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A family planning investment case for Chad: Evidence, costs, and pathways to sustainable financing

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Abstract

Chad faces some of the world's highest fertility and maternal mortality rates, alongside persistently low contraceptive use, especially among adolescents. To address these challenges, the Government of Chad and the UNFPA developed a family planning investment case to assess financing gaps and model the health and economic impacts of scaling up services. Using demographic projections, costing tools, and cost-benefit analyses across multiple contraceptive uptake scenarios, the study finds that expanded family planning could avert approximately 186,000 maternal deaths, prevent 23 million cases of stunting, and generate up to CFA 100 trillion (USD 180 billion) in health savings and productivity gains by 2050. Each dollar invested is projected to return more than 300 dollars, reflecting exceptional economic value. In contrast, inaction would lead to massive health losses and long-term economic costs amounting to as much as 25% of GDP. Family planning therefore emerges as both a public health imperative and a strategic investment for sustainable development in Chad. *(Afr J Reprod Health 2026; 30 [7s]: 20-28).*

Keywords: Family planning financing, Investment case, Cost-benefit analysis, Cost of inaction, Chad

Résumé

Le Tchad présente certains des taux de fécondité et de mortalité maternelle les plus élevés au monde, ainsi qu'une utilisation persistante et très faible de la contraception, en particulier chez les adolescents. Pour relever ces défis, le Gouvernement du Tchad et l'UNFPA ont élaboré un argumentaire d'investissement pour la planification familiale afin d'évaluer les déficits de financement et de modéliser les impacts sanitaires et économiques d'une montée en puissance des services. En utilisant des projections démographiques, des outils d'estimation des coûts et des analyses coûts-avantages couvrant plusieurs scénarios d'augmentation de l'utilisation contraceptive, l'étude montre qu'un renforcement de la planification familiale pourrait éviter environ 186 000 décès maternels, prévenir 23 millions de cas de retard de croissance, et générer jusqu'à 100 000 milliards de francs CFA (180 milliards USD) en économies de santé et en gains de productivité d'ici 2050. Chaque dollar investi pourrait rapporter plus de 300 dollars, illustrant une valeur économique exceptionnelle. À l'inverse, l'inaction entraînerait d'importantes pertes sanitaires et économiques pouvant atteindre jusqu'à 25% du PIB. La planification familiale apparaît ainsi comme une priorité de santé publique et un investissement stratégique pour le développement durable du Tchad. *(Afr J Reprod Health 2026; 30 [7s]: 20-28).*

Mots-clés: Financement de la planification familiale, Argumentaire d'investissement, Analyse coûts-avantages, Coût de l'inaction, Tchad

Introduction

Family planning is widely recognized as a cornerstone of reproductive health and rights, with direct implications for gender equality, maternal and child survival, and broader socioeconomic development. Access to safe, affordable, and culturally appropriate contraceptive methods enables women and men to exercise autonomy over their reproductive lives, reduce unintended pregnancies, and plan the timing and spacing of their children. These choices yield measurable health benefits, including reductions in maternal and neonatal mortality, while also generating wider socioeconomic gains such as increased educational attainment, greater female labour force participation, and enhanced national productivity.[1-3] Global frameworks consistently affirm family planning as both a human right and a development priority. The International Conference on Population and Development (ICPD) Programme of Action, the FP2030 partnership, and the Sustainable

Development Goals (SDGs) all underscore the need for universal access to family planning as a foundation for health equity and national development.[4-6] The ICPD explicitly positions reproductive rights as central to human development, while the SDGs commit countries to ensuring universal access to sexual and reproductive health services by 2030.

