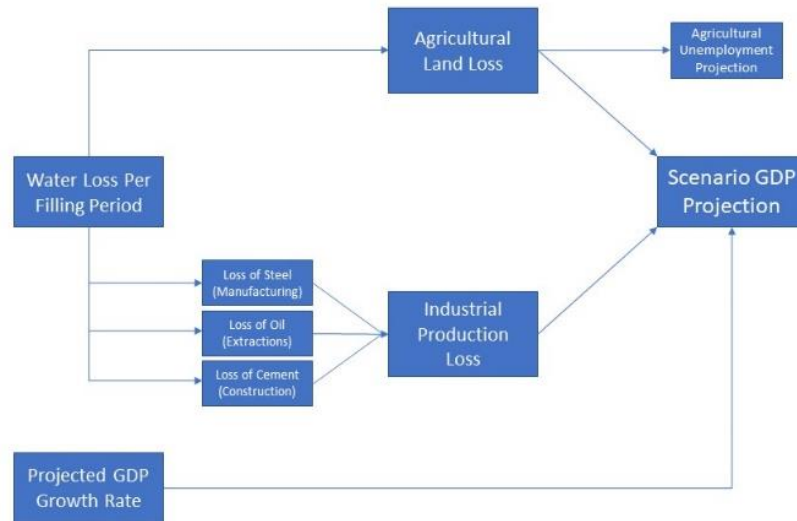


## Supplementary Material



*Supplementary Figure S1. Flow chart of the economic model to assess the impacts of the GERD's filling scenarios on Egypt's GDP*

Table 1S. Showcases, per filling scenario, estimated Egyptian GDP from agriculture in a case of medium GDP growth. Values highlighted in blue represent a year impacted by GERD filling.

Year	Non-GERD	21-Year Filling	10-Year Filling	7-Year Filling	5-Year Filling	3-Year Filling
2019	\$28.10B	\$28.10B	\$28.10B	\$28.10B	\$28.10B	\$28.10B
2020	\$29.36B	\$29.36B	\$29.36B	\$29.36B	\$29.36B	\$29.36B
2021	\$30.67B	\$30.67B	\$30.67B	\$30.67B	\$30.67B	\$30.67B
2022	\$32.04B	\$29.11B	\$26.03B	\$23.55B	\$20.29B	\$12.78B
2023	\$33.47B	\$30.41B	\$27.19B	\$24.60B	\$21.19B	\$13.35B
2024	\$34.97B	\$31.77B	\$28.41B	\$25.71B	\$22.14B	\$13.95B
2025	\$36.53B	\$33.19B	\$29.68B	\$26.85B	\$23.13B	\$36.53B
2026	\$38.17B	\$34.67B	\$31.00B	\$28.06B	\$24.17B	\$38.17B
2027	\$39.87B	\$36.22B	\$32.39B	\$29.31B	\$39.87B	\$39.87B
2028	\$41.66B	\$37.84B	\$33.84B	\$30.62B	\$41.66B	\$41.66B
2029	\$43.52B	\$39.53B	\$35.35B	\$43.52B	\$43.52B	\$43.52B
2030	\$45.46B	\$41.30B	\$36.93B	\$45.46B	\$45.46B	\$45.46B
2031	\$47.50B	\$43.15B	\$38.58B	\$47.50B	\$47.50B	\$47.50B
2032	\$49.62B	\$45.08B	\$49.62B	\$49.62B	\$49.62B	\$49.62B
2033	\$51.84B	\$47.09B	\$51.84B	\$51.84B	\$51.84B	\$51.84B
2034	\$54.16B	\$49.20B	\$54.16B	\$54.16B	\$54.16B	\$54.16B
2035	\$56.58B	\$51.40B	\$56.58B	\$56.58B	\$56.58B	\$56.58B
2036	\$59.11B	\$53.70B	\$59.11B	\$59.11B	\$59.11B	\$59.11B
2037	\$61.75B	\$56.10B	\$61.75B	\$61.75B	\$61.75B	\$61.75B
2038	\$64.51B	\$58.61B	\$64.51B	\$64.51B	\$64.51B	\$64.51B
2039	\$67.40B	\$61.23B	\$67.40B	\$67.40B	\$67.40B	\$67.40B
2040	\$70.41B	\$63.96B	\$70.41B	\$70.41B	\$70.41B	\$70.41B
2041	\$73.56B	\$66.82B	\$73.56B	\$73.56B	\$73.56B	\$73.56B
2042	\$76.85B	\$69.81B	\$76.85B	\$76.85B	\$76.85B	\$76.85B
2043	\$80.29B	\$72.93B	\$80.29B	\$80.29B	\$80.29B	\$80.29B

Table 2S. Showcases, per filling scenario, estimated Egyptian GDP per capita from agriculture in a case of medium GDP growth. Values highlighted in blue represent a year impacted by GERD filling.

