740 | 434 | | | | | | | | | | |
| | Rural | 612 | 2,475 | 10,139 | 13,226 | 25,221 | 612 | 2,475 | 11,912 | 14,999 | | | | | | | | | | | |
| | Total | 2,118 | 2,475 | 10,939 | 15,532 | 28,750 | 2,552 | 2,475 | 12,712 | 17,739 | 434 | | | | | | | | | | |

Table 8.5.2 Population to be Served in Phase I (Water Supply) (Cont'd)

| Name of Municipality | Area | Population Served in the Base Year | | | | | | Phase I Coverage (2005) | | | | | | | | | | | |
|----------------------|-------|------------------------------------|----------|---------|----------|-----------|----------|-------------------------|---------|-----------|----------|---------|-------|------------------|----------|---------|------------------------------------|--|--|
| | | Level III | | | Level II | | | Level I | | | Total | | | Service Coverage | | | Additional Population to be Served | | |
| | | Level III | Level II | Level I | Total | Level III | Level II | Level I | Total | Level III | Level II | Level I | Total | Level III | Level II | Level I | Total | | |
| Malay | Urban | | | 2,933 | 2,933 | 10,049 | 1,235 | 2,933 | 4,168 | 1,235 | | | | | | | | | |
| | Rural | | 2,400 | 5,967 | 8,367 | 26,348 | | 3,450 | 6,770 | 10,220 | | | | 1,050 | | 803 | 1,853 | | |
| | Total | | 2,400 | 8,900 | 11,300 | 36,397 | 1,235 | 3,450 | 14,388 | 1,235 | | | | 1,050 | | 803 | 3,088 | | |
| Mainao | Urban | 1,500 | | 44 | 1,544 | 1,692 | 1,708 | 44 | 1,752 | 208 | | | | | | | | | |
| | Rural | 684 | 825 | 12,017 | 13,526 | 22,897 | 684 | 2,409 | 12,043 | 15,136 | | | | 1,584 | | 26 | 1,610 | | |
| | Total | 2,184 | 825 | 12,061 | 15,070 | 24,589 | 2,392 | 2,409 | 12,087 | 16,888 | 208 | | | 1,584 | | 26 | 1,818 | | |
| Nabas | Urban | | | 2,331 | 2,331 | 4,134 | 508 | | 2,331 | 2,839 | 508 | | | | | | | | |
| | Rural | | 3,900 | 8,934 | 12,834 | 19,184 | | 3,900 | 10,283 | 14,183 | | | | | | 1,349 | 1,349 | | |
| | Total | | 3,900 | 11,265 | 15,165 | 23,318 | 508 | 3,900 | 12,614 | 17,022 | 508 | | | | | 1,349 | 1,857 | | |
| New Washington | Urban | | | 4,759 | 4,759 | 5,581 | 686 | | 4,759 | 5,445 | 686 | | | | | | | | |
| | Rural | | | 24,549 | 24,549 | 30,409 | | 26,687 | 26,687 | | | | | | | 2,138 | 2,138 | | |
| | Total | | | 29,308 | 29,308 | 35,990 | 686 | 31,446 | 32,132 | 686 | | | | | | 2,138 | 2,824 | | |
| Numancia | Urban | 780 | | 1,829 | 2,609 | 3,720 | 1,237 | | 1,829 | 3,066 | 457 | | | | | | | | |
| | Rural | 6,381 | | 11,816 | 18,197 | 24,656 | 6,381 | | 13,550 | 19,931 | 457 | | | | | 1,734 | 1,734 | | |
| | Total | 7,161 | | 13,645 | 20,806 | 28,376 | 7,618 | | 15,379 | 22,997 | 457 | | | | | 1,734 | 2,191 | | |
| Tangalan | Urban | | | 1,658 | 1,658 | 3,221 | 396 | | 1,658 | 2,054 | 396 | | | | | | | | |
| | Rural | | 1,225 | 7,299 | 8,524 | 16,254 | | 1,225 | 8,442 | 9,667 | | | | | | 1,143 | 1,143 | | |
| | Total | | 1,225 | 8,957 | 10,182 | 19,475 | 396 | 1,225 | 10,100 | 11,721 | 396 | | | | | 1,143 | 1,539 | | |
| Provincial Total | Urban | 37,407 | 450 | 42,841 | 80,698 | 126,658 | 52,971 | 450 | 42,841 | 96,260 | 15,564 | | | | | | | | |
| | Rural | 19,819 | 19,700 | 151,795 | 191,314 | 361,183 | 19,819 | 27,235 | 169,657 | 216,710 | 7,535 | | | | | 17,862 | 25,396 | | |
| | Total | 57,226 | 20,150 | 194,636 | 272,012 | 487,841 | 72,790 | 27,685 | 212,498 | 312,970 | 15,564 | | | | | 17,862 | 40,958 | | |

Table 8-5.3 Population to be Served in Phase II (Water Supply)

| Name of Municipality | Population Served in 2005 | | | | Phase II Coverage (2010) | | | | | | | | | | | |
|----------------------|---------------------------|----------|---------|--------|--------------------------|----------|---------|------------------------------------|----------|---------|--------|--------|-------|--|--------|--------|
| | Area | | | Total | Service Coverage | | | Additional Population to be Served | | | Total | | | | | |
| | Level III | Level II | Level I | | Level III | Level II | Level I | Level III | Level II | Level I | | | | | | |
| Altagas | Urban | 571 | 25 | 1,480 | 2,076 | 3,274 | 3,110 | | 3,110 | | 2,539 | | | | 2,539 | |
| | Rural | | 2,198 | 8,464 | 10,662 | 22,030 | | | 2,198 | 18,290 | 20,488 | | | | 9,826 | 9,826 |
| | Total | 571 | 2,223 | 9,944 | 12,738 | 25,304 | 3,110 | | 3,110 | 2,198 | 18,290 | 23,598 | 2,539 | | 9,826 | 12,365 |
| Balete | Urban | 214 | 75 | 852 | 1,141 | 2,035 | 1,933 | | 1,385 | 16,550 | 17,935 | | | | 1,719 | 1,719 |
| | Rural | | 1,385 | 1,362 | 2,747 | 19,285 | | | 1,385 | 16,550 | 19,368 | 1,719 | | | 15,188 | 15,188 |
| | Total | 214 | 1,460 | 2,214 | 3,888 | 21,320 | 1,933 | | 1,933 | 16,550 | 21,368 | 3,438 | 1,719 | | 16,907 | 16,907 |
| Banga | Urban | 284 | | 2,044 | 2,328 | 3,391 | 2,328 | | 1,850 | 28,843 | 30,693 | | | | 2,044 | 2,044 |
| | Rural | | 1,850 | 16,338 | 18,188 | 33,003 | | | 1,850 | 28,843 | 30,693 | | | | 12,505 | 12,505 |
| | Total | 284 | 1,850 | 18,382 | 20,516 | 35,394 | 2,328 | | 1,850 | 28,843 | 33,021 | 2,044 | | | 12,505 | 14,549 |
| Batan | Urban | 1,426 | | 5 | 1,431 | 1,632 | 1,550 | | 1,550 | | 1,550 | 124 | | | 124 | 124 |
| | Rural | | 225 | 9,915 | 10,650 | 27,558 | 510 | | 225 | 24,894 | 25,629 | | | | 14,979 | 14,979 |
| | Total | 1,936 | 225 | 9,920 | 12,081 | 29,190 | 2,060 | | 225 | 24,894 | 27,179 | 124 | | | 14,979 | 15,103 |
| Buruanga | Urban | 145 | 250 | 536 | 931 | 1,285 | 1,221 | | 2,725 | 8,595 | 11,320 | | | | 1,076 | 1,076 |
| | Rural | | 2,725 | 5,566 | 8,291 | 12,172 | | | 2,725 | 8,595 | 11,320 | | | | 3,029 | 3,029 |
| | Total | 145 | 2,975 | 6,102 | 9,222 | 13,457 | 1,221 | | 2,725 | 8,595 | 12,541 | 1,076 | | | 3,029 | 4,105 |
| Ibajay | Urban | 345 | | 2,147 | 2,492 | 2,960 | 2,812 | | 3,643 | 22,180 | 33,931 | | | | 2,467 | 2,467 |
| | Rural | | 3,643 | 15,956 | 27,707 | 36,485 | 8,108 | | 3,643 | 22,180 | 33,931 | | | | 6,224 | 6,224 |
| | Total | 8,453 | 3,643 | 18,103 | 30,199 | 39,445 | 10,920 | | 3,643 | 22,180 | 36,743 | 2,467 | | | 6,224 | 8,691 |
| Kalibo (Capital) | Urban | 39,393 | | 18,614 | 58,007 | 84,749 | 80,512 | | | | 80,512 | 41,119 | | | 41,119 | 41,119 |
| | Rural | | | | | | | | | | | | | | | |
| | Total | 39,393 | | 18,614 | 58,007 | 84,749 | 80,512 | | | | 80,512 | 41,119 | | | 41,119 | 41,119 |
| Lezo | Urban | 1,577 | | 351 | 1,928 | 2,384 | 2,265 | | | | 2,265 | 688 | | | 688 | 688 |
| | Rural | | 829 | 6,429 | 7,258 | 12,941 | 829 | | | 11,206 | 12,035 | | | | 4,777 | 4,777 |
| | Total | 2,406 | | 6,780 | 9,186 | 15,325 | 3,094 | | | 11,206 | 14,300 | 688 | | | 4,777 | 5,465 |
| Libacao | Urban | 377 | | 2,231 | 2,608 | 3,462 | 3,289 | | | | 3,289 | 2,912 | | | 2,912 | 2,912 |
| | Rural | | 1,150 | 11,824 | 15,669 | 22,956 | 2,695 | | 1,150 | 17,504 | 21,349 | | | | 5,680 | 5,680 |
| | Total | 3,072 | 1,150 | 14,055 | 18,277 | 26,418 | 5,984 | | 1,150 | 17,504 | 24,638 | 2,912 | | | 5,680 | 8,592 |
| Madalag | Urban | 929 | 100 | 227 | 1,256 | 2,170 | 2,062 | | | | 2,062 | 1,133 | | | 1,133 | 1,133 |
| | Rural | | 600 | 4,116 | 4,716 | 19,175 | | | 600 | 17,233 | 17,833 | | | | 13,117 | 13,117 |
| | Total | 929 | 700 | 4,343 | 5,972 | 21,345 | 2,062 | | 600 | 17,233 | 19,895 | 1,133 | | | 13,117 | 14,250 |
| Makato | Urban | 1,940 | | 800 | 2,740 | 3,864 | 3,671 | | | | 3,671 | 1,731 | | | 1,731 | 1,731 |
| | Rural | | 2,475 | 11,912 | 14,999 | 27,611 | 612 | | 2,475 | 22,591 | 25,678 | | | | 10,679 | 10,679 |
| | Total | 2,552 | 2,475 | 12,712 | 17,739 | 31,475 | 4,283 | | 2,475 | 22,591 | 29,349 | 1,731 | | | 10,679 | 12,410 |

Table 8.5.3 Population to be Served in Phase II (Water Supply)

| Name of Municipality | Area | Population Served in 2005 | | | | Phase II Coverage (2010) | | | | | | | | | | | | | | | | | |
|----------------------|-------|---------------------------|----------|---------|---------|--------------------------|------------------|----------|---------|------------------------------------|-----------|----------|---------|-------|--|--|--|--|--|--|--|---------|---------|
| | | Level III | Level II | Level I | Total | Total Population | Service Coverage | | | Additional Population to be Served | | | | | | | | | | | | | |
| | | | | | | | Level III | Level II | Level I | Total | Level III | Level II | Level I | Total | | | | | | | | | |
| Malay | Urban | 1,235 | | 2,933 | 4,168 | 12,926 | 12,280 | | | | | | 11,045 | | | | | | | | | 11,045 | |
| | Rural | | 3,450 | 6,770 | 10,220 | 33,889 | | 3,450 | 28,067 | | | | | | | | | | | | | 21,297 | 21,297 |
| | Total | 1,235 | 3,450 | 9,703 | 14,388 | 46,815 | 12,280 | 3,450 | 28,067 | | | | 11,045 | | | | | | | | | 21,297 | 32,342 |
| Malinao | Urban | 1,708 | | 44 | 1,752 | 1,800 | 1,752 | | | | | | 44 | | | | | | | | | 44 | 44 |
| | Rural | 684 | 2,409 | 12,043 | 15,136 | 24,236 | 684 | 2,409 | 19,446 | | | | | | | | | | | | | 7,403 | 7,403 |
| | Total | 2,392 | 2,409 | 12,087 | 16,888 | 26,036 | 2,436 | 2,409 | 19,446 | | | | 44 | | | | | | | | | 7,403 | 7,447 |
| Nabas | Urban | 508 | | 2,331 | 2,839 | 4,498 | 4,273 | | | | | | 3,765 | | | | | | | | | 3,765 | 3,765 |
| | Rural | | 3,900 | 10,283 | 14,183 | 20,873 | | 3,900 | 15,512 | | | | | | | | | | | | | 5,229 | 5,229 |
| | Total | 508 | 3,900 | 12,614 | 17,022 | 25,371 | 4,273 | 3,900 | 15,512 | | | | 3,765 | | | | | | | | | 5,229 | 8,994 |
| New Washington | Urban | 686 | | 4,759 | 5,445 | 5,967 | 5,669 | | | | | | 4,983 | | | | | | | | | 4,983 | 4,983 |
| | Rural | | | 26,687 | 26,687 | 32,501 | | | | | | | | | | | | | | | | 3,539 | 3,539 |
| | Total | 686 | | 31,446 | 32,132 | 38,468 | 5,669 | | | | | | 4,983 | | | | | | | | | 3,539 | 8,522 |
| Numancia | Urban | 1,237 | | 1,829 | 3,066 | 4,604 | 4,374 | | | | | | 3,137 | | | | | | | | | 3,137 | 3,137 |
| | Rural | 6,381 | | 13,550 | 19,931 | 26,978 | 6,381 | | | | | | | | | | | | | | | 5,159 | 5,159 |
| | Total | 7,618 | | 15,379 | 22,997 | 31,582 | 10,755 | | | | | | | | | | | | | | | 5,159 | 8,296 |
| Tangalan | Urban | 396 | | 1,658 | 2,054 | 3,644 | 3,462 | | | | | | 3,066 | | | | | | | | | 3,066 | 3,066 |
| | Rural | | 1,225 | 8,442 | 9,667 | 18,386 | | 1,225 | 15,874 | | | | | | | | | | | | | 7,432 | 7,432 |
| | Total | 396 | 1,225 | 10,100 | 11,721 | 22,030 | 3,462 | 1,225 | 15,874 | | | | 3,066 | | | | | | | | | 7,432 | 10,498 |
| Provincial Total | Urban | 52,971 | 450 | 42,841 | 96,262 | 143,645 | 136,563 | | | | | | 83,592 | | | | | | | | | 83,592 | 83,592 |
| | Rural | 19,819 | 27,235 | 169,657 | 216,711 | 390,079 | 19,819 | 27,235 | 315,720 | | | | 146,063 | | | | | | | | | 146,063 | 146,063 |
| | Total | 72,790 | 27,685 | 212,498 | 312,973 | 533,724 | 156,382 | 27,235 | 315,720 | | | | 146,063 | | | | | | | | | 146,063 | 229,655 |

8.5.2 Sanitation

Table 8.5.4 Additional Number of Households to be Served in Phase I (Household Toilets)

| Name of Municipality | Area | No. of Household Served in the Based Year | | | | | | Phase I Coverage (2005) | | | | | |
|----------------------|-------|---|------------|---------|---------|--------|------------------|-------------------------|--------------------|------------|------------------------------------|---------|-------|
| | | Flush | | VIP/Dry | | Total | Total No. of HHs | | Household Coverage | | Additional No. of HHs to be Served | | |
| | | Flush | Pour Flush | Flush | VIP/Dry | | Flush | Pour Flush | Flush | Pour Flush | Flush | VIP/Dry | Total |
| Altagas | Urban | 41 | 255 | 100 | 396 | 556 | 300 | 200 | 500 | 104 | 479 | 453 | 932 |
| | Rural | 9 | 2,136 | | 2,145 | 3,945 | 9 | 2,615 | 453 | 3,077 | 479 | 453 | 932 |
| | Total | 50 | 2,391 | 100 | 2,541 | 4,501 | 309 | 2,815 | 3,577 | 104 | 479 | 453 | 1,036 |
| Balete | Urban | | 33 | 311 | 344 | 347 | | 33 | 311 | 344 | | | |
| | Rural | | | 1,433 | 1,433 | 3,679 | | 2,440 | 430 | 2,870 | 1,437 | | 1,437 |
| | Total | | 33 | 1,744 | 1,777 | 4,026 | | 2,473 | 741 | 3,214 | 1,437 | | 1,437 |
| Banga | Urban | 295 | 94 | 11 | 400 | 452 | 295 | 112 | 407 | 7 | 7 | | 7 |
| | Rural | 197 | 2,899 | 988 | 4,084 | 6,064 | 197 | 4,021 | 512 | 4,730 | 646 | | 646 |
| | Total | 492 | 2,993 | 999 | 4,484 | 6,516 | 492 | 4,133 | 512 | 5,137 | 653 | | 653 |
| Batan | Urban | 23 | 303 | 3 | 329 | 359 | 23 | 303 | 3 | 329 | | | |
| | Rural | 10 | 2,886 | 14 | 2,910 | 5,312 | 10 | 3,522 | 611 | 4,143 | 636 | 597 | 1,233 |
| | Total | 33 | 3,189 | 17 | 3,239 | 5,671 | 33 | 3,825 | 614 | 4,472 | 636 | 597 | 1,233 |
| Bunanga | Urban | 125 | 62 | 17 | 204 | 225 | 125 | 62 | 17 | 204 | | | |
| | Rural | 16 | 850 | | 866 | 2,327 | 16 | 1,543 | 256 | 1,815 | 693 | 256 | 949 |
| | Total | 141 | 912 | 17 | 1,070 | 2,552 | 141 | 1,605 | 273 | 2,019 | 693 | 256 | 949 |
| Ibajay | Urban | 109 | 251 | | 360 | 542 | 293 | 195 | 488 | 128 | | | 128 |
| | Rural | 89 | 4,311 | | 4,400 | 7,120 | 89 | 4,721 | 744 | 5,554 | 410 | 744 | 1,154 |
| | Total | 198 | 4,562 | | 4,760 | 7,662 | 382 | 4,916 | 744 | 6,042 | 410 | 744 | 1,282 |
| Kalibo (Capital) | Urban | 7,073 | 2,813 | 609 | 10,495 | 14,521 | 7,841 | 4,574 | 654 | 13,069 | 768 | 45 | 2,574 |
| | Rural | | | | | | | | | | | | |
| | Total | 7,073 | 2,813 | 609 | 10,495 | 14,521 | 7,841 | 4,574 | 654 | 13,069 | 768 | 45 | 2,574 |
| Lezo | Urban | 43 | 241 | 107 | 391 | 486 | 262 | 175 | 437 | 46 | | | 46 |
| | Rural | 146 | 1,018 | 536 | 1,700 | 2,431 | 146 | 1,612 | 138 | 1,896 | 196 | | 196 |
| | Total | 189 | 1,259 | 643 | 2,091 | 2,917 | 408 | 1,787 | 138 | 2,333 | 46 | | 242 |
| Libacao | Urban | 205 | 153 | 65 | 423 | 578 | 312 | 182 | 26 | 520 | 97 | | 97 |
| | Rural | 87 | 1,076 | 1,033 | 2,196 | 4,155 | 87 | 2,741 | 397 | 3,225 | 1,029 | | 1,029 |
| | Total | 292 | 1,229 | 1,098 | 2,619 | 4,713 | 399 | 2,923 | 423 | 3,745 | 97 | | 1,126 |
| Madalag | Urban | 9 | 153 | 56 | 218 | 326 | 176 | 117 | 293 | 75 | | | 75 |
| | Rural | 7 | 882 | 498 | 1,357 | 3,152 | 7 | 2,090 | 362 | 2,459 | 1,102 | | 1,102 |
| | Total | 16 | 1,005 | 554 | 1,575 | 3,478 | 183 | 2,207 | 362 | 2,752 | 75 | | 1,177 |
| Makato | Urban | 20 | 436 | 93 | 549 | 673 | 364 | 242 | 606 | 57 | | | 57 |
| | Rural | 26 | 2,300 | 905 | 3,231 | 4,628 | 26 | 3,069 | 515 | 3,610 | 379 | | 379 |
| | Total | 46 | 2,736 | 998 | 3,780 | 5,301 | 390 | 3,311 | 515 | 4,216 | 57 | | 436 |