In Chad, the urgency of scaling up family planning is particularly acute. The country has one of the highest fertility rates in the world, estimated at 6.4 births per woman, and adolescent fertility remains exceptionally high at 138 births per 1,000 girls aged 15–19.[7] Modern contraceptive prevalence is among the lowest in West and Central Africa, rising only modestly from 2.5% in 2010 to 7.0% in 2019[6] well below regional averages and far from Chad's FP2030 commitments.[8] Use among adolescents is especially limited, with fewer than 4% of adolescent girls reporting contraceptive use in the most recent Demographic and Health Survey.[7] These gaps carry profound consequences. Maternal mortality remains among the highest globally at an estimated 1,140 deaths per 100,000 live births,[6] and high fertility exacerbates poverty, strains household resources, and restricts women's access to education and employment. Without significant investment in family planning, Chad risks reinforcing cycles of poor health, low productivity, and constrained economic growth, undermining prospects for harnessing a demographic dividend.[9,10]

The economic rationale for investment is equally compelling. Evidence from multiple contexts shows that family planning is one of the most cost-effective health interventions, generating substantial returns through reduced healthcare costs and improved productivity.[2,3,11] Lower fertility supports smaller household sizes, increased investment in children's education, and greater female participation in the workforce. At the macroeconomic level, declines in fertility accelerate the demographic transition, increasing the share of the working-age population and creating conditions conducive to economic growth.[9,10,12] In a context like Chad—where poverty is widespread and economic constraints are severe—these gains could be transformative.

Against this backdrop, the Government of Chad, in partnership with the UNFPA, developed a family planning investment case to strengthen the evidence base for policy and financing decisions. The study assessed the current service delivery and financing landscape, evaluated baseline investment levels and funding gaps, estimated the financial requirements for scaling up family planning services, and quantified the long-term health and economic benefits of investment as well as the costs of inaction. Beyond its technical purpose, the investment case is intended as a strategic policy and advocacy tool. By presenting robust evidence across health and economic dimensions, it provides a roadmap for integrating reproductive health into Chad's broader development strategy. The findings are expected to guide domestic budget allocations, inform donor engagement, and support the design of equitable, sustainable service delivery strategies. Ultimately, the analysis highlights that scaling up family planning is not only a public health necessity but also a strategic economic choice that can accelerate progress toward Chad's FP2030 commitments and the SDGs.

This article presents the core findings of the investment case. The Methods section describes the data sources, costing framework, and modelling approaches. The Results section outlines the key financing gaps, projected outcomes across investment scenarios, and the quantified benefits of action versus inaction. The Discussion interprets these findings within national, regional, and global contexts, focusing on issues of financial sustainability, governance, and equity. The Conclusion underscores the urgency of sustained action and the implications for policy and implementation.

Methods

Framework

The investment case was developed as a mixed-methods policy and economic evaluation that integrated demographic modelling, budget analysis, and cost-benefit assessments. The overall approach followed the investment case methodology established by UNFPA Headquarters and adapted by UNFPA's West and Central Africa Regional Office, linking evidence on health outcomes with economic and fiscal analyses to inform policy advocacy and sustainable financing strategies.[13] The analytical framework comprised four core components: an assessment of the family planning service delivery and financing context; costing of scale-up scenarios;

economic evaluation of projected benefits and costs; and formulation of policy and financing recommendations.

Data sources

Multiple data sources were triangulated to ensure robustness of the analysis. Demographic and health indicators—including fertility, contraceptive prevalence, unmet need, and maternal mortality—were drawn from the 2014–2015 and 2019 Demographic and Health Surveys, supplemented by UN World Population Prospects.[5,7] Health system data on service delivery, method mix, and stock-outs were obtained from the Ministry of Health's Health Management Information System and from UNFPA commodity security profiles.[15] Financial data were extracted from National Health Accounts and Ministry of Finance budget documents covering 2016–2021, while donor disbursement data were collected from bilateral partners, the Global Financing Facility, and UNFPA.[16] Macroeconomic indicators such as GDP, labour force participation, and household poverty came from the World Bank's World Development Indicators.[17]

Budget analysis

The budget analysis followed a three-step process to assess financial trends and identify funding gaps. Government and donor expenditures on family planning from 2016 to 2021 were first mapped by function, including commodities, personnel, training, demand generation, and administration. Efficiency was then benchmarked by comparing Chad's cost per Couple-Year of Protection with regional peers. Finally, resource availability was compared with the projected requirements for implementing the National Family Planning Costed Implementation Plan in order to estimate financing gaps.

