

APPENDIX G

FINANCIAL PLAN

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Table 1 Personnel Plan for WSA Dekemhare

Item	1997	2005	2010	2015
1. Total No. of Personnel				
1) Total production of water (cu. m/day)	266	1,100	2,044	4,135
2) Water production per worker (cu. m/day/worker)	15.6	20	25	30
3) Coefficient	1	0.7	0.7	0.55
4) No. of personnel	17	38	57	75
5) Additional personnel for sanitation	0	4	6	8
6) Final No. of personnel	17	42	63	83
2. Breakdown of Personnel by Position/Function				
1) Manager	1	1	1	1
2) Customer services	1	1	1	1
3) Internal audit	0	0	1	2
4) Administrative service				
(1) Head	0	1	1	1
(2) General administration section				
Secretaries/typists/clerks	0	0	1	1
Guards	3	3	5	6
Sweepers/janitors	0	0	1	1
Drivers	2	2	3	4
Sub-total	5	5	10	12
(3) Personnel section				
Recruitment/training/remuneration	0	1	1	1
(4) Storage section				
Store keepers	1	1	2	3
Purchase of materials/supplies	0	1	1	1
Sub-total	1	2	3	4
(5) Legal section	0	1	1	2
Total	8	10	16	20
5) Financial service				
(1) Head	0	1	1	1
(2) Budgeting section	0	1	2	3
(3) Accounting section				
Accountants	1	2	2	3
Cashiers/treasurers	1	2	3	4
Sub-total	2	4	5	7
(4) Financial management section				
Financial analysts	0	1	2	3
(5) Operation section				
Meter readers	0	2	3	4
Bill distributors/collectors	0	1	2	3
Water sellers	0	3(+1)*	0	0
Sub-total	0	3	5	7
Total	2	10	15	21
6) Technical service				
(1) Head	0	1	1	1
(2) Technical records section	0	0	1	1
(3) Operation and maintenance section				
Mechanics	0	1	2	3
Electricians	0	1	2	2
Motor operators	4	5	7	9
Plumbers	3	4	6	8
Sub-total	7	11	17	22
(4) Inspection section				
Water meter technicians	0	1	1	2
Leakage detectors	0	0	1	1
Water quality analysts	0	0	0	0
Sub-total	0	1	2	3
(5) Workshop	0	0	0	1
(6) Works section				
Contracting	0	0	1	1
Designing/drafting	0	0	1	1
Sub-total	0	0	2	2
Total	7	13	23	30
7) Sanitary service				
(1) Head	0	1	1	1
(2) Loan service section	0	1	2	3
(3) Maintenance section				
Technicians	0	1	2	3
Drivers	0	1	1	1
Sub-total	0	2	3	4
Total	0	4	6	8
Grand total	17	39	63	83

Note: 1) Personnel in 1997 include those on temporary/contract basis. 2) *=temporary
 3) As need arises, section (3) in 6) technical service may take charge of functions of sections (4) and (5).

Table 2 (1) Financial Statements for Water Supply Facilities in Dekemhare

(Unit: Nfa thousand)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	0	1470	1598	1742	1904	2088	2422	2599	2817
Operation and Maintenance	0	0	939	939	939	939	1517	1517	1517	1517
Depreciation	0	0	572	572	572	572	982	982	982	982
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	0	1510	1510	1510	1510	2498	2498	2498	2498
Profit before Tax	0	0	-40	87	231	394	-411	-76	101	318
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	0	-40	87	231	394	-411	-76	101	318
Funds Statement										
Profit after Tax	0	0	-40	87	231	394	-411	-76	101	318
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	2345	23917	0	0	1467	14965	0	0	0	3113
Depreciation	0	0	572	572	572	572	982	982	982	982
Sources	2345	23917	531	659	2270	15931	571	905	1082	4413
Capital Works	2345	23917	0	0	1467	14965	0	0	0	3113
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	0	531	659	803	966	571	905	1082	1300
Applications	2345	23917	531	659	2270	15931	571	905	1082	4413
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	2345	26261	26221	26308	28007	43366	42955	42879	42980	46411
Liabilities and Capital	2345	26261	26221	26308	28007	43366	42955	42879	42980	46411
Current Assets	0	0	531	1190	1994	2959	3530	4436	5518	6818
Fixed Assets	2345	26261	25690	25118	26013	40407	39425	38444	37462	39594
Assets	2345	26261	26221	26308	28007	43366	42955	42879	42980	46411