Table 8.5.4 Additional Number of Households to be Served in Phase I (Household Toilets) (Cont'd)

| Name of Municipality | Area | No. of Household Served in the Based Year | | | | Phase I Coverage (2005) | | | | | | | | | | | |
|----------------------|-------|---|------------|---------|-------|-------------------------|------------------|--------------------|------------|---------|--------|------------------------------------|------------|---------|--------|--|--|
| | | Flush | | VIP/Dry | | Total | Total No. of HHs | Household Coverage | | | | Additional No. of HHs to be Served | | | | | |
| | | Flush | Pour Flush | VIP/Dry | Total | | | Flush | Pour Flush | VIP/Dry | Total | Flush | Pour Flush | VIP/Dry | Total | | |
| Malay | Urban | 824 | 264 | | | 1,088 | 1,840 | 994 | 580 | 82 | 1,656 | 170 | 316 | 82 | 568 | | |
| | Rural | 159 | 2,085 | | | 2,244 | 5,019 | 159 | 3,328 | 428 | 3,915 | | 1,243 | 428 | 1,671 | | |
| | Total | 983 | 2,349 | | | 3,332 | 6,859 | 1,153 | 3,908 | 510 | 5,571 | 170 | 1,559 | 510 | 2,239 | | |
| Malinao | Urban | 25 | 235 | 18 | | 278 | 347 | 187 | 125 | | 312 | 34 | | 34 | | | |
| | Rural | 17 | 1,784 | 1,167 | | 2,968 | 4,337 | 17 | 2,876 | 490 | 3,383 | | 415 | | 415 | | |
| | Total | 42 | 2,019 | 1,185 | | 3,246 | 4,684 | 204 | 3,001 | 490 | 3,695 | 34 | 415 | | 449 | | |
| Nabas | Urban | 340 | 356 | 42 | | 738 | 825 | 446 | 297 | | 743 | 5 | | 5 | | | |
| | Rural | 250 | 2,493 | 154 | | 2,897 | 3,754 | 250 | 2,678 | | 2,928 | 5 | 31 | | 31 | | |
| | Total | 590 | 2,849 | 196 | | 3,635 | 4,579 | 696 | 2,975 | | 3,671 | 5 | 31 | | 36 | | |
| New Washington | Urban | 16 | 742 | 57 | | 815 | 1,051 | 568 | 378 | | 946 | 131 | | | 131 | | |
| | Rural | 34 | 3,292 | 603 | | 3,929 | 5,825 | 34 | 3,862 | 648 | 4,544 | | 570 | 45 | 615 | | |
| | Total | 50 | 4,034 | 660 | | 4,744 | 6,876 | 602 | 4,240 | 648 | 5,490 | 131 | 570 | 45 | 746 | | |
| Numancia | Urban | 236 | 265 | | | 501 | 684 | 370 | 246 | | 616 | 115 | | | 115 | | |
| | Rural | 354 | 1,990 | 382 | | 2,726 | 4,723 | 354 | 3,131 | 199 | 3,684 | | 958 | | 958 | | |
| | Total | 590 | 2,255 | 382 | | 3,227 | 5,407 | 724 | 3,377 | 199 | 4,300 | 115 | 958 | | 1,073 | | |
| Tangalan | Urban | 23 | 347 | 26 | | 396 | 593 | 320 | 214 | | 534 | 138 | | | 138 | | |
| | Rural | 47 | 983 | 665 | | 1,695 | 2,961 | 47 | 1,964 | 299 | 2,310 | | 615 | | 615 | | |
| | Total | 70 | 1,330 | 691 | | 2,091 | 3,554 | 367 | 2,178 | 299 | 2,844 | 138 | 615 | | 753 | | |
| Provincial Total | Urban | 9,407 | 7,003 | 1,515 | | 17,925 | 24,405 | 12,876 | 8,035 | 1,093 | 22,004 | 1,868 | 2,084 | 127 | 4,079 | | |
| | Rural | 1,448 | 30,955 | 8,378 | | 40,781 | 69,412 | 1,448 | 46,213 | 6,482 | 54,143 | | 10,839 | 2,523 | 13,362 | | |
| | Total | 10,855 | 37,958 | 9,893 | | 58,706 | 93,817 | 14,324 | 54,248 | 7,575 | 76,147 | 1,868 | 12,923 | 2,650 | 17,441 | | |

Table 8.5.5 Additional Number of Households to be Served in Phase II (Household Toilets)

| Name of Municipality | Area | No. households Served in 2005 | | | | | Phase II Coverage (2010) | | | | | | |
|----------------------|-------|-------------------------------|------------|------------|---------|-------|--------------------------|---------|------------------------------------|-------|------------|---------|-------|
| | | Flush | | Pour Flush | VIP/Dry | Total | Household Coverage | | Additional No. of HHs to be Served | | | | |
| | | Flush | Pour Flush | VIP/Dry | Total | Flush | Pour Flush | VIP/Dry | Total | Flush | Pour Flush | VIP/Dry | Total |
| Altagas | Urban | 300 | 200 | | 500 | 381 | 381 | | 762 | 81 | 181 | | 262 |
| | Rural | 9 | 2,615 | 453 | 3,077 | 9 | 4,495 | 453 | 4,957 | | 1,880 | | 1,880 |
| | Total | 309 | 2,815 | 453 | 3,577 | 390 | 4,876 | 453 | 5,719 | 81 | 2,061 | | 2,142 |
| Balete | Urban | | 33 | 311 | 344 | 237 | -75 | | 473 | 237 | | | 237 |
| | Rural | | 2,440 | 430 | 2,870 | | 3,909 | 430 | 4,339 | | 1,469 | | 1,469 |
| | Total | | 2,473 | 741 | 3,214 | | 3,834 | 741 | 4,812 | 237 | 1,469 | | 1,706 |
| Banga | Urban | 295 | 112 | | 407 | 278 | 278 | | 556 | | 166 | | 166 |
| | Rural | 197 | 4,021 | 512 | 4,730 | 197 | 6,717 | 512 | 7,426 | | 2,696 | | 2,696 |
| | Total | 492 | 4,133 | 512 | 5,137 | 475 | 6,995 | 512 | 7,982 | | 2,862 | | 2,862 |
| Batan | Urban | 23 | 303 | 3 | 329 | 190 | 186 | 3 | 379 | 167 | | | 167 |
| | Rural | 10 | 3,522 | 611 | 4,143 | 510 | 5,080 | 611 | 6,201 | 500 | 1,558 | | 2,058 |
| | Total | 33 | 3,825 | 614 | 4,472 | 700 | 5,266 | 614 | 6,580 | 667 | 1,558 | | 2,225 |
| Buruanga | Urban | 125 | 62 | 17 | 204 | 150 | 132 | 17 | 299 | 25 | 70 | | 95 |
| | Rural | 16 | 1,543 | 256 | 1,815 | 16 | 2,467 | 256 | 2,739 | 25 | 994 | | 924 |
| | Total | 141 | 1,605 | 273 | 2,019 | 166 | 2,599 | 273 | 3,038 | 25 | 994 | | 1,019 |
| Ibajay | Urban | 293 | 195 | | 488 | 344 | 344 | | 688 | 51 | 149 | | 200 |
| | Rural | 89 | 4,721 | 744 | 5,554 | 821 | 6,644 | 744 | 8,209 | 732 | 1,923 | | 2,655 |
| | Total | 382 | 4,916 | 744 | 6,042 | 1,165 | 6,988 | 744 | 8,897 | 783 | 2,072 | | 2,855 |
| Kalibo (Capital) | Urban | 7,841 | 4,574 | 654 | 13,069 | 9,852 | 9,198 | 654 | 19,704 | 2,011 | 4,624 | | 6,635 |
| | Rural | | | | | | | | | | | | |
| | Total | 7,841 | 4,574 | 654 | 13,069 | 9,852 | 9,198 | 654 | 19,704 | 2,011 | 4,624 | | 6,635 |
| Lezo | Urban | 262 | 175 | | 437 | 277 | 277 | | 554 | 15 | 102 | | 117 |
| | Rural | 146 | 1,612 | 138 | 1,896 | 291 | 2,483 | 138 | 2,912 | 145 | 871 | | 1,016 |
| | Total | 408 | 1,787 | 138 | 2,333 | 568 | 2,760 | 138 | 3,466 | 160 | 973 | | 1,133 |
| Libacao | Urban | 312 | 182 | 26 | 520 | 403 | 376 | 26 | 805 | 91 | 194 | | 285 |
| | Rural | 87 | 2,741 | 397 | 3,225 | 517 | 4,251 | 397 | 5,165 | 430 | 1,510 | | 1,940 |
| | Total | 399 | 2,923 | 423 | 3,745 | 920 | 4,627 | 423 | 5,970 | 521 | 1,704 | | 2,225 |
| Madalag | Urban | 176 | 117 | | 293 | 253 | 252 | | 505 | 77 | 135 | | 212 |
| | Rural | 7 | 2,090 | 362 | 2,459 | 7 | 3,946 | 362 | 4,315 | | 1,856 | | 1,856 |
| | Total | 183 | 2,207 | 362 | 2,752 | 260 | 4,198 | 362 | 4,820 | 77 | 1,991 | | 2,068 |
| Makato | Urban | 364 | 242 | | 606 | 449 | 449 | | 898 | 85 | 207 | | 292 |
| | Rural | 26 | 3,069 | 515 | 3,610 | 612 | 5,086 | 515 | 6,213 | 586 | 2,017 | | 2,603 |
| | Total | 390 | 3,311 | 515 | 4,216 | 1,061 | 5,535 | 515 | 7,111 | 671 | 2,224 | | 2,895 |

Table 8.5.5 Additional Number of Households to be Served in Phase II (Household Toilets) (Cont'd)

| Name of Municipality | Area | No. households Served in 2005 | | | | | | Phase II Coverage (2010) | | | | | | |
|----------------------|-------|-------------------------------|------------|---------|------------------------------------|------------------|--------|--------------------------|---------|---------|------------------------------------|------------|---------|--------|
| | | Household Coverage | | | Additional No. of HHs to be Served | | | Household Coverage | | | Additional No. of HHs to be Served | | | |
| | | Flush | Pour Flush | VIP/Dry | Total | Total No. of HHs | Flush | Pour Flush | VIP/Dry | Total | Flush | Pour Flush | VIP/Dry | Total |
| Malay | Urban | 994 | 580 | 82 | 1,656 | 3,232 | 1,503 | 1,421 | 82 | 3,006 | 509 | 841 | | 1,350 |
| | Rural | 159 | 3,328 | 428 | 3,915 | 8,472 | 159 | 7,038 | 428 | 7,625 | | 3,710 | | 3,710 |
| | Total | 1,153 | 3,908 | 510 | 5,571 | 11,704 | 1,662 | 8,459 | 510 | 10,631 | 509 | 4,551 | | 5,060 |
| Malinao | Urban | 187 | 125 | | 312 | 450 | 210 | 209 | | 419 | 23 | 84 | | 107 |
| | Rural | 17 | 2,876 | 490 | 3,383 | 6,059 | 545 | 4,418 | 490 | 5,453 | 528 | 1,542 | | 2,070 |
| | Total | 204 | 3,001 | 490 | 3,695 | 6,509 | 755 | 4,627 | 490 | 5,872 | 551 | 1,626 | | 2,177 |
| Nabas | Urban | 446 | 297 | | 743 | 1,125 | 523 | 523 | | 1,046 | 77 | 226 | | 303 |
| | Rural | 250 | 2,678 | | 2,928 | 5,218 | 250 | 4,446 | | 4,696 | | 1,768 | | 1,768 |
| | Total | 696 | 2,975 | | 3,671 | 6,343 | 773 | 4,969 | | 5,742 | 77 | 1,994 | | 2,071 |
| New Washington | Urban | 568 | 378 | | 946 | 1,492 | 694 | 694 | | 1,388 | 126 | 316 | | 442 |
| | Rural | 34 | 3,862 | 648 | 4,544 | 8,125 | 34 | 6,631 | 648 | 7,313 | | 2,769 | | 2,769 |
| | Total | 602 | 4,240 | 648 | 5,490 | 9,617 | 728 | 7,325 | 648 | 8,701 | 126 | 3,085 | | 3,211 |
| Numancia | Urban | 370 | 246 | | 616 | 1,151 | 535 | 535 | | 1,070 | 165 | 289 | | 454 |
| | Rural | 354 | 3,131 | 199 | 3,684 | 6,745 | 607 | 5,265 | 199 | 6,071 | 253 | 2,134 | | 2,387 |
| | Total | 724 | 3,377 | 199 | 4,300 | 7,896 | 1,142 | 5,800 | 199 | 7,141 | 418 | 2,423 | | 2,841 |
| Tangalan | Urban | 320 | 214 | | 534 | 911 | 424 | 423 | | 847 | 104 | 209 | | 313 |
| | Rural | 47 | 1,964 | 299 | 2,310 | 4,597 | 47 | 3,791 | 299 | 4,137 | | 1,827 | | 1,827 |
| | Total | 367 | 2,178 | 299 | 2,844 | 5,508 | 471 | 4,214 | 299 | 4,984 | 104 | 2,036 | | 2,140 |
| Provincial Total | Urban | 12,876 | 8,035 | 1,093 | 22,004 | 35,914 | 16,703 | 15,603 | 1,093 | 33,399 | 3,844 | 7,793 | | 11,637 |
| | Rural | 1,448 | 46,213 | 6,482 | 54,143 | 97,521 | 4,622 | 76,667 | 6,482 | 87,771 | 3,174 | 30,454 | | 33,628 |
| | Total | 14,324 | 54,248 | 7,575 | 76,147 | 133,435 | 21,325 | 92,270 | 7,575 | 121,170 | 7,018 | 38,247 | | 45,265 |

Table 8.5.6 Additional Number of Public School Students to be Served in Phases I and II (School Toilets)

| Name of Municipality | Std. No. of Public School Student that can be Served in the Base Year (1998) | Projected No. of Public School Student in 2005 | Phase I Coverage (2005) | | Projected Number of Public School Students in 2010 | Phase II Coverage (2010) | |
|-------------------------|--|--|---------------------------------|--|--|---------------------------------|---|
| | | | Public School Students Coverage | Additional No. of Public School Student to be Served | | Public School Students Coverage | Additional No. of Public School Students to be Served |
| Altavas | 2,960 | 6,245 | 4,236 | 1,276 | 6,694 | 6,025 | 1,789 |
| Balete | 3,240 | 4,725 | 4,205 | 965 | 5,540 | 4,986 | 781 |
| Banga | 4,373 | 4,966 | 4,373 | | 5,630 | 5,067 | 694 |
| Baran | 1,840 | 7,046 | 3,279 | 1,439 | 7,744 | 6,970 | 3,691 |
| Buranga | 840 | 3,310 | 1,516 | 676 | 3,310 | 2,979 | 1,463 |
| Ibajay | 2,200 | 4,279 | 3,074 | 874 | 5,619 | 5,057 | 1,983 |
| Kalibo (Capital) | 11,480 | 17,969 | 15,150 | 3,670 | 19,292 | 17,363 | 2,213 |
| Lezo | 2,320 | 3,436 | 3,022 | 702 | 3,650 | 3,285 | 263 |
| Libacao | 3,320 | 6,310 | 4,609 | 1,289 | 6,796 | 6,116 | 1,507 |
| Madalag | 2,320 | 5,197 | 3,382 | 1,062 | 5,491 | 4,942 | 1,560 |
| Makato | 2,640 | 6,667 | 4,002 | 1,362 | 7,728 | 6,955 | 2,933 |
| Malay | 2,720 | 7,678 | 4,288 | 1,568 | 10,457 | 9,411 | 5,123 |
| Malinao | 3,840 | 6,053 | 5,076 | 1,236 | 6,410 | 5,769 | 693 |
| Nabas | 3,200 | 6,332 | 4,493 | 1,293 | 6,889 | 6,200 | 1,707 |
| New Washington | 2,800 | 7,084 | 4,247 | 1,447 | 8,654 | 7,789 | 3,542 |
| Numancia | 1,040 | 5,537 | 2,171 | 1,131 | 6,162 | 5,546 | 3,375 |
| Tangalan | 4,360 | 4,999 | 4,360 | | 5,654 | 5,089 | 729 |
| Provincial Total | 55,493 | 107,833 | 75,483 | 19,990 | 121,720 | 109,549 | 34,066 |