Scenario modelling and costing

Two scale-up scenarios were developed to estimate health and economic outcomes from 2024 to 2050, each targeting achievement of a 20% contraceptive prevalence rate by 2030, in alignment with objective 2 of the FP2030 framework.[8] Population projections and contraceptive uptake trajectories were modelled using the Spectrum suite of tools, including the FamPlan and DemProj modules, which are widely applied in reproductive health investment analyses.[18] Outputs included unintended pregnancies averted, maternal and child deaths prevented, and Couple-Years of Protection generated. Incremental costs associated with scaling up family planning were estimated using the OneHealth Tool, a WHO-endorsed platform for reproductive health costing.[19] All costs were expressed in constant 2022 USD and discounted at 5% per year. Inputs included UNFPA-procured commodity unit costs for pills, injectables, implants, intrauterine devices, and condoms; service delivery costs such as counselling, staff time, training, and facility overheads; and programmatic costs including demand-generation activities, supervision, and monitoring.

Cost-benefit analysis

The economic evaluation estimated benefits across three dimensions. Health outcomes were quantified through reductions in maternal and neonatal mortality using WHO maternal mortality ratios and the probability of complications associated with high-risk pregnancies. Health system savings were calculated based on avoided expenditures on maternal and newborn complications using Ministry of Health expenditure norms. Productivity gains were modelled by linking fertility reductions to higher female labour force participation and increased savings, drawing from the demographic dividend literature.[9,10,12] The return on investment was calculated by comparing cumulative monetized benefits with cumulative programme costs over the 2024–2050 period.

Cost of inaction analysis

A counterfactual scenario was modelled to estimate the consequences of maintaining current investment levels. This included projecting additional unintended pregnancies and maternal deaths relative to the two scale-up scenarios; estimating incremental healthcare expenditures resulting from preventable maternal and neonatal complications; and quantifying economic opportunity costs associated with lost productivity and forgone GDP growth.[17]

Sensitivity analysis

Sensitivity testing was conducted to account for uncertainty in key assumptions, including contraceptive uptake rates, unit commodity costs, and the 5% social discount rate.

Stakeholder engagement and validation

An iterative, participatory process supported the development and validation of the investment case. An inception workshop established objectives, secured government engagement, and refined research priorities. Technical working groups composed of statisticians, economists, and development partners from the Ministry of Health and Ministry of Finance reviewed methodological assumptions and intermediate results. A validation workshop convened more than 40 stakeholders—including government officials, civil society organizations, and international agencies—to assess the plausibility and policy relevance of the findings, ensuring broad ownership and alignment with national priorities.

Ethical considerations

This study did not involve the collection of primary data from human subjects, nor did it include clinical, behavioural, or personally identifiable information. All analyses were based on secondary datasets already in the public domain or routinely generated through government systems. Although the methodology included participatory consultations—such as an inception workshop, technical working group sessions, and a validation workshop—these were part of standard policy development processes in which participants contributed institutional views in their official capacities.

Because no personal data were collected and no research procedures involving human subjects were undertaken, formal ethical approval was not required. Participation in all consultations was voluntary and aligned with government protocols. No individual-level information was recorded, and no identifiable opinions or quotations are reported. The study adhered to international principles for ethical policy research, including respect for persons, transparency, and protection of confidentiality.

Results

Financing landscape

The analysis shows that Chad's family planning programme remains overwhelmingly dependent on external financing. Between 2016 and 2021, donor contributions consistently accounted for more than 80% of all expenditures, while domestic resources contributed less than 20% (Table 1). Government funding was concentrated mainly on salaries and central administrative functions, with commodities, demand generation, outreach, and technical assistance almost entirely financed by UNFPA, USAID, and other multilateral partners such as the Global Financing Facility and the World Bank. This high reliance on external support exposes the programme to sustainability risks at a time when donor priorities are increasingly uncertain.