Source: JICA

Table 2 (2) Financial Statements for Water Supply Facilities in Dekemhare

(Unit: Nfa thousand)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	3069	3359	3819	4359	5023	5850	6891	6748	6748	6748
Operation and Maintenance	1517	3046	3046	3046	3046	3046	3046	3046	3046	3046
Depreciation	982	1748	1748	1748	1748	1748	1748	1748	1748	1748
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	2498	4794	4794	4794	4794	4794	4794	4794	4794	4794
Profit before Tax	571	-1435	-975	-435	229	1056	2097	1954	1954	1954
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	571	-1435	-975	-435	229	1056	2097	1954	1954	1954
Funds Statement										
Profit after Tax	571	-1435	-975	-435	229	1056	2097	1954	1954	1954
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	31750	0	0	0	0	0	0	0	0	0
Depreciation	982	1748	1748	1748	1748	1748	1748	1748	1748	1748
Sources	33303	312	773	1313	1977	2803	3845	3702	3702	3702
Capital Works	31750	0	0	0	0	0	997	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	1553	312	773	1313	1977	2803	2848	3702	3702	3702
Applications	33303	312	773	1313	1977	2803	3845	3702	3702	3702
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	78733	77297	76322	75887	76116	77172	79269	81223	83177	85131
Liabilities and Capital	78733	77297	76322	75887	76116	77172	79269	81223	83177	85131
Current Assets	8370	8683	9455	10768	12745	15548	18396	22098	25800	29501
Fixed Assets	70362	68615	66867	65119	63371	61624	60872	59125	57377	55629
Assets	78733	77297	76322	75887	76116	77172	79269	81223	83177	85131

Source: JICA

Table 2 (3) Financial Statements for Water Supply Facilities in Dekemhare

(Unit: Nfa thousand)

No.	21	22	23	24	25	26	27	28	29	30
Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Income Statement										
Revenue	6748	6748	6748	6748	6748	6748	6748	6748	6748	6748
Operation and Maintenance	3046	3046	3046	3046	3046	3046	3046	3046	3046	3046
Depreciation	1748	1748	1748	1748	1748	1748	1748	1748	1748	1748
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	4794	4794	4794	4794	4794	4794	4794	4794	4794	4794
Profit before Tax	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954
Funds Statement										
Profit after Tax	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	1748	1748	1748	1748	1748	1748	1748	1748	1748	1748
Sources	3702	3702	3702	3702	3702	3702	3702	3702	3702	3702
Capital Works	1738	0	0	0	0	1478	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	1963	3702	3702	3702	3702	2223	3702	3702	3702	3702
Applications	3702	3702	3702	3702	3702	3702	3702	3702	3702	3702
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	87085	89039	90993	92946	94900	96854	98808	100762	102716	104670
Liabilities and Capital	87085	89039	90993	92946	94900	96854	98808	100762	102716	104670
Current Assets	31465	35167	38868	42570	46272	48495	52197	55898	59600	63302
Fixed Assets	55620	53872	52124	50376	48629	48359	46612	44864	43116	41368
Assets	87085	89039	90993	92946	94900	96854	98808	100762	102716	104670