Table 8.5.7 Additional Number of Public Utilities with Sanitary Toilets in Phase I and II

| Name of Municipality | Type | Coverage in Base Year (1998) | | | Phase I Coverage (2005) | | | Phase I Coverage (2010) | | |
|----------------------|----------------------|-----------------------------------|---------------------------------|-----------------------------------|--|---------------------------------|-----------------------------------|--|---------------------------------|--|
| | | No. of PU with Toilets Facilities | No. of PU with Sanitary Toilets | No. of PU with Toilets Facilities | Add'l. No. of Public Utilities with Sanitary Toilets | No. of PU with Sanitary Toilets | No. of PU with Toilets Facilities | Add'l. No. of Public Utilities with Sanitary Toilets | No. of PU with Sanitary Toilets | |
| Altavas | Public Market | 4 | 4 | 5 | 1 | 5 | 6 | 1 | 6 | |
| | Bus/Jeepney Terminal | | | | | | | | | |
| | Parks/Playground | | | 1 | 1 | 1 | 2 | 1 | 2 | |
| | Total | 4 | 4 | 6 | 2 | 6 | 8 | 2 | 8 | |
| | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | | | | | | | | | |
| Balete | Parks/Playground | | | 1 | 1 | 1 | 2 | 1 | 2 | |
| | Total | 2 | 2 | 4 | 2 | 4 | 6 | 2 | 6 | |
| | Public Market | 4 | 4 | 5 | 1 | 5 | 6 | 1 | 6 | |
| Banga | Bus/Jeepney Terminal | | | | | | | | | |
| | Parks/Playground | 4 | 4 | 1 | 1 | 1 | 2 | 1 | 2 | |
| | Total | 4 | 4 | 6 | 2 | 6 | 8 | 2 | 8 | |
| Batang | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Parks/Playground | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 3 | |
| | Total | 6 | 6 | 8 | 2 | 8 | 11 | 3 | 11 | |
| | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | |
| Buruanga | Parks/Playground | | | 1 | 1 | 1 | 2 | 1 | 2 | |
| | Total | 2 | 2 | 4 | 2 | 4 | 6 | 2 | 6 | |
| | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| Ibajay | Bus/Jeepney Terminal | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | Parks/Playground | 4 | 4 | 1 | 1 | 1 | 2 | 1 | 2 | |
| | Total | 9 | 9 | 6 | 2 | 6 | 8 | 2 | 8 | |
| Kalibo (Capital) | Public Market | 9 | 9 | 10 | 1 | 10 | 11 | 1 | 11 | |
| | Bus/Jeepney Terminal | 6 | 6 | 7 | 1 | 7 | 8 | 1 | 8 | |
| | Parks/Playground | 5 | 5 | 6 | 1 | 6 | 7 | 1 | 7 | |
| | Total | 20 | 20 | 23 | 3 | 23 | 26 | 3 | 26 | |
| | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Lezo | Parks/Playground | 4 | 4 | 5 | 1 | 5 | 7 | 2 | 7 | |
| | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | | | 1 | 1 | 1 | 2 | 1 | 2 | |
| Libacao | Parks/Playground | 2 | 2 | 4 | 2 | 4 | 6 | 2 | 6 | |
| | Total | 2 | 2 | 4 | 2 | 4 | 6 | 2 | 6 | |
| | Public Market | | | | | | | | | |

Table 8.5.7 Additional Number of Public Utilities with Sanitary Toilets in Phase I and II (Cont'd)

| Name of Municipality | Type | Coverage in Base Year (1998) | | | Phase I Coverage (2005) | | | Phase I Coverage (2010) | | |
|----------------------|----------------------|-----------------------------------|---------------------------------|-----------------------------------|-----------------------------------|--|---------------------------------|-----------------------------------|--|---------------------------------|
| | | No. of PU with Toilets Facilities | No. of PU with Sanitary Toilets | No. of PU with Toilets Facilities | No. of PU with Toilets Facilities | Add'l. No. of Public Utilities with Sanitary Toilets | No. of PU with Sanitary Toilets | No. of PU with Toilets Facilities | Add'l. No. of Public Utilities with Sanitary Toilets | No. of PU with Sanitary Toilets |
| | | | | | | | | | | |
| Madalag | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Parks/Playground | | | | | | | | | |
| | Total | 4 | 4 | 6 | 2 | 6 | 8 | 2 | 8 | |
| Malato | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | | | | | | | | | |
| | Parks/Playground | | | | | | | | | |
| | Total | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| Malay | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 4 | 2 | 5 | 3 | 5 | 6 | 1 | 6 | |
| | Parks/Playground | | | | | | | | | |
| | Total | 6 | 4 | 9 | 4 | 8 | 10 | 2 | 12 | |
| Malinao | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | | | | | | | | | |
| | Parks/Playground | | | | | | | | | |
| | Total | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| Nabas | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 8 | 8 | 9 | 1 | 9 | 10 | 1 | 10 | |
| | Parks/Playground | | | | | | | | | |
| | Total | 10 | 10 | 12 | 2 | 12 | 14 | 2 | 16 | |
| New Washington | Public Market | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | Bus/Jeepney Terminal | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Parks/Playground | | | | | | | | | |
| | Total | 6 | 6 | 7 | 5 | 7 | 8 | 5 | 10 | |
| Numancia | Public Market | 2 | 2 | 3 | 1 | 3 | 4 | 1 | 4 | |
| | Bus/Jeepney Terminal | 4 | 4 | 4 | 4 | 4 | 5 | 1 | 5 | |
| | Parks/Playground | | | | | | | | | |
| | Total | 6 | 6 | 7 | 5 | 7 | 9 | 2 | 11 | |
| Tangalan | Public Market | 4 | 4 | 5 | 1 | 5 | 6 | 1 | 7 | |
| | Bus/Jeepney Terminal | | | | | | | | | |
| | Parks/Playground | | | | | | | | | |
| | Total | 4 | 4 | 5 | 1 | 5 | 6 | 1 | 7 | |
| Provincial Total | Public Market | 57 | 55 | 73 | 18 | 73 | 87 | 14 | 87 | |
| | Bus/Jeepney Terminal | 20 | 20 | 27 | 7 | 27 | 35 | 8 | 35 | |
| | Parks/Playground | 9 | 9 | 21 | 12 | 21 | 35 | 14 | 35 | |
| | Total | 86 | 84 | 121 | 37 | 121 | 157 | 36 | 157 | |

8.6 Facilities, Equipment and Rehabilitation Required to Meet the Target Services

8.6.1 Water Supply

(1) Required water supply facilities

Urban water supply:

Urban water supply facilities required by target year shown in Table 8.6.1 were estimated as the required number of house connections based on the additional service coverage.

As reference, the following requirements were also estimated:

- daily average water demand at 100 lpcd consumption rate, and
- number of deep wells to meet the daily maximum water demand based on the groundwater productivity.

(daily maximum water demand = 1.3 x daily average water demand)

Information pertaining to the expansion plan of Level III systems was arranged to be indicated in Table 8.6.1 and details presented in Table 8.6.2, however, required data were not available during this PW4SP preparation.

Rural water supply:

Rural water supply facilities required by target year shown in Table 8.6.3(a) were estimated as the number of Level II systems with number of communal faucets and the number of Level I wells broken-down to deep and shallow wells. Twenty (20) untapped springs suitable for Level II system were confirmed during this PW4SP preparation.

(2) Required well drilling and rehabilitation equipment

The DEO-DPWH (in Kalibo) has two (2) unit of rotary drilling rig applicable for deep well (8" of bit diameter and 60 m of depth). They were procured in 1988 and not operational at present.

Taking into account of the existing equipment, the number of required equipment is estimated as described below.

Applicable type of well drilling equipment is determined considering the geological formation of the province, the easiness to technically operate. Both types of percussion and rotary are suitable for the soft and hard formations, and the percussion type can be easily operated and maintained without special training to drillers compared with the latter, it is very useful to bores in the boulders or cobbles formations. Thus, the drilling equipment of percussion type is recommendable to be selected in the PW4SP preparation.

Table 8.6.1 Urban Water Supply Facilities Required by Target Year

| Name of Municipality | Reference on Expansion of Existing Level III System | | | | Phase I (2005) Requirements | | | | Phase II (2010) Requirements | | | | | |
|----------------------|---|-------|------------------------|-------------------|-----------------------------|--------------------|------------------------------------|-----------------------------|--|------------------------------------|------------------------------------|-----------------------------|--|------------------------------------|
| | Name of Operating Body | Area | Coverage in 1998 | | Type of Water Source | Plan for Expansion | Additional Population to be Served | Number of House Connections | Daily Average Water Demand (m ³ /day) | Number of Spring Dev't./ Deep Well | Additional Population to be Served | Number of House Connections | Daily Average Water Demand (m ³ /day) | Number of Spring Dev't./ Deep Well |
| | | | No. of Barangay Served | Served Population | | | | | | | | | | |
| Alitavas | | Urban | 1 | 200 | DW | No | 371 | 68 | 37 | 1 | 2,539 | 635 | 254 | 1 |
| | | Rural | | 200 | | | | | | | | | | |
| | | Total | 1 | 200 | | | | | | | | | | |
| Balete | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 214 | 43 | 21 | 1 | 1,719 | 430 | 172 | 1 |
| | | Rural | N.A. | N.A. | | | | | | | | | | |
| | | Total | N.A. | N.A. | | | | | | | | | | |
| Banga | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 284 | 56 | 28 | 1 | 2,044 | 511 | 204 | 1 |
| | | Rural | N.A. | N.A. | | | | | | | | | | |
| | | Total | N.A. | N.A. | | | | | | | | | | |
| Batan | Batan RWV | Urban | 1 | 1,225 | DW | No | 201 | 44 | 20 | 1 | 124 | 31 | 12 | 1 |
| | | Rural | 3 | 510 | | | | | | | | | | |
| | | Total | 4 | 1,735 | | | | | | | | | | |
| Buruanga | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 145 | 28 | 15 | 1 | 1,076 | 269 | 108 | 1 |
| | | Rural | N.A. | N.A. | | | | | | | | | | |
| | | Total | N.A. | N.A. | | | | | | | | | | |
| Ibajay | Ibajay WD | Urban | | | DW | No | 345 | 67 | 35 | 1 | 2,467 | 617 | 247 | 1 |
| | | Rural | 2 | 1,350 | | | | | | | | | | |
| | | Total | 2 | 1,350 | | | | | | | | | | |
| MCRWSA | | Urban | | | DW | No | | | | | | | | |
| | | Rural | 2 | 1,140 | | | | | | | | | | |
| | | Total | 2 | 1,140 | | | | | | | | | | |
| Rizal WW | | Urban | | | SP | No | | | | | | | | |
| | | Rural | 3 | 5,618 | | | | | | | | | | |
| | | Total | 3 | 5,618 | | | | | | | | | | |
| Municipal Total | | Urban | | | | | | | | | | | | |
| | | Rural | 7 | 8,108 | | | | | | | | | | |
| | | Total | 7 | 8,108 | | | | | | | | | | |
| Kalibo (Capital) | Kalibo WD | Urban | 30 | 30,205 | DW | No | 9,188 | 1,784 | 919 | 2 | 41,119 | 10,280 | 4,112 | 6 |
| | | Rural | | | | | | | | | | | | |
| | | Total | 30 | 30,205 | | | | | | | | | | |
| Leczo | Numancia WD (a) | Urban | 1 | 1,295 | DW | No | 282 | 60 | 28 | 1 | 688 | 172 | 69 | 1 |
| | | Rural | 5 | 829 | | | | | | | | | | |
| | | Total | 6 | 2,124 | | | | | | | | | | |
| Libacao | Libacao WD | Urban | | | DW | No | 377 | 71 | 38 | 1 | 2,912 | 728 | 291 | 1 |
| | | Rural | 1 | 2,695 | | | | | | | | | | |
| | | Total | 1 | 2,695 | | | | | | | | | | |
| Madalag | Madalag WW Coop. | Urban | 1 | 696 | DW/SP | No | 233 | 40 | 23 | 1 | 1,133 | 283 | 113 | 1 |
| | | Rural | | | | | | | | | | | | |
| | | Total | 1 | 696 | | | | | | | | | | |

Table 8.6.1 Urban Water Supply Facilities Required by Target Year (Cont'd)

| Name of Municipality | Reference on Expansion of Existing Level III System | | | | Phase I (2005) Requirements | | | | Phase II (2010) Requirements | | | | | |
|----------------------|---|-------|------------------------|------------------|-----------------------------|--------------------|------------------------------------|-----------------------------|------------------------------------|-------------------------|------------------------------------|-----------------------------|------------------------------------|-------------------------|
| | Name of Operating Body | Area | No. of Barangay Served | Coverage in 1998 | Type of Water Source | Plan for Expansion | Additional Population to be Served | Number of House Connections | Water Demand (m ³ /day) | Spring Dev't/ Deep Well | Additional Population to be Served | Number of House Connections | Water Demand (m ³ /day) | Spring Dev't/ Deep Well |
| | | | | | | | | | | | | | | |
| Makato | Numancia WD (b) | Urban | 1 | 1,506 | DW | No | 434 | 83 | 43 | 1 | 1,731 | 433 | 173 | 1 |
| | | Rural | 2 | 612 | | | | | | | | | | |
| | | Total | 3 | 2,118 | | | | | | | | | | |
| Malay | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 1,235 | 226 | 124 | 1 | 11,045 | 2,761 | 1,105 | 2 |
| | | Rural | N.A. | N.A. | | | | | | | | | | |
| | | Total | N.A. | N.A. | | | | | | | | | | |
| Malinao | Malinao WD | Urban | 1 | 1,500 | DW | No | 208 | 43 | 21 | 1 | 44 | 11 | 4 | 1 |
| | | Rural | 4 | 684 | | | | | | | | | | |
| | | Total | 5 | 2,184 | | | | | | | | | | |
| Nabas | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 508 | 101 | 51 | 1 | 3,765 | 941 | 377 | 1 |
| | | Rural | N.A. | N.A. | | | | | | | | | | |
| | | Total | N.A. | N.A. | | | | | | | | | | |
| New Washington | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 686 | 129 | 69 | 1 | 4,983 | 1,246 | 498 | 1 |
| | | Rural | N.A. | N.A. | | | | | | | | | | |
| | | Total | N.A. | N.A. | | | | | | | | | | |
| Numancia | CBCP | Urban | | | DW | No | 457 | 84 | 46 | 1 | 3,137 | 784 | 314 | 1 |
| | | Rural | 5 | 1,635 | | | | | | | | | | |
| | | Total | 5 | 1,635 | | | | | | | | | | |
| Numancia WD (c) | Not Applicable | Urban | 1 | 780 | DW | No | | | | | | | | |
| | | Rural | 10 | 4,746 | | | | | | | | | | |
| | | Total | 11 | 5,526 | | | | | | | | | | |
| Municipal Total | Not Applicable | Urban | 1 | 780 | N.A. | N.A. | 396 | 73 | 40 | 1 | 3,066 | 767 | 307 | 1 |
| | | Rural | 15 | 6,381 | | | | | | | | | | |
| | | Total | 16 | 7,161 | | | | | | | | | | |
| Tangalan | Not Applicable | Urban | N.A. | N.A. | N.A. | N.A. | 15,564 | 3,000 | 1,558 | 18 | 82,592 | 20,899 | 8,360 | 23 |
| | | Rural | 37 | 37,407 | | | | | | | | | | |
| | | Total | 74 | 57,226 | | | | | | | | | | |
| Provincial Total | Not Applicable | Urban | 37 | 37,407 | | | 15,564 | 3,000 | 1,558 | 18 | 82,592 | 20,899 | 8,360 | 23 |
| | | Rural | 37 | 37,407 | | | | | | | | | | |
| | | Total | 74 | 57,226 | | | | | | | | | | |

Table 8.6.2 Plan for Expansion of Existing Level III Systems

| Name of Municipality | Name of Operating Body | Additional Areas Barangay to be Covered | Additional Population to be Served | Additional Water Sources | |
|----------------------|------------------------|---|------------------------------------|--------------------------|--------------------------------|
| | | | | Type | Capacity (m ³ /day) |
| Altavas | Altavas | | | | |
| Batan | Batan RWW | | | | |
| Ibajay | Ibajay WD | | | | |
| | MCRWSA | | | | |
| | Rizal WW | | | | |
| | Municipal Total | | | | |
| Kalibo (Capital) | Kalibo WD | | | | |
| Lezo | Numancia WD (a) | | | | |
| Libacao | Libacao WD | | | | |
| Madalag | Madalag WW Coop. | | | | |
| Makato | Numancia WD (b) | | | | |
| Malinao | Malinao WD | | | | |
| Numancia | CBCP | | | | |
| | Numancia WD (c) | | | | |
| | Municipal Total | | | | |

Table 8.6.3(a) Rural Water Supply Facilities Required by Target Year

| Name of Municipality | Phase I (2005) Requirements | | | | | | | | | | Phase II (2010) Requirements | | | | | | |
|-------------------------|-----------------------------|-------------------------|----------------------|------|-------|-----------|----------------------|-------|----------------------|---------|------------------------------|--------------|----------------------|-------|--------------|------------|--------------|
| | Level II | | Level I | | | | | | | Level I | | | | | | | |
| | Number of System | No. of Communal Faucets | Number of Deep Wells | | | | No. of Shallow Wells | Total | Number of Deep Wells | | | Sub-total | No. of Shallow Wells | Total | | | |
| | | | 40 m | 80 m | 120 m | Sub-total | | | 40 m | 80 m | 120 m | | | | | | |
| Ahavas | 4 | 56 | | | | | | | | | | 132 | | | 132 | 32 | 164 |
| Balete | 2 | 40 | 3 | | | | 3 | | | | | 178 | | | 178 | 76 | 254 |
| Banga | | | 23 | | | | 23 | | | | | 168 | | | 168 | 41 | 209 |
| Batan | | | 25 | | | | 25 | | | | | 250 | | | 250 | | 250 |
| Buruanga | | | | | | | | | | | | | | | | 51 | 51 |
| Ibajay | 9 | 101 | | | | | | | | | | 94 | | | 94 | 10 | 104 |
| Kaibobo (Capital) | | | | | | | | | | | | | | | | | |
| Lezo | | | 11 | | | | 11 | | | | | | | | 80 | | 80 |
| Libaciao | | | 2 | | | | 2 | | | | | 10 | | | 10 | 85 | 95 |
| Madalag | | | 2 | | | | 2 | | | | | 22 | | | 22 | 197 | 219 |
| Makato | | | 20 | | | | 20 | | | | | 161 | | | 161 | 17 | 178 |
| Malay | 2 | 40 | 2 | | | | 2 | | | | | 71 | | | 71 | 284 | 355 |
| Mainiao | 3 | 60 | | | | | | | | | | 100 | | | 100 | 24 | 124 |
| Nabas | | | 9 | | | | 9 | | | | | 44 | | | 44 | 44 | 88 |
| New Washington | | | 27 | | | | 27 | | | | | 59 | | | 59 | | 59 |
| Numancia | | | 22 | | | | 22 | | | | | 86 | | | 86 | | 86 |
| Tangalan | | | 12 | | | | 12 | | | | | 100 | | | 100 | 24 | 124 |
| Provincial Total | 20 | 297 | 158 | | | | 158 | | | | | 1,555 | | | 1,555 | 885 | 2,440 |