Year	Non-GERD	21-Year Filling	10-Year Filling	7-Year Filling	5-Year Filling	3-Year Filling
2019	279.92	279.92	279.92	279.92	279.92	279.92
2020	286.87	286.87	286.87	286.87	286.87	286.87
2021	294.17	294.17	294.17	294.17	294.17	294.17
2022	301.82	274.18	245.19	221.86	191.11	120.38
2023	309.85	281.47	251.70	227.76	196.19	123.58
2024	318.23	289.09	258.52	233.92	201.50	126.93
2025	326.99	297.04	265.63	240.36	207.04	326.99
2026	336.11	305.34	273.04	247.06	212.82	336.11
2027	345.62	313.97	280.77	254.06	345.62	345.62

2028	355.50	322.95	288.79	261.32	355.50	355.50
2029	365.72	332.23	297.09	365.72	365.72	365.72
2030	376.27	341.81	305.66	376.27	376.27	376.27
2031	387.14	351.69	314.49	387.14	387.14	387.14
2032	398.35	361.87	398.35	398.35	398.35	398.35
2033	409.91	372.37	409.91	409.91	409.91	409.91
2034	421.81	383.19	421.81	421.81	421.81	421.81
2035	434.09	394.34	434.09	434.09	434.09	434.09
2036	446.74	405.83	446.74	446.74	446.74	446.74
2037	459.79	417.69	459.79	459.79	459.79	459.79
2038	473.27	429.93	473.27	473.27	473.27	473.27
2039	487.22	442.60	487.22	487.22	487.22	487.22
2040	501.68	455.74	501.68	501.68	501.68	501.68
2041	516.69	469.38	516.69	516.69	516.69	516.69
2042	532.27	483.53	532.27	532.27	532.27	532.27
2043	548.46	498.23	548.46	548.46	548.46	548.46

Table 3S. Showcases, per filling scenario, estimated total Egyptian GDP per capita from in a case of medium GDP growth. Values highlighted in blue represent a year impacted by GERD filling.

YEARS	NON-GERD	3-YEAR FILLING	5-YEAR FILLING	7-YEAR FILLING	10-YEAR FILLING	21-YEAR FILLING
2019	2610.99	2610.999268	2610.999268	2610.999268	2610.999	2610.999268
2020	2675.86	2675.864198	2675.864198	2675.864198	2675.864	2675.864198
2021	2743.922487	2743.922487	2743.922487	2743.922487	2743.922	2743.922487
2022	2815.347937	2633.908299	2704.633456	2735.38318	2758.71	2787.708934
2023	2890.185261	2703.922611	2776.527777	2808.094888	2832.042	2861.811561
2024	2968.425881	2777.120889	2851.69156	2884.113229	2908.708	2939.284073
2025	3050.06225	3050.06225	2930.117552	2963.430867	2988.702	3020.118996
2026	3135.205808	3135.205808	3011.912812	3046.15608	3072.133	3104.426678
2027	3223.915079	3223.915079	3223.915079	3132.345728	3159.058	3192.265066
2028	3316.045776	3316.045776	3316.045776	3221.859623	3249.335	3283.491293
2029	3411.371237	3411.371237	3411.371237	3411.371237	3342.743	3377.880918
2030	3509.732155	3509.732155	3509.732155	3509.732155	3439.125	3475.276202
2031	3611.144196	3611.144196	3611.144196	3611.144196	3538.497	3575.692654
2032	3715.718736	3715.718736	3715.718736	3715.718736	3715.719	3679.240559
2033	3823.509418	3823.509418	3823.509418	3823.509418	3823.509	3785.973032
2034	3934.601036	3934.601036	3934.601036	3934.601036	3934.601	3895.974035
2035	4049.110946	4049.110946	4049.110946	4049.110946	4049.111	4009.359771
2036	4167.131154	4167.131154	4167.131154	4167.131154	4167.131	4126.221344
2037	4288.834254	4288.834254	4288.834254	4288.834254	4288.834	4246.729654
2038	4414.544423	4414.544423	4414.544423	4414.544423	4414.544	4371.205693
2039	4544.67344	4544.67344	4544.67344	4544.67344	4544.673	4500.0572
2040	4679.6067	4679.6067	4679.6067	4679.6067	4679.607	4633.665784
2041	4819.616495	4819.616495	4819.616495	4819.616495	4819.616	4772.301067

<b>2042</b>	4964.937782	4964.937782	4964.937782	4964.937782	4964.938	4916.195697
<b>2043</b>	5115.899109	5115.899109	5115.899109	5115.899109	5115.899	5065.674998
<b>2044</b>	5272.845805	5272.845805	5272.845805	5272.845805	5272.846	5221.080907
<b>2045</b>	5436.122465	5436.122465	5436.122465	5436.122465	5436.122	5382.754638
<b>2046</b>	5605.425673	5605.425673	5605.425673	5605.425673	5605.426	5550.395752
<b>2047</b>	5780.976837	5780.976837	5780.976837	5780.976837	5780.977	5724.223485

*Table 4S. Showcases, per filling scenario, agricultural land loss and workers unemployed by land loss. Percentages represent amount of agricultural sector unemployed and addition to current unemployment rate, respectively.*

Filling Scenario (Years)	Land Loss, Acres	# Unemployed (Ag)	% of Agriculture Sector		% Unemployed, No GERD
			Unemployed	% Unemployed, GERD	
3	5546413	3289463	60.11	25.61	14.19
5	3384422	2007231	36.68	21.45	14.48
7	2444436	1449745	26.49	17.56	12.53
10	1731364	1026836	18.77	16.79	13.22
21	844894	501089	9.16	17.64	15.90