Source: JICA

Table 3 Cost Benefit Streams, Dekemhare (Economic Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: Nfa thousand)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	2237	-210	2027	0	-2027
2	2000	22770	-210	22560	0	-22560
3	2001	0	729	729	1580	852
4	2002	0	729	729	2220	1491
5	2003	1410	729	2139	3000	861
6	2004	14356	729	15084	3951	-11133
7	2005	0	1307	1307	5109	3803
8	2006	0	1307	1307	5751	4444
9	2007	0	1307	1307	6463	5156
10	2008	2978	1307	4285	7252	2967
11	2009	30318	1307	31625	8128	-23497
12	2010	0	2836	2836	9864	7028
13	2011	0	2836	2836	11587	8751
14	2012	0	2836	2836	13580	10743
15	2013	0	2836	2836	15884	13047
16	2014	0	2836	2836	18546	15709
17	2015	990	2836	3827	25454	21627
18	2016	0	2836	2836	25454	22618
19	2017	0	2836	2836	25454	22618
20	2018	0	2836	2836	25454	22618
21	2019	1728	2836	4565	25454	20889
22	2020	0	2836	2836	25454	22618
23	2021	0	2836	2836	25454	22618
24	2022	0	2836	2836	25454	22618
25	2023	0	2836	2836	25454	22618
26	2024	1474	2836	4310	25454	21144
27	2025	0	2836	2836	25454	22618
28	2026	0	2836	2836	25454	22618
29	2027	0	2836	2836	25454	22618
30	2028	0	2836	2836	25454	22618
31	2029	0	2836	2836	25454	22618
32	2030	990	2836	3827	25454	21627

Table 4 (1) Financial Statements for Water Supply Facilities in Dekemhare

(Unit: Nfa thousand)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	0	1470	1598	1742	1904	2088	1879	1879	1879
Operation and Maintenance	0	0	939	939	939	939	939	939	939	939
Depreciation	0	0	572	572	572	572	572	572	572	572
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	0	1510	1510	1510	1510	1510	1510	1510	1510
Profit before Tax	0	0	-40	87	231	394	577	369	369	369
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	0	-40	87	231	394	577	369	369	369
Funds Statement										
Profit after Tax	0	0	-40	87	231	394	577	369	369	369
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	2345	23917	0	0	0	0	0	0	0	0
Depreciation	0	0	572	572	572	572	572	572	572	572
Sources	2345	23917	531	659	803	966	1149	940	940	940
Capital Works	2345	23917	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	0	531	659	803	966	1149	940	940	940
Applications	2345	23917	531	659	803	966	1149	940	940	940
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	2345	26261	26221	26308	26540	26934	27511	27880	28248	28617
Liabilities and Capital	2345	26261	26221	26308	26540	26934	27511	27880	28248	28617
Current Assets	0	0	531	1190	1994	2959	4108	5049	5989	6929
Fixed Assets	2345	26261	25690	25118	24546	23974	23403	22831	22259	21687
Assets	2345	26261	26221	26308	26540	26934	27511	27880	28248	28617

Source: JICA

Table 4 (2) Financial Statements for Water Supply Facilities in Dekemhare

(Unit: Nfa thousand)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	1879	1879	1879	1879	1879	1879	1879	1879	1879	1879
Operation and Maintenance	939	939	939	939	939	939	939	939	939	939
Depreciation	572	572	572	572	572	572	572	572	572	572
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	1510	1510	1510	1510	1510	1510	1510	1510	1510	1510
Profit before Tax	369	369	369	369	369	369	369	369	369	369
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	369	369	369	369	369	369	369	369	369	369
Funds Statement										
Profit after Tax	369	369	369	369	369	369	369	369	369	369
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	572	572	572	572	572	572	572	572	572	572
Sources	940	940	940	940	940	940	940	940	940	940
Capital Works	0	0	0	0	0	0	997	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	940	940	940	940	940	940	-56	940	940	940
Applications	940	940	940	940	940	940	940	940	940	940
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	28985	29354	29722	30091	30460	30828	31197	31565	31934	32302
Liabilities and Capital	28985	29354	29722	30091	30460	30828	31197	31565	31934	32302
Current Assets	7870	8810	9750	10691	11631	12571	12515	13455	14395	15336
Fixed Assets	21116	20544	19972	19400	18829	18257	18682	18110	17538	16967
Assets	28985	29354	29722	30091	30460	30828	31197	31565	31934	32302