Table 8.6.3(b) Rural Water Supply Facilities Required by Target Year

| Name of Municipality | Phase I (2005) Requirements | | | | | | | | | | | Phase II (2010) Requirements | | | | | | | | | | | | |
|-------------------------|--|-------|-----------|----------------------|------------|--------------------|-------------|--------------------|------|-------------|-----------|--|-------|--------------------|----------------------|--------------|-------|-------|--------------------|----------------------|-------------|--------------------|--------------|--|
| | Percentage Allocated to Public Facility (50%) | | | | | | | | | | | Percentage Allocated to Public Facility (50%) | | | | | | | | | | | | |
| | Percentage Allocated for Public Wells (100%) and Percentage Allocated for Public Spring Development (0%) | | | | | | | | | | | Percentage Allocated for Public Wells (100%) and Percentage Allocated for Public Spring Development (0%) | | | | | | | | | | | | |
| | Number of Deep Wells | | | No. of Shallow Wells | | Total | | No. of Spring Dev. | | Grand Total | | Number of Deep Wells | | | No. of Shallow Wells | | Total | | No. of Spring Dev. | | Grand Total | | | |
| 40 m | 80 m | 120 m | Sub-total | No. of Shallow Wells | Total | No. of Spring Dev. | Grand Total | 40 m | 80 m | 120 m | Sub-total | No. of Shallow Wells | Total | No. of Spring Dev. | Grand Total | 40 m | 80 m | 120 m | Sub-total | No. of Shallow Wells | Total | No. of Spring Dev. | Grand Total | |
| Altavas | | | | | | | | 66 | | | | 66 | | | | 82 | | | | 16 | | | 82 | |
| Balete | 2 | | 2 | 2 | 2 | | 2 | 89 | | | | 89 | | | | 127 | | | | 38 | | | 127 | |
| Banga | 12 | | 12 | 2 | 14 | | 14 | 84 | | | | 84 | | | | 105 | | | | 21 | | | 105 | |
| Batan | 13 | | 13 | 6 | 13 | | 13 | 125 | | | | 125 | | | | 125 | | | | 26 | | | 125 | |
| Buruanga | | | | 6 | 6 | | 6 | | | | | | | | | 26 | | | | 5 | | | 26 | |
| Ibajay | | | | | | | | 47 | | | | 47 | | | | 52 | | | | 5 | | | 52 | |
| Kalibo (Capital) | | | | | | | | | | | | | | | | | | | | | | | | |
| Lezo | 6 | | 6 | 6 | 6 | | 6 | 40 | | | | 40 | | | | 40 | | | | 43 | | | 40 | |
| Libacato | 1 | | 1 | 9 | 10 | | 10 | 5 | | | | 5 | | | | 48 | | | | 11 | | | 48 | |
| Madalag | 1 | | 1 | 7 | 8 | | 8 | 11 | | | | 11 | | | | 110 | | | | 99 | | | 110 | |
| Makato | 10 | | 10 | 1 | 11 | | 11 | 81 | | | | 81 | | | | 89 | | | | 8 | | | 89 | |
| Malay | 1 | | 1 | 4 | 5 | | 5 | 36 | | | | 36 | | | | 178 | | | | 142 | | | 178 | |
| Maimao | | | | | | | | 50 | | | | 50 | | | | 62 | | | | 12 | | | 62 | |
| Nabas | 5 | | 5 | 4 | 9 | | 9 | 22 | | | | 22 | | | | 44 | | | | 22 | | | 44 | |
| New Washington | 14 | | 14 | | 14 | | 14 | 30 | | | | 30 | | | | 30 | | | | 30 | | | 30 | |
| Numancia | 11 | | 11 | | 11 | | 11 | 43 | | | | 43 | | | | 43 | | | | 43 | | | 43 | |
| Tangalan | 6 | | 6 | 1 | 7 | | 7 | 50 | | | | 50 | | | | 62 | | | | 12 | | | 62 | |
| Provincial Total | 82 | | 82 | 34 | 116 | | 116 | 779 | | | | 779 | | | | 1,223 | | | | 444 | | | 1,223 | |

Medium size percussion drilling rig (truck-mounted type for deep well):

Average performance

- 1 well/30 days (5 m/day of drilling rate with finishing work)

Annual accomplishment

- 9 wells/year (365 days/year ÷ 30 days/well x 0.75)

Required number

- 2 sets for the total 82 deep wells

Well rehabilitation equipment:

Average performance

- 1 well/7 days (well redevelopment and finishing work)

Annual accomplishment

- 39 wells/year (365 days/year ÷ 7 days/well x 0.75)

Required number

- 1 set for 10% of 82 Level I deep wells

Support vehicle:

Type - pick-up truck with winch, double cab

Required number

- 1 unit for well rehabilitation

Considering the condition of existing rotary drilling rigs, it is necessary for the province to procure/mobilize 2 units of medium size percussion rig for the medium-term development plan. Likewise the following equipment shall be considered for medium-term development plan to meet the physical targets:

- 1 set of well rehabilitation equipment for 10% of deep wells (at least 1 set shall be held by the provincial government); and
- 1 unit of support vehicle for well rehabilitation.

In addition to the above, for long-term plan, each one unit of medium size percussion rig and service truck equipped with crane for hauling drilling tools/water is required.

Table 8.6.5 Rural Household Toilets Required by Target Year

| Name of Municipality | Phase I (2005) Requirements | | | | | | Phase II (2010) Requirements | | | | | |
|-------------------------|-----------------------------|--------------|---------------|-------------------------|--------------|---------------|------------------------------|---------------|--------------|-------------------------|---------------|---------------|
| | Additional HHs to be Served | | | No. of HHs to be Served | | | Additional HHs to be Served | | | No. of HHs to be Served | | |
| | Flush | Pour Flush | VIP/ Dry | Total | Flush | Pour Flush | VIP/ Dry | Total | Flush | Pour Flush | VIP/ Dry | Total |
| Atavas | 479 | 453 | 932 | 479 | 453 | 932 | 1,880 | 1,880 | 1,880 | 1,880 | 1,880 | 1,880 |
| Balete | 1,437 | 1,437 | 1,437 | 1,437 | 1,437 | 1,437 | 1,469 | 1,469 | 1,469 | 1,469 | 1,469 | 1,469 |
| Banga | 646 | 646 | 646 | 646 | 646 | 646 | 2,696 | 2,696 | 2,696 | 2,696 | 2,696 | 2,696 |
| Batan | 636 | 597 | 1,233 | 636 | 597 | 1,233 | 500 | 1,558 | 500 | 1,558 | 2,058 | 2,058 |
| Buruanga | 693 | 256 | 949 | 693 | 256 | 949 | 924 | 924 | 924 | 924 | 924 | 924 |
| Ibajay | 410 | 744 | 1,154 | 410 | 744 | 1,154 | 732 | 1,923 | 732 | 1,923 | 2,655 | 2,655 |
| Kailbo (Capital) | | | | | | | | | | | | |
| Lezo | 196 | 196 | 196 | 196 | 196 | 196 | 145 | 871 | 145 | 871 | 1,016 | 1,016 |
| Libacao | 1,029 | 1,029 | 1,029 | 1,029 | 1,029 | 1,029 | 430 | 1,510 | 430 | 1,510 | 1,940 | 1,940 |
| Madaia | 1,102 | 1,102 | 1,102 | 1,102 | 1,102 | 1,102 | 1,856 | 1,856 | 1,856 | 1,856 | 1,856 | 1,856 |
| Makato | 379 | 379 | 379 | 379 | 379 | 379 | 586 | 2,017 | 586 | 2,017 | 2,603 | 2,603 |
| Malay | 1,243 | 428 | 1,671 | 1,243 | 428 | 1,671 | 3,710 | 3,710 | 3,710 | 3,710 | 3,710 | 3,710 |
| Malinao | 415 | 415 | 415 | 415 | 415 | 415 | 528 | 1,542 | 528 | 1,542 | 2,070 | 2,070 |
| Nabas | 31 | 31 | 31 | 31 | 31 | 31 | 1,768 | 1,768 | 1,768 | 1,768 | 1,768 | 1,768 |
| New Washington | 570 | 45 | 615 | 570 | 45 | 615 | 2,769 | 2,769 | 2,769 | 2,769 | 2,769 | 2,769 |
| Numancia | 958 | 958 | 958 | 958 | 958 | 958 | 253 | 2,134 | 253 | 2,387 | 2,387 | 2,387 |
| Tangalan | 615 | 615 | 615 | 615 | 615 | 615 | 1,827 | 1,827 | 1,827 | 1,827 | 1,827 | 1,827 |
| Provincial Total | 10,839 | 2,523 | 13,362 | 10,839 | 2,523 | 13,362 | 3,174 | 30,454 | 3,174 | 30,454 | 33,628 | 33,628 |

Table 8.6.6 Public School Toilets Required by Target Year

| Name of Municipality | Phase I (2005) Requirements | | | Phase II (2010) Requirements | | |
|-------------------------|--|--------------------|--------------------------|--|--------------------|--------------------------|
| | Additional Public School Students to be Served | No. of Toilet Unit | No. of Toilet Facilities | Additional Public School Students to be Served | No. of Toilet Unit | No. of Toilet Facilities |
| Altavas | 1,276 | 32 | 7 | 1,789 | 45 | 9 |
| Balete | 965 | 25 | 5 | 781 | 20 | 4 |
| Banga | | | | 694 | 18 | 4 |
| Batan | 1,439 | 36 | 8 | 3,691 | 93 | 19 |
| Buruanga | 676 | 17 | 4 | 1,463 | 37 | 8 |
| Ibajay | 874 | 22 | 5 | 1,983 | 50 | 10 |
| Kalibo (Capital) | 3,670 | 92 | 19 | 2,213 | 56 | 12 |
| Lezo | 702 | 18 | 4 | 263 | 7 | 2 |
| Libacao | 1,289 | 33 | 7 | 1,507 | 38 | 8 |
| Madalag | 1,062 | 27 | 6 | 1,560 | 39 | 8 |
| Makato | 1,362 | 35 | 7 | 2,953 | 74 | 15 |
| Malay | 1,568 | 40 | 8 | 5,123 | 129 | 26 |
| Malinao | 1,236 | 31 | 7 | 693 | 18 | 4 |
| Nabas | 1,293 | 33 | 7 | 1,707 | 43 | 9 |
| New Washington | 1,447 | 37 | 8 | 3,542 | 89 | 18 |
| Numancia | 1,131 | 29 | 6 | 3,375 | 85 | 17 |
| Tangalan | | | | 729 | 19 | 4 |
| Provincial Total | 19,990 | 507 | 108 | 34,066 | 860 | 177 |

Table 8.6.7 Public Toilets Required by Target Year

| Name of Municipality | Phase I (2005) Requirements | | | | | Phase II (2010) Requirements | | | | |
|-------------------------|-----------------------------|----------------------|------------------|-----------|--|------------------------------|----------------------|------------------|-----------|-----------|
| | Number of Public Toilets | | | | | Number of Public Toilets | | | | |
| | Public Market | Bus/Jeepney Terminal | Parks/Playground | Total | | Public Market | Bus/Jeepney Terminal | Parks/Playground | Total | Total |
| Aktavas | 1 | | 1 | 2 | | 1 | | 1 | 2 | 2 |
| Balete | 1 | | 1 | 2 | | 1 | | 1 | 2 | 2 |
| Banga | 1 | | 1 | 2 | | 1 | | 1 | 2 | 2 |
| Batan | 1 | 1 | | 2 | | 1 | 1 | 1 | 3 | 3 |
| Buruanga | 1 | 1 | | 2 | | 1 | 1 | | 2 | 2 |
| Ibajay | 1 | | 1 | 2 | | 1 | | 1 | 2 | 2 |
| Kalibo (Capital) | 1 | 1 | 1 | 3 | | 1 | 1 | 1 | 3 | 3 |
| Lezo | 1 | | | 1 | | 1 | | 1 | 2 | 2 |
| Libacao | 1 | 1 | | 2 | | 1 | 1 | | 2 | 2 |
| Madalag | 1 | 1 | | 2 | | 1 | 1 | | 2 | 2 |
| Makato | 1 | | 1 | 2 | | 1 | | 1 | 2 | 2 |
| Malay | 3 | 1 | 1 | 5 | | 1 | 1 | 1 | 2 | 2 |
| Malinao | 1 | | 1 | 2 | | 1 | 1 | 1 | 2 | 2 |
| Nabas | 1 | | 1 | 2 | | 1 | | 1 | 2 | 2 |
| New Washington | | 1 | 1 | 2 | | | 1 | 1 | 2 | 2 |
| Numancia | 1 | | 1 | 2 | | | 1 | 1 | 2 | 2 |
| Tangalan | 1 | | 1 | 2 | | | 1 | 1 | 2 | 2 |
| Provincial Total | 18 | 7 | 12 | 37 | | 14 | 8 | 14 | 36 | 36 |

**SECTOR IMPLEMENTATION
ARRANGEMENTS**

C

9. SECTOR MANAGEMENT FOR MEDIUM-TERM DEVELOPMENT

9.2 Sector Management

Accessing ODA Funds for Level III Systems

When considering sources of financing for new Level III systems or for existing Level III systems that are expanding, LGUs may tap their IRA or they may borrow funds from commercial or ODA institutions. In the case of LGUs that have formed a Water District to operate their system, a ready source of loan funds is the LWUA.

This section discusses how an LGU can access funds from an ODA agency in order to develop its Level III water system. It is presumed that the proposed Level III project has gone through the Project Development process stipulated by the NEDA in Rule 7, Articles 24 – 26 of its IRR of Board Resolution No. 4 (Series of 1994), Clause (G). Specifically, the proposed Level III project must be consistent with the Provincial/City/Municipal Water Supply, Sewerage and Sanitation Sector Plan that has been prepared and annually updated by their respective Planning and Development Office(s). On the basis of these local council approved sector plans, water supply investments will have been identified and developed into a local investment program that includes an appropriate financing plan.

It is worthwhile to reiterate the following NEDA prescriptions regarding project identification:

- "proposed investments shall be developed according to a demand-driven approach that would allow beneficiaries to select from among cost-effective technical options and from financing options. The LGUs may avail of technical assistance from the DILG in the preparation of these project packages (Rule 5)."
- "LGU systems shall be constructed on the basis of choosing among technical options that are affordable through the financial resources made available by users, communities and LGUs. The process of determining demand for a particular service delivery shall be concluded through a negotiated agreement between the LGU, water utility and the users, on how the costs will be shared at the town, barangay, and household levels."
- "for any Level III service, at least two technical options shall be explored: those of an inter-LGU service delivery organization involving amalgamation of service areas and of single LGU management systems."

(1) Project Initiation Stage

Based on their respective approved water sector plans, the province/municipality proposes a specific Level III water system following the NEDA guidelines on project identification. The provinces and component municipalities may submit their respective project proposals for ODA funding to the DILG. The DILG examines such requests and ensures that they are in conformity with the NEDA's Medium Term Public Investment Program (MTPIP), a master list of projects from which ODA agencies can select specific projects that they can fund. From the MTPIP, the ODA loan agency prepares its own short list of potential province and municipality beneficiaries/ grantees of its loan program. The ODA loan agency then proceeds to conduct its own feasibility study concerning its loan program and discusses this extensively with both the NEDA and the DILG (since the DILG will be the implementing agency for the ODA loan).

While the DILG is designated as the implementing agency for the ODA loan program, a domestic lending institution (e.g. the Development Bank of the Philippines or DBP) can be contracted to administer the loan package and on-lend ODA funds to specific LGUs. [Note that the LWUA has served and continues to serve as a conduit for loans to Water Districts.] Under such a working arrangement, the DILG, the ODA agency, and the domestic lending institution affix their signatures on the ODA program loan documents.

The DILG now pre-screens LGUs who have expressed intent to borrow funds from the ODA loan facility. Together with consultants from the ODA agency, the DILG conducts briefings on the loan conditions to make sure that the province/municipality fully understands the financial and institutional commitments they have to make once they contract the loan. The respective local councils (e.g. Sanggunians) deliberate whether they are able to and will partake of the loan. Should the Sanggunian decide that they can meet the loan commitments, they submit an official letter of interest (LOI) to the DILG. The DILG, with assistance provided by the ODA agency, evaluates the various LOIs from different LGUs and selects which specific projects will be eligible to borrow from the ODA loan facility.

(2) Project Implementation Stage

At this point, the province/municipality with the Level III system project can now sign the loan documents with the designated local on-lending institution. For the construction of the Level III water system, the LGU itself (or the LGU company formed to undertake the project) is expected to bid out the job to contractors from the private sector. The bidding process should be a transparent one with a public announcement of the bidding,

publication of pre-qualified construction companies, and a well-documented decision by the bids and awards committee. During the construction of the Level III water system, the LGU unit tasked to monitor the construction activity should carry out periodic inspections. Final inspection is done upon completion of the construction contract. Throughout the period of the bidding process and actual construction, the DILG can be tapped by the LGU for assistance on various technical and institutional-building matters.

The private sector contractor submits its periodic billings to the LGU. After the necessary inspections are done, the LGU in turn forwards this bill to the domestic lending institution for payment. Given that all documents are in order, the domestic lending institution requests for fund remittance from the ODA agency. Once the funds are remitted, the domestic lending institution settles the bills with the private contractor.

As far as repayment of the loan is concerned, the LGU is responsible for paying the loan since it was the signatory of the loan. Through the operations of the completed Level III water system, the LGU is able to collect the corresponding tariffs from the different consumer households. From these revenues, the LGU re-pays the loan capital and interest to the domestic lending institution, which in turn remits these proceeds to the ODA loan agency. This process is repeated throughout the term of the loan.

9.4 Project Management Arrangements

9.4.1 Project Approach/Strategy

Integration of Waterworks

The province may also initiate the establishment of an Integrated Waterworks (IWW) facility that will merge the management operations of adjoining municipalities, which have existing or proposed Level III water systems. This may not necessarily involve the integration of the physical facilities because of the distance and sparse location of municipalities, but rather only the management aspect of it. Article 8 of the IRR of NEDA Board Resolution No. 4 (Series of 1994), Clause (G) states that: "An LGU may also consider amalgamating or consolidating its system with that of its neighboring LGUs in order to benefit from economies of scale that could expand water supply services to consumers at the lowest possible cost."

The advantages of an IWW facility are as follows:

- Comprehensive water sector planning at the provincial level is facilitated. Investments in developing larger water sources and reservoirs can be considered at the planning stage (in the case of municipalities that are in close proximity with each other).

- The overhead cost involved in maintaining and operating a large waterworks system can be reduced since redundancies in equipment and manpower resources will be eliminated. Municipalities will no longer have to purchase and maintain their own waterworks construction equipment. As a result, there will be greater utilization of such equipment. Engineering and management staff that are currently needed to run the municipal waterworks system can be transferred to other functions.
- The province will be able to hire and retain professional engineering and management staff who will assume greater responsibilities and duties. This will eventually translate to a higher level of service to the communities served by the IWW facility.
- Access to loan funds (from both ODA and commercial sources) for the construction of the waterworks system will be easier since the lending institution will deal with a single entity. Lending institutions prefer such a set-up since the loan evaluation and the corresponding loan monitoring is simpler.
- The IWW facility will be more attractive to more reputable private sector corporations, both local and foreign. The province will be able to generate more interest from private sector players who may want to develop waterworks systems on a BOT/BO/BOO basis or jointly with the LGU. The LGU may also tap these same private sector players to operate and maintain the existing distribution network under any form of contract – service, management, lease, or concession.

The organizational structure of the IWW should contain, at the least, 5 sections – Administration, Finance, Engineering, Operations & Maintenance, and a Meter Reading and Tariff Collection unit. The Administration and Finance departments will handle matters related to human resources development, financial planning and control, and other related concerns. The Engineering section is expected to concentrate on water system planning and design. The Operations & Maintenance unit will ensure that the water system is operating efficiently (e.g. minimal system losses) and that water quality is always satisfactory by conducting strict monitoring activities. Any construction activity, including the installation of water meters, will be contracted out to the private sector so there will be no need for a large pool of both equipment and manpower. Water samples can be tested in existing private or government laboratories if the IWW will not maintain its own laboratory. The Meter Reading and Tariff Collection unit will be in charge of the all-important task of determining individual household consumption and collecting the corresponding tariff due. The actual conduct of these two activities can be contracted out to the private sector through a service contract.

The financial and operating condition of the IWW facility should be reported periodically to the provincial and municipal governments. In addition, the rates that the IWW will charge

consumers will be set under the supervision of a regulatory authority and any proposed changes should first be presented and discussed in a public hearing.

The success of the IWW facility depends on the full support of the local governments of both the province and the component municipalities. Such support shall be in the form of strengthening the management and engineering capabilities of the IWW staff. Any loan needed by the IWW should be endorsed, and if possible guaranteed, by the LGUs concerned. Initial capital requirements can even be sourced from these LGUs.

9.4.2 Project Implementation Arrangements

Project Implementation Arrangement and Procedure

Together with the Figures (Figure 9.4.1 and 9.4.2), the following are the project implementation arrangement and procedure for Level I and sanitation from national level to barangay levels, which are designed to encourage active participation of implementers and beneficiaries in undertaking the project.

(1) National Government Level

Project Planning/Launching Workshop as start-up activity will be conducted to introduce and orient the implementers on the Project, define their roles, responsibilities and relationships among them and formulate provincial action plans. The Consultant, upon completion of the training needs assessment and development of appropriate training programs shall conduct capacity enhancement for the WSS-PMO Staff, NGOs, DPWH and DOH representatives. This activity aims to strengthen their competence in technical, managerial, training and community organizing and gender responsiveness. The trained members are responsible to facilitate the organization/reactivation of the PWSU and information dissemination for the provincial officials to secure their support and commitment to the Project. With the assistance from the Consultant, they will enhance the capacity of the PWSU, the MSLT and COs/NGOs in planning, implementing, monitoring and evaluating the project.

(2) Local Government Level

The PWSU shall assist the MSLT in each municipality and conduct information dissemination for the municipal officials to orient them on the project and obtain their support and commitment. With the PWSU assistance, the trained MSLT members shall select priority barangays, in coordination with the municipal development council. The Team will be responsible for facilitating barangay activities such as consultation meetings with barangay officials and community members, barangay survey and spot mapping,

formation of BWSA/RWSA, pre-construction conference, and supervision of construction. Skills training will be conducted for the operating body in maintaining and managing the project. They shall also provide continuing assistance and monitor the activities of the beneficiaries and status of the project.

(3) Barangay Level

The barangay officials/development councils shall provide support to the PWSU and MSLT members in conducting activities and mobilizing resources in the barangay. Men and women volunteer shall conduct barangay survey and spot mapping to confirm their demand for the level of service, HH latrines and willingness to operate and maintain the facilities and counterpart. The community members decide on the operating body, tap existing community-based organization or organize a BWSA/RWSA. They have also to agree on the monthly water fees and provide labor and local materials during the construction of facilities. The BOD/Officers, Bookkeeper and Caretaker of the operating body shall attend skills training to develop their competence in performing their jobs. The beneficiaries shall provide information and request assistance from the PWSU/MSLT members, if necessary.

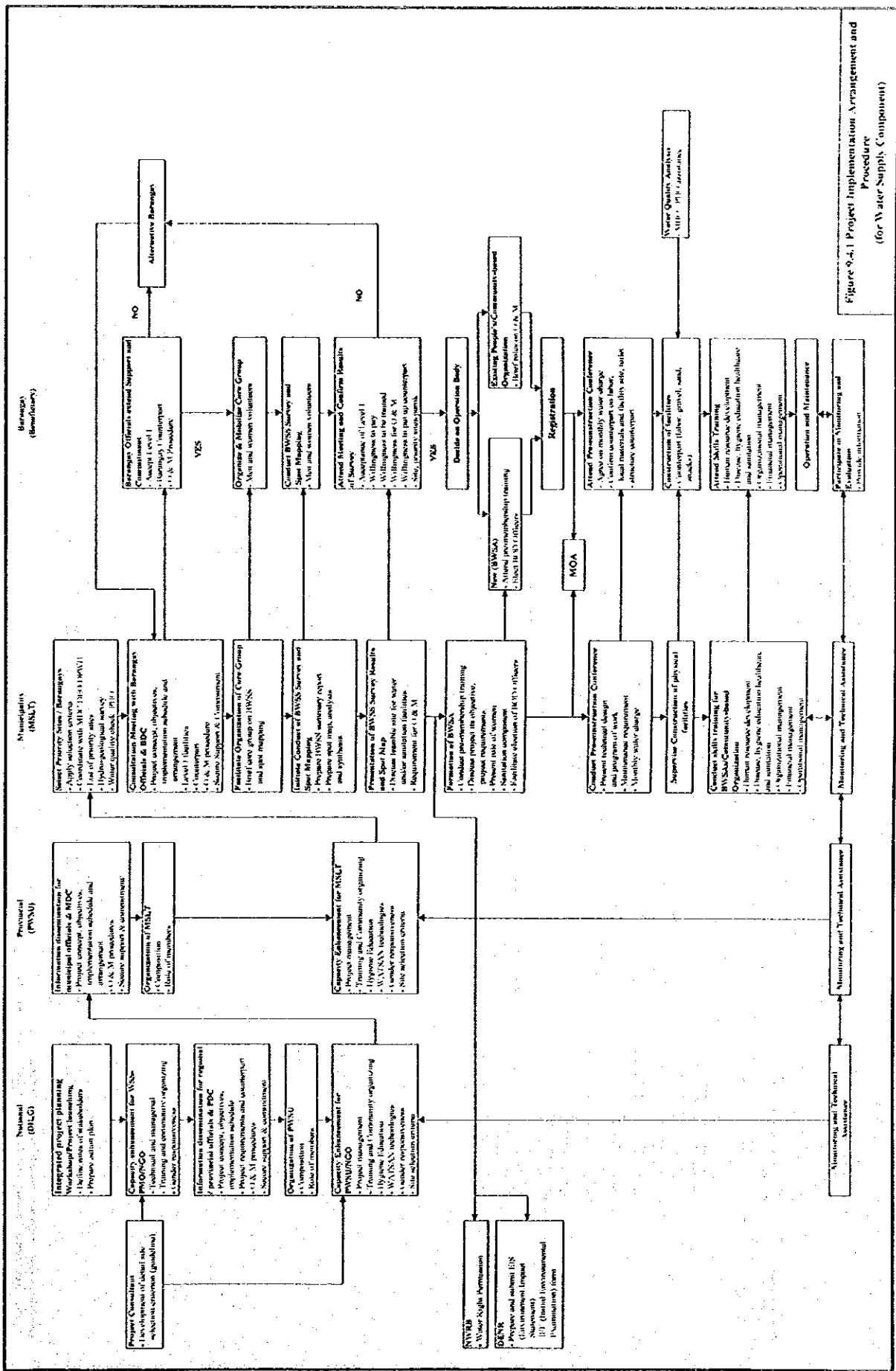


Figure 9-4.1 Project Implementation Arrangement and Procedure (for Water Supply Component)

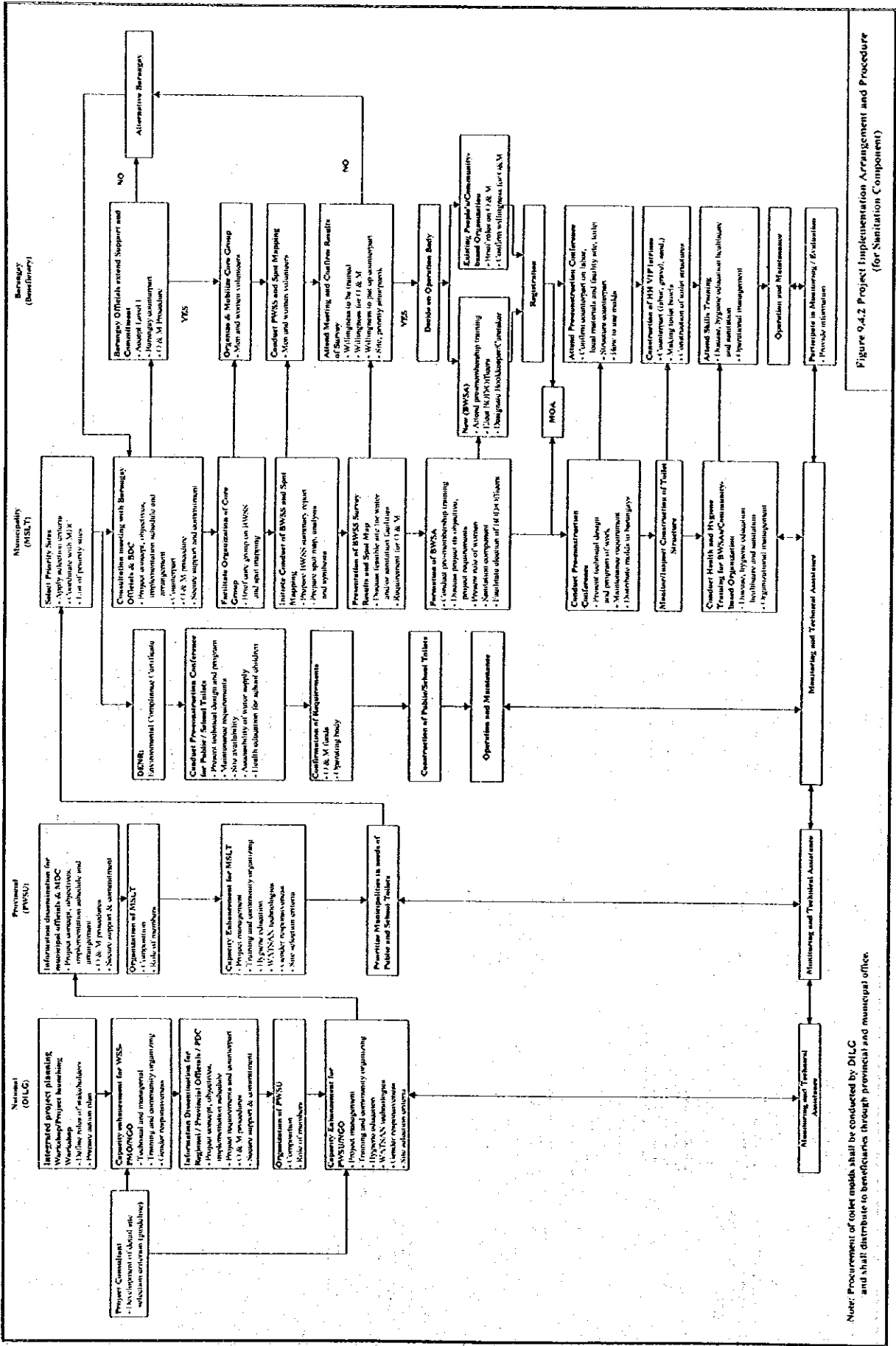


Figure 9.4.2 Project Implementation Arrangement and Procedure (for Sanitation Component)

Note: Procurement of toilet needs shall be conducted by DLC and shall distribute to beneficiaries through provincial and municipal office.

PROPOSED SITE SELECTION CRITERIA

Barangay: _____ Municipality: _____ Province: _____

(1). Required Items

| Item No. | Description | Score |
|----------|---|-----------|
| 1. | No alternative water source except ground water | OK or Not |
| 2. | Acceptance of Level I facility | OK or Not |

(2) Technical & Socio Economical Requirements 60%

| Item No. | Description | Score |
|----------|--|-------|
| 1. | Water source availability (quality and quantity) | 20% |
| 2. | Incidence of water-borne disease | 25% |
| 3. | Accessibility of well drilling machine to water source | 15% |

(3) Community Interest and Involvement 40%

| Item No. | Description | Score |
|----------|--|-------|
| 1. | Willingness to assume responsibility for operating and maintenance of the facility/ies | 10% |
| 2. | Willingness to be trained on O&M | 5% |
| 3. | Willingness to pay for water fees | 15% |
| 4. | Willingness to put up counterpart | 10% |

(4) Total Score

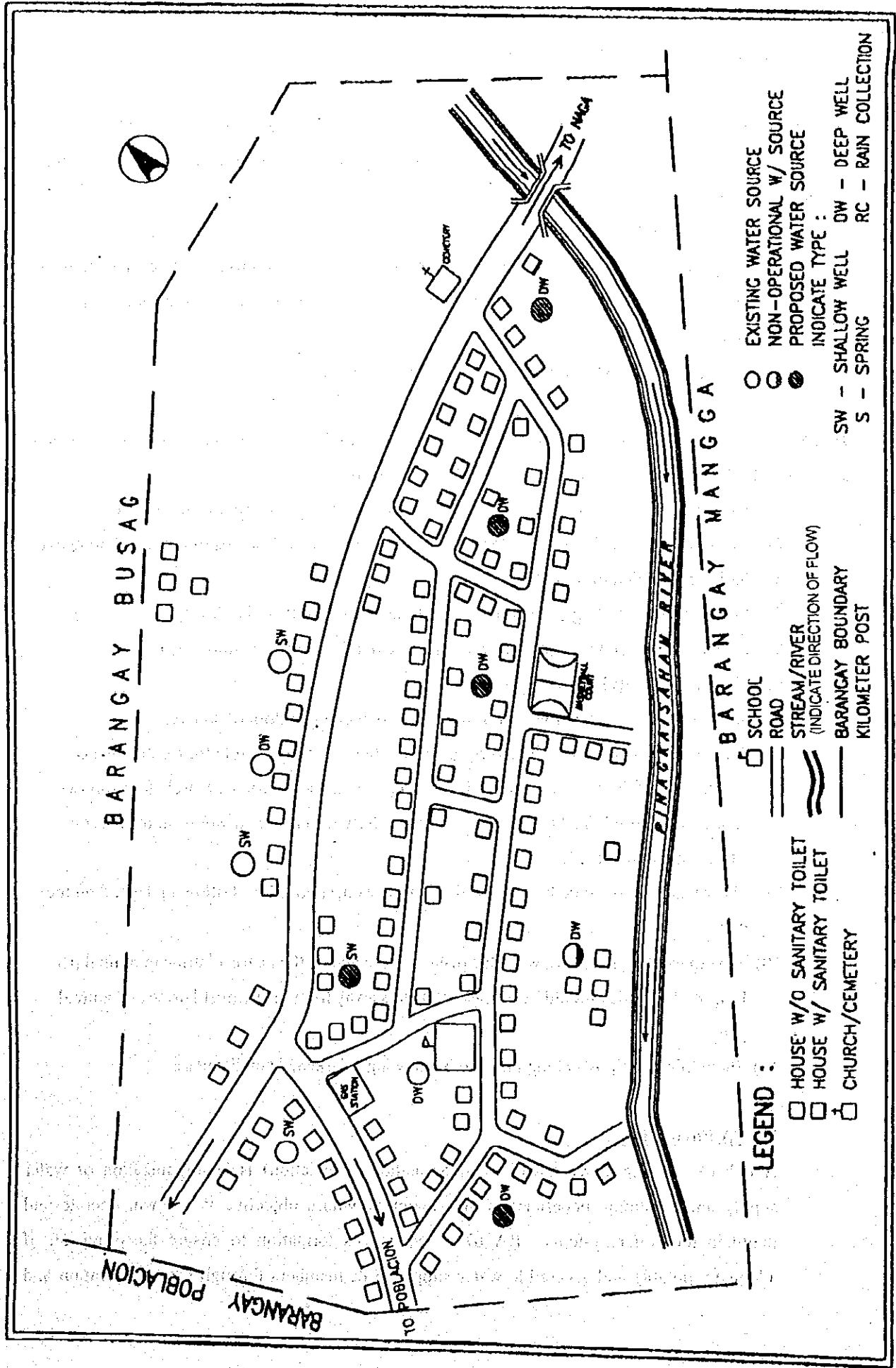
| Item No. | Description | Score |
|----------|------------------------------------|-----------|
| (1) | Required items | OK or Not |
| (2) | Physical requirements | |
| (3) | Community interest and involvement | |

Total Score

Proposed Capacity Enhancement Program

| Activity/Participation | Course Content |
|--|---|
| 1. Project Planning/Launching Workshop DILG (WSS-PMO) DPWH, DOH, NWRB NEDA, DOF, OECF | 1. Project Concept, Objective, Project Requirements, Implementation schedule and arrangements 2. Role and responsibility of national government agencies, LGUs (provide and municipalities and project beneficiaries) 3. Action Plan by province |
| 2. Capacity Enhancement for WSS-PMO, NGOs, DOH and DPWH | 1. Project Concept (objectives, components, requirements, implementation arrangement, O&M systems and procedure, etc.) 2. Sector Development and existing Policies 3. Project Planning, Management and Control 4. Team Building Exercise 5. Presentation and Facilitating Skills 6. Methods of Instruction 7. Community Organization/Community Development 8. Barangay Surveys and Spot Mapping 9. Formulation of BWSA 10. Health and Hygiene Education 11. Technical Training <ul style="list-style-type: none"> - Designing and Construction - Water Source Investigation 12. Skills Training for Operating Body <ul style="list-style-type: none"> - Organizational Management - Financial Management - Operational Management 13. Gender Responsiveness 14. Monitoring |
| 3. Capacity Enhancement for LGUs (PWSU, MSLT, CO/NGOs) | 1. Project Concept (objectives, components, requirements, implementation arrangement, O&M systems and procedure, etc.) 2. Sector Development and existing Policies 3. Project Planning, Management and Control 4. Team Building Exercise 5. Methods of Instruction 6. Presentation and Facilitating Skills 7. Community Organization/Community Development 8. Barangay Surveys and Spot Mapping 9. Formulation of BWSA 10. Health and Hygiene Education 11. Technical Training <ul style="list-style-type: none"> - Designing and Construction of WATSAN facilities - Water Source Investigation 12. Skills Training for Operating Body <ul style="list-style-type: none"> - Organizational Management - Financial Management - Operational Management 13. Gender Responsiveness 14. Monitoring |
| 4. Capacity Enhancement for Operating body (BOD/Officers, Bookkeeper, Caretakers) | 1. Project concept (objectives, components, requirements, implementation arrangements, O&M systems and procedures, etc.) 2. Human Resources Development (Team Building, Leadership and Value Formation) 3. Disease, Hygiene, Education, Health Care and Sanitation (Excreta, Liquid and Solid Waste Disposal) 4. Organizational Management (BWSA Management Skills) 5. Operational Management (Operation, repair and maintenance skills) 6. Financial Management (Simplified Bookkeeping Procedures) 7. Greater Participation of Women 8. Monitoring and Evaluation |

SPOT MAP



- LEGEND :**
- HOUSE W/O SANITARY TOILET
 - HOUSE W/ SANITARY TOILET
 - CHURCH/CEMETERY
 - SCHOOL
 - ROAD
 - STREAM/RIVER (INDICATE DIRECTION OF FLOW)
 - BARANGAY BOUNDARY
 - KILOMETER POST
 - EXISTING WATER SOURCE
 - NON-OPERATIONAL W/ SOURCE
 - PROPOSED WATER SOURCE
 - INDICATE TYPE :
 - SW - SHALLOW WELL
 - S - SPRING
 - DW - DEEP WELL
 - RC - RAIN COLLECTION

Instructions for Completing Barangay Map

This sample barangay map is a rough sketch of an entire barangay showing the households, with and without sanitation facilities. The map also shows location, type and condition of existing water facilities and plot location of proposed water sources.