Source: JICA

Table 5 Cost Benefit Streams, Dekembhare (Economic Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: Nfa thousand)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	2237	-210	2027	0	-2027
2	2000	22770	-210	22560	0	-22560
3	2001	0	729	729	1580	852
4	2002	0	729	729	2220	1491
5	2003	0	729	729	3000	2271
6	2004	0	729	729	3951	3222
7	2005	0	729	729	5109	4381
8	2006	0	729	729	5109	4381
9	2007	0	729	729	5109	4381
10	2008	0	729	729	5109	4381
11	2009	0	729	729	5109	4381
12	2010	0	729	729	5109	4381
13	2011	0	729	729	5109	4381
14	2012	0	729	729	5109	4381
15	2013	0	729	729	5109	4381
16	2014	0	729	729	5109	4381
17	2015	990	729	1719	5109	3390
18	2016	0	729	729	5109	4381
19	2017	0	729	729	5109	4381
20	2018	0	729	729	5109	4381
21	2019	0	729	729	5109	4381
22	2020	0	729	729	5109	4381

APPENDIX H

ENVIRONMENT

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Table H-1 Screening Check List (Dekemhare)

Environment Item	Contents	Evaluation	Remarks	
Social Environment				
1	Resettlement	Exchange of land ownership and/or residential rights due to occupation of land	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Small structure
2	Economic activity	Loss of productive land, change in economic structure	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Small structure
3	Transportation, Living environment	Traffic congestion, accident and subsequent effect on school, hospital etc.	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Small structure
4	Regional segregation	Due to transportation hinderance	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Small structure
5	Historical ruins, cultural heritage	Damage to cultural heritage and its loss	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Does not exist near the town
6	Water right, right of common	Effect on right of fishery, irrigation, water right	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Use of GW of shallow layer
7	Sanitation	Deteriorated sanitation due to garbage and harmful insect outbreak	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not relevant
8	Industrial and Solid waste	Construction waste, waste dumps, mud, solid waste	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	No big construction
9	Disaster (Risk)	Increased hazardous land subsidence, landslides, accidents	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Small construction in flat area
Natural Environment				
10	Topography, geology	Change in topography, geological features by digging, soil piling	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	No big construction
11	Soil erosion	Top soil erosion by rain after creating new land reclamation, cutting down trees	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not be a causative factor
12	Groundwater	Depletion of GW level and pollution due to excessive pumping	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available	There is a possibility of depletion
13	Lake, river regime	Change in flow amount and quality due to reclamation and drainage	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not in the vicinity
14	Beach, coast	Shoreline erosion due to reclamation or change in tidal current	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Activities in the inland
15	Fauna and Flora	Disturbance in breeding, extinction due to change in living condition	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	No report of Red book species
16	Meteorology	Change in temperature, rainfall, wind due to large scale construction or building	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not relevant
17	Landscape	Destruction of harmony due to changed topography or buildings	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	No big construction
Pollution				
18	Air pollution	Exhaust, poisonous gas from automobile, factory	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not relevant
19	Water pollution	Flow of muddy water, oil from boring activities	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Boring dia is small and low depth
20	Soil contamination	Pollution due to flow of poisonous material and drainage	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not relevant
21	Noise, vibration	Due to drilling and Water lifting	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	No house in vicinity
22	Landsubsidence	Lowering of WL due to over extraction of water	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	W.R.Z./Quaternary aquifer are thin
23	Offensive odor	Exhaust, Odor substance	Yes <input type="radio"/> No <input checked="" type="radio"/> Not available	Not relevant
Total Evaluation:		Is EIA necessary for this project ?	Necessary <input type="radio"/> Unnecessary <input checked="" type="radio"/>	Influencial items are minimum

Note: W.R.Z. = Weathered Rock Zone

Table H-2 Scooping Check List (Dekemhare)

Environment Item		Evaluation	Remarks
Social Environment			
1	Resettlement	D	Small structure
2	Economic activity	D	Small structure
3	Transportation, Living environment	D	Small structure
4	Regional segregation	D	Small structure
5	Historical ruins, Cultural heritage	D	Small structure
6	Water right, Right of common	D	GW development(no complaint so far)
7	Sanitation	D	The Project will improve the condition
8	Solid waste	D	No large scale construction
9	Disaster (Risk)	D	Small scale of construction in flat area
Natural Environment			
10	Topography, Geology	D	No large scale construction
11	Soil erosion	D	Not relevant
12	Groundwater	B	There is a possibility of depletion / rise
13	Lake, River regime	D	Not relevant(GW development)
14	Beach, Coast	D	Not relevant(GW development in inland)
15	Fauna, Flora	D	No large scale construction activities
16	Meteorology	D	Not relevant
17	Landscape	D	No large scale construction activities
Pollution			
18	Air pollution	D	Not relevant
19	Water pollution	D	Not expected due to small drilling activities
20	Soil contamination	D	Not relevant
21	Noise, Vibration	D	Negligible(no houses close to the drilling site)
22	Land subsidence	D	Not expected
23	Offensive odor	D	Not relevant

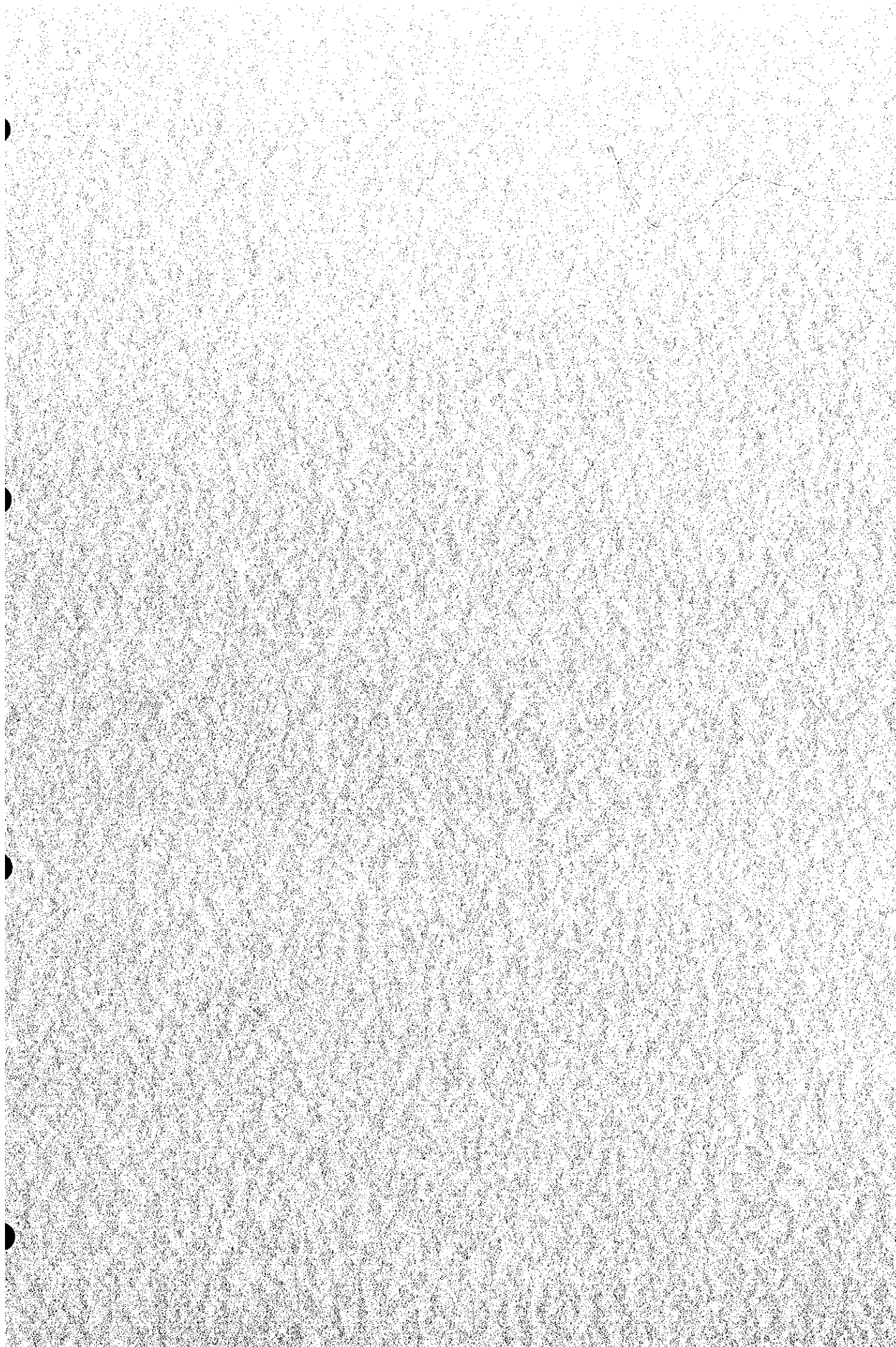
Note: Evaluation Level

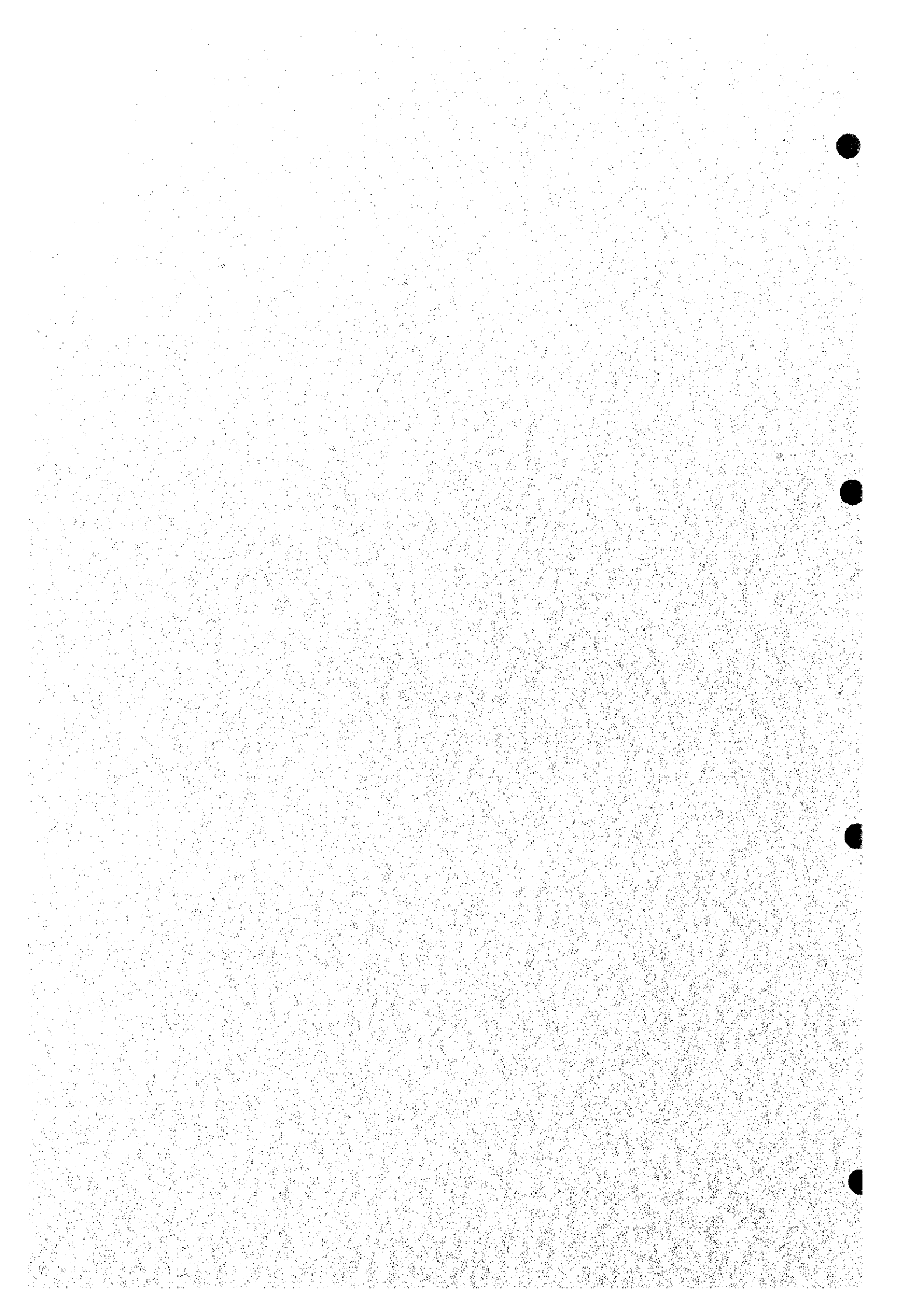
A: Much impact

B: Some impact

C: Not known (Further investigation is necessary)

D: No impact





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