- 1) The map will be used for BWSA planning
- 2) The map can be used as a planning tool to determine best locations for future water sources.
- 3) The map can also be used to support funding request for other water and/or sanitation facilities.
- 4) The map may also be entered into a national data base.

To make a map of your barangay, use the legend at the bottom of the sample to indicate information and landmarks. Follows these procedures when completing the map:

- 1) Indicate location of highways and road, including name and number of road if any.
- 2) Draw approximate boundaries for your barangay and indicate names of adjacent barangays
- 3) Indicate direction of north line.
- 4) Locate public building, cemeteries, schools, or other prominent landmarks.
- 5) Locate natural land features (like river, rice field, hills, etc.) and animal pens.
- 6) Show households by drawing a clear square.
- 7) Show all sanitation facilities in households by darkening bottom of square.
- 8) Show water sources location and condition by drawing a clear circle for existing water sources, a half dark circle if source is not in operation and a darkened circle for proposed facility. (Proposed facilities should be at least thirty (30) meters away from the nearest latrine and animal pen).
- 9) Show water source type like deepwell, shallow well, spring, etc. Following legend on the map.
- 10) Next to existing facilities, write the distance in meters to the nearest latrine or animal pen. Proposed facilities should be at least 30 meters away from the nearest latrine and animal pen.
- 11) Show kilometer posts along the road by drawing a darkened small square.

BWSA Formation

A BWSA (Barangay Waterworks and Sanitation Association) is an organization of water supply and sanitation beneficiaries in a barangay whose objective is to own, operate and maintain the water systems. RA 6716 requires its formation to ensure the provision of adequate, potable and accessible water supply to its members through proper operation and

maintenance of the water facilities. The organizational structure of BWSA is quite simple and depends on the number of facilities, need, culture and situation in a particular barangay.

The decision to tap existing community-based organization, merge/consolidate with the existing water association or to form a new association is lodged with the community members. Should the decision is to form a new association as operating body of the facilities, it shall be known as BWSA.

The formation activities of the BWSA are divided into three phases: pre-formation/social preparation, formation and post formation (refer to Proposed Community Management Program attached here for the detailed activities in each phase). During the formation phase, pre-membership training and election of BDO and Officers are held. In this phase, individual member interest and community commitment are manifested through application for membership in the association and signing of Manifesto Resolution (refer to the sample formats attached hereafter).

Proposed Community Management Program

| Barangay Activities | | Responsible Party | Duration (Day) | Cost |
|--|--|-------------------|----------------|------|
| A. Pre-Formation/Social Preparation Phase | | | | |
| 1. Consultation with barangay officials/development councils (First Meeting) The activity aims to obtain the support, commitment and active participation in planning, implementation and managing the project. They are primarily responsible for the identification and prioritization of community needs. The decision on the acceptance of Level I water facility and barangay counterpart shall emanate from them. | CO/NGO; PWSU/MSLT; Barangay Officials Development Council | 0.5 | | |
| 2. Barangay Water Supply and Sanitation Survey/Spot Map A core group composed of men and women volunteers will conduct BWSS and spot mapping. The BWSS results provide information on the prospective users willingness to undertake the responsibility for the O&M as well as provision of counterpart. Spot map will identify the most feasible site for Level I facilities, HH latrines, school and public toilets. | CO/NGO; PWSU/MSLT; Men and Women Volunteers | 5 | | P600 |
| 3. Presentation of survey results and spot map (Second Meeting) The survey results and spot map will be presented to the barangay officials, core group and prospective water users of the facilities. The decisions of the community members will be confirmed in terms of acceptance of Level I water facilities, site of the water facility/ies, willingness to contribute for water fee, operate and maintain the facilities, to be trained and to put up counterpart such as labor, site, and local materials. The results of the survey and spot map are discussed relative to the most feasible site of the water facilities in the barangay as well as the most feasible site of sanitation facilities and houses in need of latrine. The community members will decide among themselves which sitios/puroks will be given priority in the provision of water and sanitation facilities. The community members will also decide on the operating body, whether to tap existing community-based organization, form a new one (BWSA) or merge/consolidate with existing water association. | CO/NGO; PWSU/MSLT; Prospective Users | 0.5 | | P500 |

| Barangay Activities | Responsible Party | Duration (Day) | Cost |
|---|--|----------------|--------|
| B. Formation Phase | | | |
| <p>4. Pre-membership Training and election of BOD and Officers (Third Meeting) A core group will be mobilized to conduct house to house campaign to ensure membership attendance in the Pre-membership Training. The training is conducted for prospective water users of the facilities. The project concept is discussed including its objectives, importance and role of BWSA and members. Other modules such as women's role, sanitation, technical aspects, success factors, etc. are discussed during the pre-membership training.</p> <p>The Board of Directors is elected by the general membership and the Board elects among themselves the officers of the BWSA. Bookkeeper and Caretaker are designated by the President. With the initiative of the newly elected officers, the organizational documents are accomplished.</p> | CO/NGO; PWSU/MSLT; Prospective Water Users | 1 | P1,000 |
| <p>5. Meeting of the Board of Directors (Fourth Meeting) The first meeting of the BOD is conducted to discuss in details the duties and responsibilities of the Board /Officers, how to conduct a meeting, formulate administrative and operational policies (collection of water fees, dates and place of regular meetings, etc.) and prepare an action plan. The registration procedures and requirements are also discussed.</p> | CO/NGO; PWSU/MSLT; BOD/Officers | 1 | P1,000 |
| <p>6. Registration The operating body (existing community organization or BWSA is registered to give it legal personality to enter into a contractual obligation)</p> | BOD/Officers CO/NGO; PWSU/MSLT; | | |
| <p>7. Pre-construction Conference (Fifth Meeting) The technical design and program of work for the construction of water and sanitation facilities are presented to the officers and members of the operating body. Based on the technical design, the financial computation to determine the operation and maintenance requirements of the facilities is discussed. The proposed estimates on monthly water fees are presented and the beneficiaries must agree among themselves the monthly water charge to be collected. The commitment of the beneficiaries to actively participate in the construction and counterpart shall be confirmed.</p> | CO/NGO; PWSU/MSLT; BOD/Officers members | 5 | P500 |

| Barangay Activities | Responsible | Duration (Day) | Cost |
|---|--|-------------------|---------------|
| <p>8. Construction of Water and Sanitation Facilities The operating body shall ensure that the materials delivered are all accounted for and in accordance with the approved specifications in the technical design. Labor, local materials such as gravel and sand, and snacks are provided as counterpart. The prospective users actively participate during construction and test run of water facilities. Upon completion, the facility is turned-over to the operating body. The President, in behalf of the association, shall receive the water systems from the LGUs. Simple turn-over ceremony is held witnessed by barangay officials/leaders, BOD/officers and members of the association and P/MSLT members.</p> | <p>CONGO; PWSU/MSLT; BOD/Officers members</p> | <p>10</p> | |
| <p>9. Skills Training (Sixth Meeting) Skills training aims to build the capacity of project beneficiaries in planning, proper operation, repair and maintenance of water and sanitation facilities. This will also create an awareness among the project beneficiaries on the importance of proper hygiene and the need to maintain a healthy environment. BOD/officers will be trained on organizational management, bookkeeper on financial management/bookkeeping and caretaker on operational management (operation, maintenance and repair of wells hand-pumps, etc).</p> | <p>CONGO; PWSU/MSLT; BOD/Officers Bookkeeper/Caretaker</p> | <p>5</p> | <p>P4,400</p> |
| <p>10. Health and Hygiene Education Health and hygiene education services shall be continuously provided to the community members focusing on the interdependence of safe water supply and sanitary toilet facilities to achieve overall health and environmental benefits.</p> | <p>MSLT/RHW/BHW</p> | <p>Continuous</p> | <p>P1,800</p> |
| <p>C. Post Formation Phase</p> | | | |
| <p>11. Monitoring, Evaluation and Technical Assistance Periodic monitoring and evaluation will be conducted in partnership between MSLT and beneficiaries. M&E will start from project implementation. Technical assistance will be provided, if necessary.</p> | <p>PWSU/MSLT; BOD/Officers</p> | <p>Continuous</p> | |
| <p>TOTAL</p> | | | <p>23.5</p> |

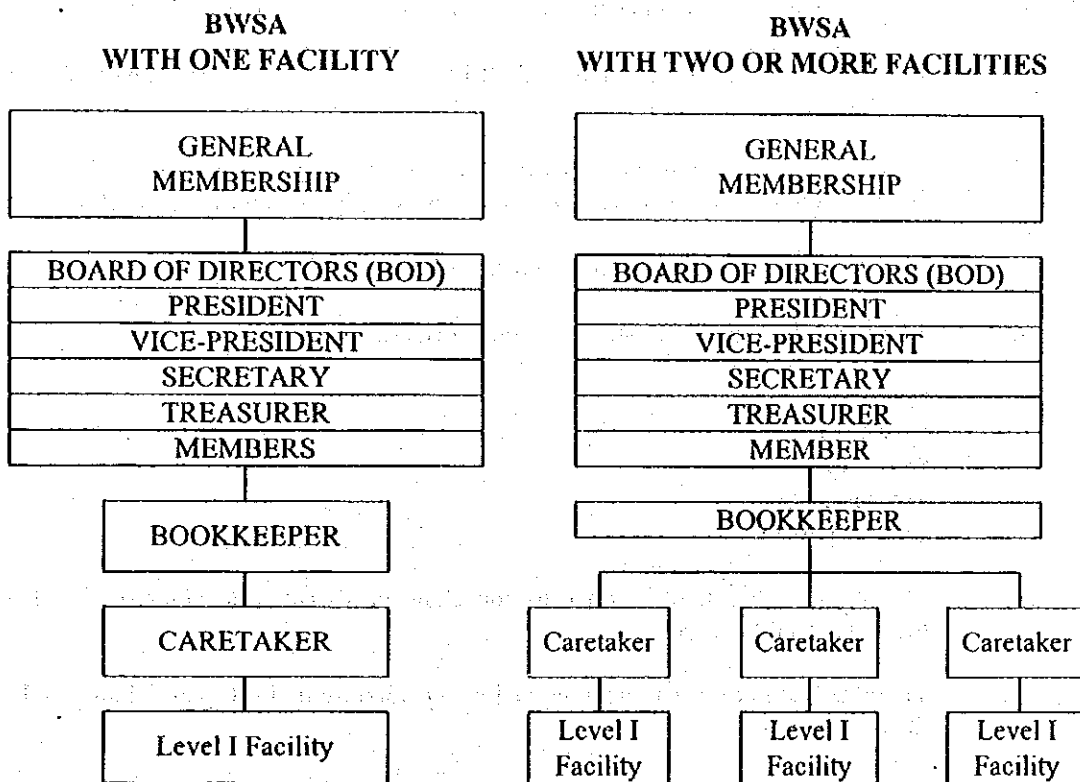


Figure 9.4.3 Organization Structure of BWSA

Sample Manifesto

MANIFESTO RESOLUTION

We, household heads (men or women) of Barangay _____, Municipality of _____, Province of _____, seek the assistance of the Provincial Government in putting up a Level I water system in our area.

Conscious of the attendant responsibilities in operating and maintaining the facilities, we constitute ourselves into an association in accordance with R.A. 6716 and hereby declare:

1. That the name of the association shall be _____ Barangay Waterworks and Sanitation Association;
2. That the association is formed primarily to own, operate and maintain the water facilities and provide members with adequate supply of water for domestic use;
3. That the association shall maintain office of Barangay _____;
4. That the following shall maintain office at Barangay _____;
President _____
Vice-President _____
Secretary _____
Treasurer _____
Board Member _____
5. That membership shall be open to household heads (men or women) who shall use the water facilities; and
6. That this Resolution may be amended or repealed by majority vote of all members of the association.

To ensure the construction, smooth operation and proper maintenance of the water supply system, we bind ourselves to the following:

1. That we will provide a suitable site for the project;
2. That we will collect monthly contributions for water fees to raise funds for the repair, maintenance and cost recovery of the system;
3. That we will attend meetings and seminars conducted by PWSU/MSLT for the association;
4. That we will provide counterpart needed for the water facilities;

5. That we will exercise the following rights:

- a. Right to vote
- b. Right to hold elective office
- c. Right to be informed of the association's affairs
- d. Right to use the association's facilities

6. That we will hold an annual meeting every _____, to discuss the association's business and to elect officers for one year.

NOW, THEREFORE, we hereunto set our hands this _____ day of _____, 19____.

| | PRINTED NAME | SIGNATURE | CTN |
|-----|--------------|-----------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |
| 5. | _____ | _____ | _____ |
| 6. | _____ | _____ | _____ |
| 7. | _____ | _____ | _____ |
| 8. | _____ | _____ | _____ |
| 9. | _____ | _____ | _____ |
| 10. | _____ | _____ | _____ |
| 11. | _____ | _____ | _____ |
| 12. | _____ | _____ | _____ |
| 13. | _____ | _____ | _____ |
| 14. | _____ | _____ | _____ |
| 15. | _____ | _____ | _____ |
| 16. | _____ | _____ | _____ |
| 17. | _____ | _____ | _____ |
| 18. | _____ | _____ | _____ |

(Name of BWSA)

(Barangay, Municipality)

(Province)

The Board of Directors
_____ Barangay Waterworks
and Sanitation Association

Date _____

Gentlemen:

I hereby apply for membership in _____ Barangay Waterworks and Sanitation Association to avail of its services of providing potable water for domestic use. I pledge to faithfully obey and comply with the rules and regulations, which may be promulgated by the Board of Directors.

I hereby further pledge to:

1. Attend all meetings which will be called by the BWSA Board of Directors/Officers;
2. Attend training/seminars which will be conducted by PWSU/MSLT for BWSA members;
3. Pay monthly water fee contributions for operation, repair, maintenance and cost recovery of the facilities as may be prescribed by the Board;
4. Observe proper utilization of water and preventive maintenance of facilities as required by the Association;
5. Assist in the installation of the water facility by providing labor, local materials and snacks, and
6. Help attain the objectives of the Association.

For information about myself and my household, please refer to my information sheet at the back page.

Signature of Applicant
Over Name in Print

Right Thumbmark

BWSA Member Information Sheet

Name of Prospective Member: _____

Age: _____ Civil Status: _____ Sex: _____

Place of Birth: _____ Date of Birth: _____

Household Members (include household help):

| Name | Age | Relation to Member |
|-------|-------|--------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

Present Water Source used by Household (Please Check):

- Handpump _____ Artesian Well _____
- Dug Well _____ Spring _____
- Others _____

Present Expenses for Water per Month _____

Distance of Water Source to the House _____ meters

I hereby certify that the information above are true and correct to the best of my knowledge.

Signature Date

Duties and Responsibilities of BOD/Officers and Members

The management of the BWSA rests on the Board of Directors/Officers who are elected by the general membership. The Board elects from among themselves the Officers of the association: President, Vice-President, Treasurer and Secretary. The President designates the Bookkeeper and Caretaker of the BWSA. The duties and responsibilities of the Board/Officers, Bookkeeper and Caretakers are shown below.

(1) Duties and responsibilities of the Board of Directors

- Oversee the activities of the BWSA
- Formulate policies and procedures to carry out the affairs of the BWSA
- Elect the BWSA officers
- Attend all meetings of the Board and the General Assembly
- Attend training for BOD/Officers conducted by PWSU/MSLT

(2) Duties and responsibilities of the President

- Conduct/Preside over all meetings of the General Assembly and BOD meetings
- Execute policies relative to the management of the Association and the maintenance of the water facility
- Act as arbitrator in settling conflicts among members regarding BWSA operations
- Represent the Association in any activity involving BWSA operations
- Investigate the current condition of the Association and recommend measures for its improvement or solutions to its problems
- Perform such other duties as may be assigned by the Board of Directors

(3) Duties and responsibilities of the Vice-President

In the event of death, incapacity or refusal of the President to perform higher duties and responsibilities, the Vice-President shall assume the Presidency. He shall perform the duties of the President and such other duties as may be assigned by the BOD.

(4) Duties and responsibilities of the Secretary

- Attend all meetings and record the minutes
- Call meetings in the absence of the President and the Vice-President and preside until a temporary presiding officer is chosen
- Prepare and send notice to all Association meetings
- Keep all papers/documents pertinent to the Association
- Perform such other duties as may be assigned by the Board of Directors

(5) Duties and responsibilities of the Treasurer

- Attend all meetings of the Board and the General Assembly
- Take proper custody of all funds and properties of the Association
- Ensure the proper issuance of official receipts for money received by the Association
- Ensure that all expenses are authorized by the Board and covered by official receipts
- Deposit all funds of the Association in a bank designated by the Board; and
- Produce periodic reports and account reconciliation as prescribed
- Perform such other duties as may be assigned by the Board of Directors

(6) Duties and responsibilities of Bookkeeper

- Keep the financial records of the Association;
- Collect water fee contributions from and issue receipts to user members;
- Remit collected water contributions to the BWSA treasurer;
- Submit a quarterly financial status report to the Board of Directors or as often as the Board may require;
- Attend BOD meetings and BWSA training/activities conducted by the PWSU/MSLT
- Perform such other duties as may be assigned by the Board of Directors

(7) Duties and responsibilities of Caretaker

- Remind the members of the proper use of the facility
- Ensure that the water facility is in good operating condition
- Keep the record of the operation and maintenance of the water facility
- Report to the Board of Directors (BOD) any damage or repair needs of the facility
- Perform minor repairs of the water facility
- Assist in the collection of water fee contributions
- Attend meetings of the Board as may be required
- Attend skills training on operation and maintenance conducted by the PWSU/MSLT
- Perform such other duties as may be assigned by the Board of Directors

(8) Duties and responsibilities of Members

- Pay monthly water fee contribution;
- Attend meetings and training activities designed for members;
- Observe rules and regulations and policies approved by the BOD/Officers;
- Remind other water users to use the facility properly;
- Keep the premises of the water facility clean, sanitary and free from excess water which may cause contamination of the water source; and
- Adopt proper health and sanitation practices.

Procedures for BWSA Financial Operations

Bookkeeping records an organization's financial transactions involving the receipt and expenditure of money in an organization. The organization may be a small business or large corporation. It may be government or a non-government organization. Regardless of the size of the organization, it provides a standard method for recording and reporting financial transactions of all kinds. The information obtained from accurate and timely bookkeeping provides timely information on the financial health of the operation.

The information contained herein will enable the BWSA bookkeepers to record financial transactions and prepare financial reports. The manual presents the overall picture, through the General Accounting Plan procedures. A step-by-step guide follows the General Accounting Plan through all the transactions, entries and reports. Each transactions, entry and report has a corresponding form. Each form is presented with explanations on its function and how it relates to the other forms. Instructions are provided line-by-line for a clear understanding.

(1) BWSA Business Operation

The BWSA business operation is simple. Funds are generated through water fees. Although there may be other sources of income, user fees will be the main source of income. Money is spent to maintain the barangay water system and other properties owned by the association. Other funds spent include expenses for administration, parts and supplies.

With only a few sources of income and expenses, financial transaction entries can be made quickly as they occur. If transactions pile up, even a simple operation can become very complicated. It is recommended that all transactions be recorded daily. If this is done regularly, periodic reports can be prepared quickly and accurately.

(2) Maintenance and Custody of Documents and Records

Safekeeping the books of accounts, related records, accounting forms and reports is a major responsibility of the bookkeeper. Accounting forms used as the basis for recording should be arranged and filed separately in sequence. All records and documents should be locked up and access should be limited to authorized BWSA officers and personnel.

The BWSA officers should agree on the reports to be prepared, who receives the reports and how frequently. It is recommended that certain records be maintained and certain reports be compiled. It is up to the BWSA officers to determine how often these reports are to be made and if

additional reports are necessary. Some larger BWSAs may need monthly reports. Smaller BWSAs may only require quarterly reports.

(3) General Accounting Plan (GAP)

The flow of accounting and reporting is shown in the General Accounting Plan, Figure 1. The GAP will guide users through this section as each procedure is explained. The GAP contains four columns of boxes. Columns are headed:

- Transactions - consisting of cash and non-cash transactions
- Document - for recording different types of financial transactions
- Books - to maintain a record of financial transactions
- Reports - to summarize all financial transactions for given period.

(4) Transaction Defined

The BWSA financial transactions are classified as:

- Cash Transactions
 - Cash-In (cash receipts)
 - Cash Out (cash disbursements)
- Non-Cash Transactions

Money, incoming and outgoing, is classified as cash transactions. The GAP shows two kinds of cash transactions, cash-in (cash receipts) and cash-out (disbursement). There are also non-cash transactions, which document money owed to the BWSA or money that the BWSA owes.

1) Documents for Cash Transactions

The Official Receipt (OR), (See Figure 2) and the Voucher (See Figure 3) are the source documents for cash transactions. ORs and vouchers are called source document because they initiate the bookkeeping process.

Each time a person gives money or its equivalent to the BWSA, an OR is issued to the person. Each time the BWSA pays money to a person, a voucher is completed to show that it is an authorized expenditure. The voucher also records to whom the money was given and for what purpose.

Both the OR and voucher are numbered and all numbered documents should be accounted for. This means that if an OR or a voucher has been incorrectly filled out, it must be kept for the record.

- a) The OR records all money received by the BWSA and must specify:
 - The date funds are actually received
 - The name and address of the person paying the money
 - The amount received, both in words and in figures
 - An explanation or purpose of the payment
 - Confirmation of receipt as shown by the authorized collector's signature, usually the bookkeeper
 - The billing form number, if money is for payment of water fees

- b) The voucher records all money paid out by the BWSA. Each numbered voucher must specify:
 - The date money is actually paid
 - The name and address of the person receiving the money
 - The total amount of money paid, in words and in figures
 - Details of payment, including invoice number
 - Signature of person authorized to approve payment
 - Confirmation of receipt as shown by the authorized collector's signature, usually the bookkeeper, of the person paying money
 - Signature of person receiving the money and date received

2) Document for Non-Cash Transactions

The sources for recording non-cash transactions are the billing form and the invoices. The billing form documents money that is owed to the BWSA. Invoices or statements of account are documents made by others showing money owed by the BWSA. These are transactions, which do not involve cash collection or payments, and therefore, are not to be recorded in the Cash Record Book.

- a) The Billing Form (See Figure 4) is used to notify water consumers of the fees owed to the BWSA covering a certain billing period. Billing forms may be made monthly or quarterly as the Association decides. Billing forms must specify:
 - List of services rendered
 - The name and address of the person being billed
 - Period covered by this bill, beginning and ending dates

- The total amount of money owed
- Date of billing
- Date the bill should be paid
- Official signature, usually the bookkeeper

Unaccounted Water Fees are examples of non-cash transactions which should be recorded in the Receivable Book.

b) The Invoice or Statement of Account (See Figure 5) is a document prepared by the seller and presented to the BWSA showing money owed to the seller by the BWSA. Invoices usually contain:

- An invoice number
- The person or company sending the invoice
- The name of the BWSA that owes the money
- Particulars of goods or service provided
- The breakdown of money owed and total amount due
- A payment due date
- Name or signature of the person requesting payment

Unpaid invoices on repair and maintenance and other unpaid expenses, such as honoraria are recorded in the Payable Book.

(5) Book of Accounts

The book of accounts are basic records used to record all financial transactions. Three books of accounts are maintained as described below.

1) Cash Record Book

The Cash Record Book is used to record all cash incoming and out-going transactions. The OR is recorded in the Credit column (Money Received). The voucher is recorded in the Debit Column (Money Disbursed). All entries are recorded by date, including all cancelled forms, properly noted. After each credit or debit entry, the amount is added or subtracted from the Daily Balance. At the end of the month, the entries form the bases for preparing the Statement of Operation and the Cash Position Statement.

2) Receivable Book

Unaccounted accounts from the members and outside parties are recorded in the Receivable Book (See Figure 7). This book shows the transaction date, the billing number, household head, the amount and explanation or remarks about the nature/condition of the account.

3) Payable Book

Unpaid accounts on the expenses incurred by the BWSA such as salaries or wages, repair and maintenance and other expenses are recorded in the Payable Book (See Figure 8). This book shows the transaction date, the payee, the nature/explanation of the unpaid account and the amount.

(6) Financial Reports

The BWSA reports are usually prepared monthly or quarterly. The financial reports are prepared to inform the BWSA financial members of the Association's financial status. In preparing the BWSA financial reports, the bookkeeper reviews all source documents supporting the transaction to countercheck the amount appearing in the books. The recorded transactions should be summarized and arranged chronologically to produce a report easily understood by BWSA officers and members.

1) Statement of Operations

The statement of Operations (See Figure 9) is prepared monthly to record the income and expenses incurred by the Association in its operation during the period. The statement shows the revenues earned, the operating expenses incurred and the income or loss as a result of operation.

2) Cash Position Statement

The sources of information when preparing the Cash Position Statement (See Figure 10) are the cash record books and the statement of operations. The report is prepared to determine if the Association can cover its operating expenses. This statement shows the beginning cash balance, the cash receipts for the period, the cash disbursement, and the cash balance ending for the period.

3) Financial Summary Report (Annual Report)

The financial Summary Report (See Figure 11) is prepared to summarize the periodic reports prepared during the year and the supporting schedules.

(7) Bookkeeping Procedures

A step-by-step review of all BWSA transactions can be accomplished by following the accounting entries and reports.

**GENERAL ACCOUNTING PLAN (GAP)
FOR BWSA TRANSACTIONS**

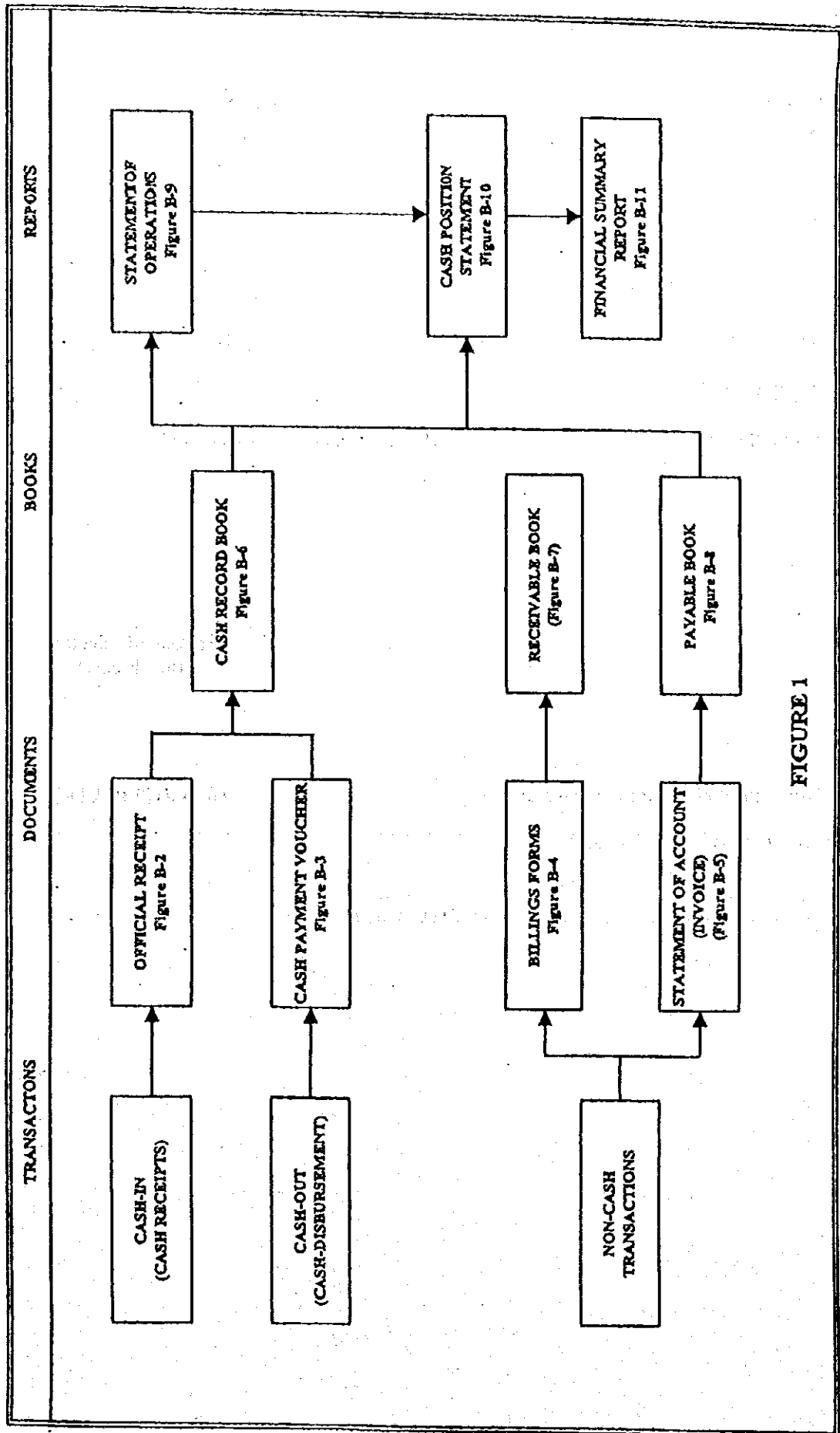


FIGURE 1

OFFICIAL RECEIPT

BWSA _____

OR. NO. _____

Date: _____

Received from _____

the sum of _____ (P _____)

in payment of _____

Billing Form # _____ (For payment of water fees only).

Treasurer/Collector
(Bookkeeper)

Note: Print Name Below Signature

(IN TRIPLICATE)

Complete Official Receipt in Triplicate

Official Receipt must be issued for all payments received by the Bookkeeper.

FIGURE 2

**CASH PAYMENT
VOUCHER**

CPV No. _____

Date: _____

Paid to : _____

Address : _____

In the sum of : _____ (P _____)

| PARTICULARS | AMOUNT |
|-------------|--------|
| | |
| | |
| | |
| | |
| | |
| | |

Approved By: _____

Received from _____

The amount of _____

As payment for the above described.

Received By _____

Date Received _____

Note: Print Name Below Signature

**VOUCHER
(IN TRIPLICATE)**

Each time a disbursement is made, a cash payment voucher must be prepared to support such disbursement.

FIGURE 3

Name of BWSA

Barangay, Municipality

Province

BILLING FORM
for
WATER CONSUMPTION

Name of Member _____

Address: _____

No. _____

| PERIOD COVERED | | | | | AMOUNT |
|----------------|-----|-------|-----|------|--------|
| FROM | | TO | | | |
| MONTH | DAY | MONTH | DAY | YEAR | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Date of Billing: _____ Please pay On or Before: _____

Please pay your bill at the Office on or before the date shown above.

BWSA Treasurer

Note: Print Name Below Signature

Billing must be prepared and sent to all BWSA members for their monthly dues as their monthly obligation to the Association.

FIGURE 4

Date: _____

Invoice # _____

INVOICE

Sold to: _____

| ITEM | NO. | UNIT PRICE | PRICE |
|--------------|-----|------------|-----------|
| | | | |
| TOTAL | | | \$ |

Received By: _____
(Print Name below Signature)

FIGURE 5

BWSA _____

CASH RECORD BOOK
COLLECTION/DISBURSEMENT
Month: _____ Year: _____

| DATE | PARTICULARS | CREDIT (Money Received) | DEBIT (Money Disbursed) | DAILY BALANCE |
|------|-------------|----------------------------|----------------------------|------------------|
| | | | | |

This book records all cash transactions (collection/disbursements) made by the BWSA, and calculates a daily balance.

FIGURE 6

Name of BWSA

Barangay, Municipality

Province

RECEIVABLE BOOK

| DATE | BILLING FORM NO. | HOUSEHOLD HEAD (Family Name) | AMOUNT DUE | REMARKS |
|------|---------------------|---------------------------------|---------------|---------|
| | | | | |

This form records all accounts due to the Association

FIGURE 7

Name of BWSA

Barangay, Municipality

Province

STATEMENT OF OPERATIONS
For the Month _____, _____

Revenues:

| | | | |
|-----------------------|-------|----------|-------|
| Water Fees | _____ | P | _____ |
| Others (Specify) | _____ | | _____ |
| Total Revenues | _____ | P | _____ |

Operating Expenses:

| | | | |
|---------------------------------|-------|----------|-------|
| Salaries | _____ | P | _____ |
| Supplies | _____ | | _____ |
| Repair and Maintenance | _____ | | _____ |
| Others (Specify) | _____ | | _____ |
| Total Operating Expenses | _____ | P | _____ |

Net Income/Loss

P _____

Prepared By: _____

Date Prepared: _____

Certified true and correct:

Date Certified: _____

BWSA Treasurer

Note: Print Name below signature

At the end of each month, the bookkeeper prepares the Statement of Operations for the previous month.

FIGURE 9

Name of BWSA

Barangay, Municipality

Province

CASH POSITION STATEMENT
For the Month _____, _____

| | | | |
|----------------------------------|-------|----------|-------|
| Revenues: | | | |
| Water Fees | _____ | P | _____ |
| Contribution | _____ | | _____ |
| Others (Specify) | _____ | | _____ |
| Total Revenues | _____ | P | _____ |
| Less: Operating Expenses: | | | |
| Salaries | _____ | P | _____ |
| Supplies | _____ | | _____ |
| Repair and Maintenance | _____ | | _____ |
| Others (Specify) | _____ | | _____ |
| Total Operating Expenses | _____ | P | _____ |
| Cash Balance, During the Period | _____ | P | _____ |
| Add: Cash Balance, Beginning | _____ | P | _____ |
| Cash Balance, Ending | _____ | P | _____ |

Prepared By: _____

BWSA Bookkeeper

Date Prepared: _____

Note: Print Name below signature

Cash Position Statement summarizes the Association's transactions for the month ended. The Bookkeeper fills up this form every end of the month.

FIGURE 10

Name of BWSA

Barangay, Municipality

Province:

FINANCIAL SUMMARY REPORT
Year End _____

I. Financial Results

| | | | |
|------------------------------|-------|---|-------|
| 1. Total Revenues | _____ | P | _____ |
| 2. Total Expenditures | _____ | P | _____ |
| 3. Total Cash on Hand | _____ | P | _____ |
| 4. Total Cash in Bank | _____ | P | _____ |
| 5. Total Accounts Receivable | _____ | P | _____ |
| 6. Total Accounts Payable | _____ | P | _____ |

II. Findings/Recommendations:

Prepared By:

BWSA Bookkeeper

Date Prepared:

Note: Print Name below signature

Financial summary report is made after a year of operation. It provides information to show whether the association profited or not.

FIGURE 11

Table 9.4.1 Format for Level I Project Data

Form _____

| PROPOSED LEVEL I PROJECT DATA | |
|---|--|
| Notice : This form shall be accomplished upon instruction of PST/PWSD | |
| LOCATION | 1.1 Barangay/Sitio _____ |
| | 1.2 Municipality _____ |
| POP. DATA | 2.1 Total Community/Barangay Population _____ |
| | 2.2 Total Number of Households _____ |
| INFORMATION ON THE WELL SITE | 1.3 Province _____ |
| | 1.4 Region _____ |
| POP. DATA | 2.3 Proposed Population to be Served _____ |
| | 2.4 Proposed Number of Households to be Served _____ |
| INFORMATION ON THE WELL SITE | 3.1 Ownership : <input type="checkbox"/> Public <input type="checkbox"/> Private |
| | 3.2 Description : |
| DESCRIPTION OF EXISTING NEARBY SOURCE(S) (Use separate sheets if necessary) | 3.3 Location: _____ |
| | 3.4 Donor (if Private Lot): _____ |
| DESCRIPTION OF EXISTING NEARBY SOURCE(S) (Use separate sheets if necessary) | 4.1 Type of Point Source: <input type="checkbox"/> Deep Well <input type="checkbox"/> Shallow Well <input type="checkbox"/> Spring <input type="checkbox"/> Others (dug well pond) |
| | 4.2 Ownership : <input type="checkbox"/> Public <input type="checkbox"/> Private |
| 4.3 For wells : Casing diameter _____ in. or _____ m. Casing depth _____ ft. or _____ m. Water level Well _____ ft. or _____ m. Well capacity/yield _____ gpm. or _____ lps. | |
| 4.4 For Springs : Capacity/yield _____ gpm. or _____ lps. Approx. elevation above or below _____ Service Area _____ ft. or _____ m. Location <input type="checkbox"/> Inside of service area <input type="checkbox"/> Outside of service area Approximate distance from center _____ of service area _____ km. | |
| Prepared by : _____ | |
| Municipal Liason Staff Date _____ | |

Table 9.4.2 Format for Level II Feasibility Study

| FEASIBILITY STUDY (Level II) | | Barangay | Municipality |
|--|---|---|--|
| Notice: This form shall be accomplished upon instruction of the PST/PWSO. | | Province | Region |
| PROJECT SUMMARY | | | |
| POPULATION DATA | 1. Present Population | 2. Design Population | 3. Number of Households |
| | | | 6. Number of Faucets |
| TECHNICAL DATA | 4. Type of Source <input type="checkbox"/> Spring <input type="checkbox"/> Well <input type="checkbox"/> Surface Water | 5. Type of System <input type="checkbox"/> Gravity <input type="checkbox"/> Pumped | 7. Pumping Time _____ Hours per Day |
| | 7. Pump Horsepower _____ HP | 8. Pumping Time | 11. Pump Discharge Capacity _____ LPS |
| | 9. Total Average Daily Demand _____ Liters | 10. Storage Tank Capacity _____ Liters | |
| FINANCIAL DATA | 12. Total System Cost P _____ | 13. Maximum Loan Amount P _____ | 14. Interest Rate _____ |
| | 15. Local Equity P _____ | 16. Funding Cost per Household P _____ | 17. Repayment Period (months) _____ |
| | 18. Type of Local Equity <input type="checkbox"/> Cash <input type="checkbox"/> Labor <input type="checkbox"/> Materials <input type="checkbox"/> Others, _____ | | |
| | 19. Total Monthly Expenses P _____ | 20. Monthly Fee Per Household P _____ | |
| ANNEXES | <input type="checkbox"/> 1 Survey Form <input type="checkbox"/> 5 Design of Pipe Lines <input type="checkbox"/> 9A Fittings Schedule <input type="checkbox"/> 12 Financial Analysis <input type="checkbox"/> 2 Map of the Project Area <input type="checkbox"/> 6 Design of Reservoir and Pump (G.I. Pipes) <input type="checkbox"/> 13 Availability of Local Equity <input type="checkbox"/> 3 Design Criteria and Basic Design Data <input type="checkbox"/> 7 Detailed Design Plan <input type="checkbox"/> 9B Fittings Schedule <input type="checkbox"/> 10 Bill of Materials <input type="checkbox"/> 4 Schematic Diagram of the System <input type="checkbox"/> 8 Pipes Schedule <input type="checkbox"/> 11 Cost Summary | | |
| Prepared by : _____ Municipal Liason Staff Date | | Endorsed by : _____ PST/PWSO Coordinator Date | |

Annex 1

SURVEY FORM
Rural Water Supply Project

A. LOCATION

Barangay : _____
Municipality : _____

Province : _____
Region Number : _____

B. GENERAL INFORMATION

1. Population _____
2. Number of households _____
3. Distance from poblacion _____ kilometers
4. Availability of electricity Yes No
5. Distance from electric line _____ kilometers
6. Power cost per kilowatt hour P _____
7. Availability of public transportation _____
8. Main livelihood of residents
 - Land transport
 - Water transport
 - Farming
 - Industry Others
 - Fishing

C. TECHNICAL INFORMATION

1. Are there reliable sources of potable water?
 Yes No

a) For Wells

Well capacity : _____ lps
Casing diameter : _____
Casing depth : _____

Water level from top of well : _____

Location : Within service area
 Outside _____ M. from service area

b) For Springs

Average dry season flow : _____ GPM LPS

Relative elevation of spring

a. _____ ft. m. above service area
b. _____ ft. m. below service area

Location : Within service area
 Outside _____ m. from service area

2. Are there water supply system materials and equipment (pumps, pipes, fittings) which can be donated for this project from other source?

Yes No

For pumps : Type : _____ Power : _____ HP

For pipes : Galvanized Iron PVC
 Others, specify _____

3. Is there an existing water tank that can be used? Yes No

Type : Steel Reinforced Concrete

Capacity : _____ Gallons Cubic Meters

Location: (Please indicate in the map of the project area)

Relative elevation with respect to service area _____ ft. _____ m.

4. Are there other sites where water tanks may be erected? Yes No

Location : (please indicate in the map of the project area)

Relative elevation with respect to service area _____ ft. _____ m.

5. Does the barangay have skilled personnel? Yes No

If yes, how many? Estimated Number

Plumbers : _____
Masons : _____
Carpenters : _____
Others : _____

If no, are there competent contractors near the area?

Plumbing contractor : Yes No

Tank fabricator : Yes No

Are there suppliers of materials (pumps, pipes, fittings) in the municipality?

Yes No

D. FINANCIAL INFORMATION

1. What can the barangay provide as local equity?

Cash : P _____
 Labor : _____ man-days
 Materials :
 Sand : _____ cu. m.
 Gravel : _____ cu. m.
 Cement : _____ bags
 Others, specify : _____

2. Have the people been informed of the current financing policies for Level II systems, particularly the monthly fees required to repay loan & provide for O & M?

Yes No

3. How much are the people willing to pay per household per month as a water fee?

Below P 6.00 P 10.00 - 15.00 Others
 P 6.00 - 10.00 15.00 - 20.00 Specify : _____

4. Average income per household P _____ per month

E. INSTITUTIONAL INFORMATION

1. Is there an existing association who is ready, willing and able to manage the system

Yes No

If yes, please specify. _____

2. Are people willing to join a water association to operate and manage a water supply system?

Yes No

3. How many households are willing to be members? _____ households.

4. Name at least three (3) leaders of the community who can act as officers of the association, if required.

| Name | Address |
|-------|---------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

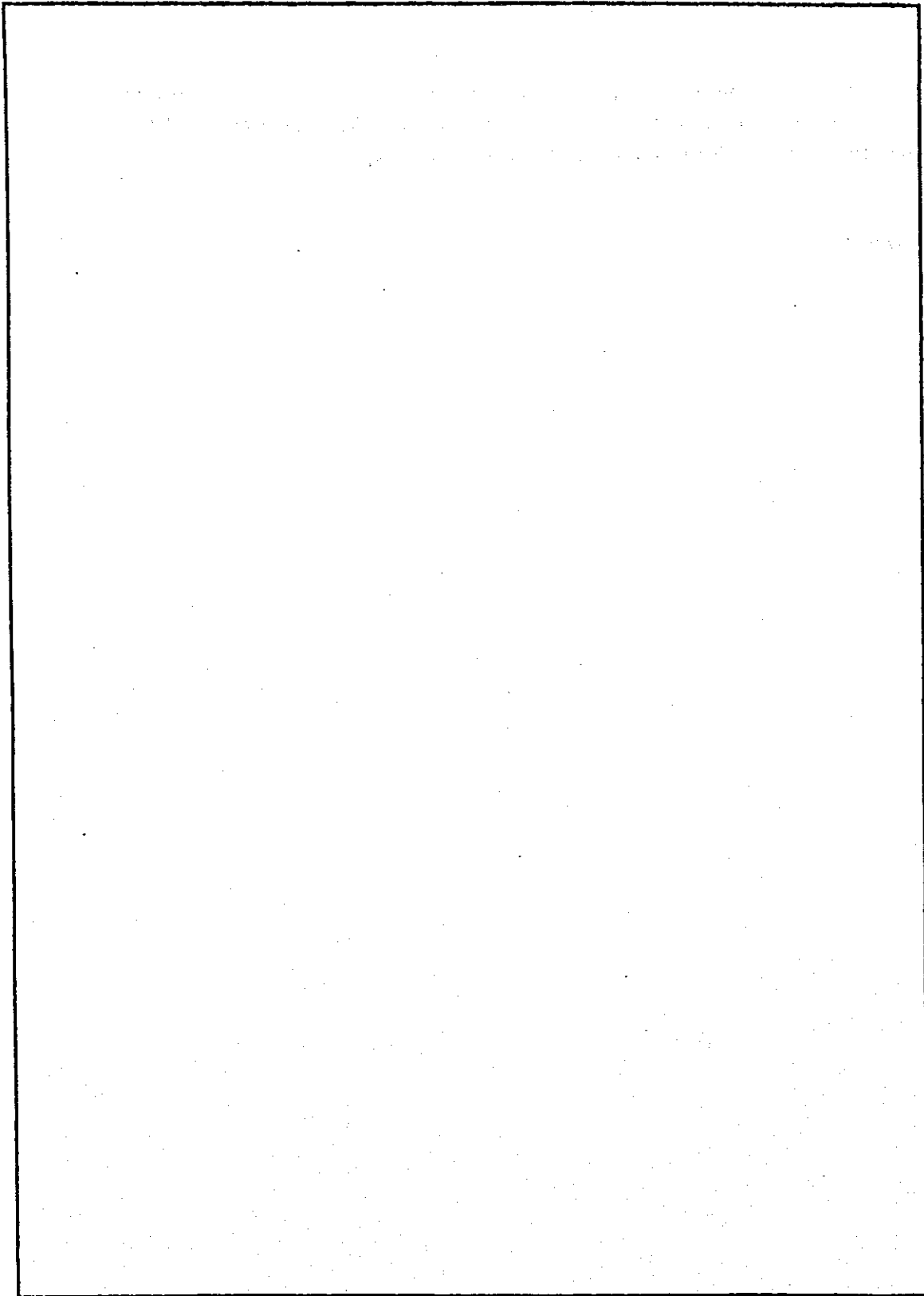
F. MAP OF THE AREA

Please attach map of the area proposed to be served. Indicate location of houses, buildings and other structures to be served including roads, the water source(s) and possible locations of storage tanks. The map should preferably be drawn to scale.

Important: If map cannot be drawn to scale, indicate distance measurements between important points along roads, or possible routes of distribution pipes with households properly indicated. For rolling terrain, indicate elevation differences between measurement points.

G. REMARKS :

Annex 2
MAP OF THE PROJECT AREA
Rural Water Supply Project



Annex 3

DESIGN CRITERIA AND BASIC DESIGN DATA
Rural Water Supply Project

I. Design Criteria

- 1. Design Period : 5 years
- 2. Population
 - Annual Growth : 3%
 - Average Household Size : 6 persons/HH
 - Design Population : Present Population x 1.16
- 3. Per Capita Water Consumption
 - Level II : 60 lpcd
 - Level II with garden : 75 lpcd
 - Level III : 100 lpcd
- 4. Water Demand
 - Average Day Demand : Design Population X Per Capita Consumption
 - Maximum Day Demand : 1.3 X Average Day Demand
 - Maximum Hour Demand : 2.5 X Average Day Demand
- 5. Pump Operation
 - Pumping Hours : 8 -15 hours
 - Pumping Rate : Maximum Day Demand/PumpingHrs. = _____
- 6. Storage Capacity : 1/4 of Average Day Demand
- 7. System Pressure : 5 - 10 psi at faucet
- 8. Households Served Per Faucet : 4 - 6 HH

II. Basic Design Data

- 1. Present Population : _____
- 2. Design Population (Present Population X 1.16) : _____
- 3. Average Day Demand: _____ X _____ : _____
(Per Capita Consumption) (Design Pop.)
- 4. Maximum Day Demand: 1.3 X _____ : _____
(Average Day Demand)

Annex 6
DESIGN OF RESERVOIR AND PUMP
 Rural Water Supply Project

A. DESIGN

1. Determine Capacity of Reservoir, (C_r)

$$C_r = 1/4 \times \text{Average Day Demand}$$

$$C_r = 1/4 \times D_d \text{ (LPD)}$$

$$C_r = \underline{\hspace{2cm}} \text{ liters}$$

2. Determine Minimum Water Elevation, (WL_m)

$$WL_m = \text{total head loss} + \text{Minimum Pressure in Main (Meters)}$$

For Barangay System, Min. Pressure = 5 psi (use 3M.)

For Poblacion System, Min. Pressure = 10 psi (use 7M.)

$$WL_m = \underline{\hspace{2cm}} \text{ M.}$$

Note : The bottom of the storage tank should be higher than this elevation.

B. DESIGN OF PUMP

1. Determine Pump Capacity, Q_p (LPS)

$$Q_p = \text{Max. Day Demand (LPD)} / \text{Operating Time (Sec.)}$$

$$Q_p = 78 P_d / T \quad \text{where: } P_d = \text{Design Population}$$

T = Operating Time in Seconds

$$Q_p = \underline{\hspace{2cm}} \text{ LPS}$$

2. Calculate Total Dynamic Head, TDH (Meters)

$$\text{TDH} = \text{Depth of Pumping Level} + \text{by Maximum Reservoir Elevation} + \text{friction loss}$$

$$\text{TDH} = \underline{\hspace{2cm}} \text{ m}$$

3. Calculate Brake Horsepower Requirement :

$$\text{Brake Horsepower} = \frac{Q_p \times \text{TDH}}{75 \times \text{Efficiency}}$$

$$\text{Brake Horsepower} = \underline{\hspace{2cm}} \text{ Hp}$$

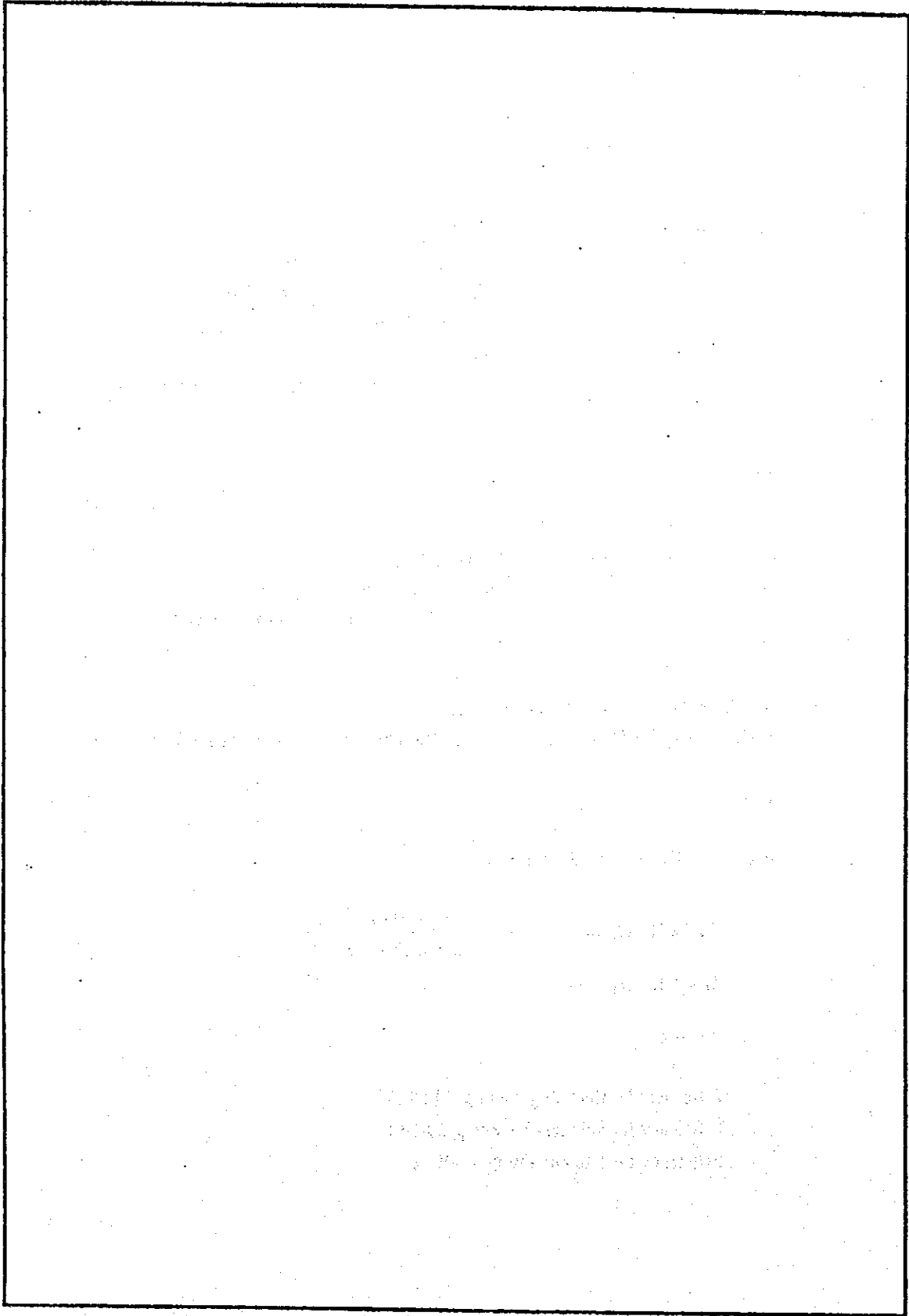
Where :

Efficiency for Centrifugal Pump, 30-60 %

Efficiency for Submersible Pump, 50-60 %

Efficiency for Jetmatic Pump, 20-30 %

Annex 7
DETAILED DESIGN PLAN
Rural Water Supply Project



Annex 11
COST SUMMARY

Rural Water Supply Project

I. ESTIMATED COST OF THE SYSTEM

| | | | |
|--|---|-------|---------|
| 1. a) Cost of Pipes | P | _____ | |
| b) Cost of Fittings | | _____ | |
| Total Cost of Pipes and Fittings | | | P _____ |
| 2. Cost of Reservoir | | _____ | |
| 3. Cost of Pump | | _____ | |
| 4. Labor Cost | | _____ | |
| a) 10% of Pipes & Fittings (For G.I. Pipes) | | _____ | |
| b) 25% of Pipes & Fittings (For PVC Pipes) | | _____ | |
| 5. Cost of Freight and Handling | | _____ | |
| 6. Contingencies 5% (Pipes & Fittings - Labor) | | _____ | |
| Total Cost of the System | | | P _____ |

For gravity system, omit cost of pump.

II. FINANCIAL DATA

| | | |
|-----------------------------|---|-------|
| 1. Total Cost of the System | P | _____ |
| 2. Local Equity | | _____ |
| 3. Amount of Loan | | _____ |

Annex 12
FINANCIAL ANALYSIS

Rural Water Supply Project

A. RELEVANT DATA

- 1. Pumping Hours : _____ hrs.
- 2. Pump Horsepower : _____ HP
- 3. Cost/KWH : P _____
- 4. Pump Cost : P _____
- 5. Amount of Loan : P _____
- 6. Loan Terms : _____ % (interest per annum)
: _____ years (Repayment Period)
- 7. Number of Households : _____

B. COMPUTATION OF MONTHLY EXPENSES (Omit non-applicable items)

- 1. Operations
 - a. Salaries _____ x _____ = P _____
 - b. Office Supplies _____ x _____ = P _____
 - c. Power _____ x _____ = P _____
 - d. Chemical _____ x _____ = P _____
 - e. Miscellaneous _____ x _____ = P _____

- 2. Asset Replacement
 - a. Pump _____ / _____ = P _____
Life (mos.)
 - b. Pipelines _____ / _____ = P _____
Life (mos.)
 - c. Tank _____ / _____ = P _____
Life (mos.)
 - d. Others _____ / _____ = P _____
Life (mos.)

- 3. Amortization _____ x _____ = P _____
(CRF) (Loan Amt.)

- 4. Maintenance (2% of Capital Equipt. costs annually)
.02 X _____ / 12 = P _____

- 6. Total Monthly Expenses = P _____

C. COMPUTATION OF WATER FEE

Monthly Water Fee Per Household :

$$\frac{\text{_____}}{\text{(Total Monthly Expenses)}} \div \frac{\text{_____}}{\text{(No. of HH)}} = P \text{_____}$$

**Annex 13
AVAILABILITY OF LOCAL EQUITY**

I. Cash Item Amount
 P _____

II. Labor

| Type of Labor | No. of Workers | No. of Days | Rate Per Day |
|---------------|----------------|-------------|--------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

III. Materials

| Type of Materials | Quantity | Unit Cost |
|-------------------|----------|-----------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

TOTAL P _____

| | |
|---|---|
| <p>I certify that the items listed above represent the local share of the project cost.</p> <p style="text-align: center;">_____ Association President</p> <p style="text-align: center;">_____ Date</p> | <p>Noted by :</p> <p style="text-align: center;">_____ Municipal Sector Liason</p> <p style="text-align: center;">_____ Date</p> |
|---|---|