Scenario modelling

Two scale-up scenarios were modelled from 2024 to 2050 to assess the impact of expanded contraceptive uptake. Scenario A assumes a steady, linear increase in contraceptive use that is sufficient to reach the FP2030 target of 20% by 2030, followed by continued gradual growth to 54% by 2050 (Figure 1). Scenario B adopts an S-curve trajectory in which accelerated scale-up occurs after the 20% target is reached, supported by targeted investments in supply chains, community outreach, and adolescent-friendly services, ultimately achieving 67% by 2050. The steeper trajectory under Scenario B illustrates the potential for transformative gains if structural and programme reforms are scaled and sustained.

Health benefits

The projected health benefits of expanding family planning access are substantial under both scenarios. Scenario A is expected to avert approximately 880,000 child deaths, prevent 16 million cases of stunting, and reduce maternal mortality by preventing around 142,000 maternal deaths between 2024 and 2050 (Figures 2). Under Scenario B, the projected impacts are even greater, with estimates of 1.2 million child lives saved, 23 million stunting cases averted, and 186,000 maternal deaths prevented over the same period. The modelling shows that maternal mortality could fall from 198 to 32 per women of reproductive age under Scenario B, reflecting a dramatic improvement in reproductive and maternal health outcomes driven by expanded contraceptive use.

Economic benefits

Scaling up family planning in Chad would generate substantial and sustained economic gains.

Table 1: Sources of family planning financing in Chad, 2016-2021 average values

Financing source	Share of total	Primary expenditure areas
Government of Chad	18%	Salaries, central coordination
UNFPA	41%	Commodities, outreach, demand generation
USAID and Bilateral donors	27%	Commodities, technical assistance
Other multilaterals (GFF, World Bank)	14%	Commodities, capacity building

Sources: Ministry of Finance and UNFPA commodity security profiles

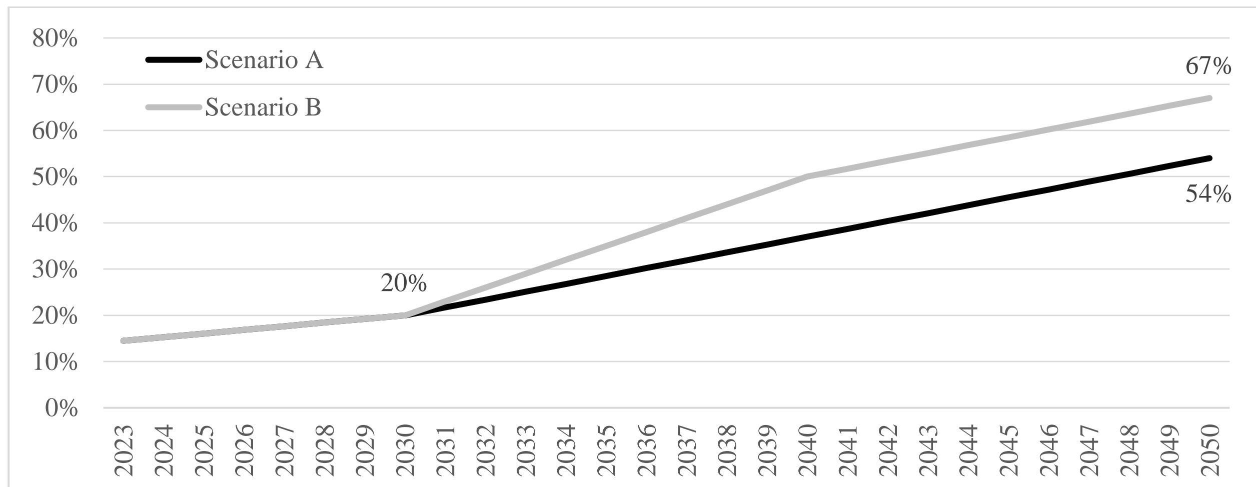

Figure 1: Projected contraceptive prevalence projected under both scenarios, 2023-2050

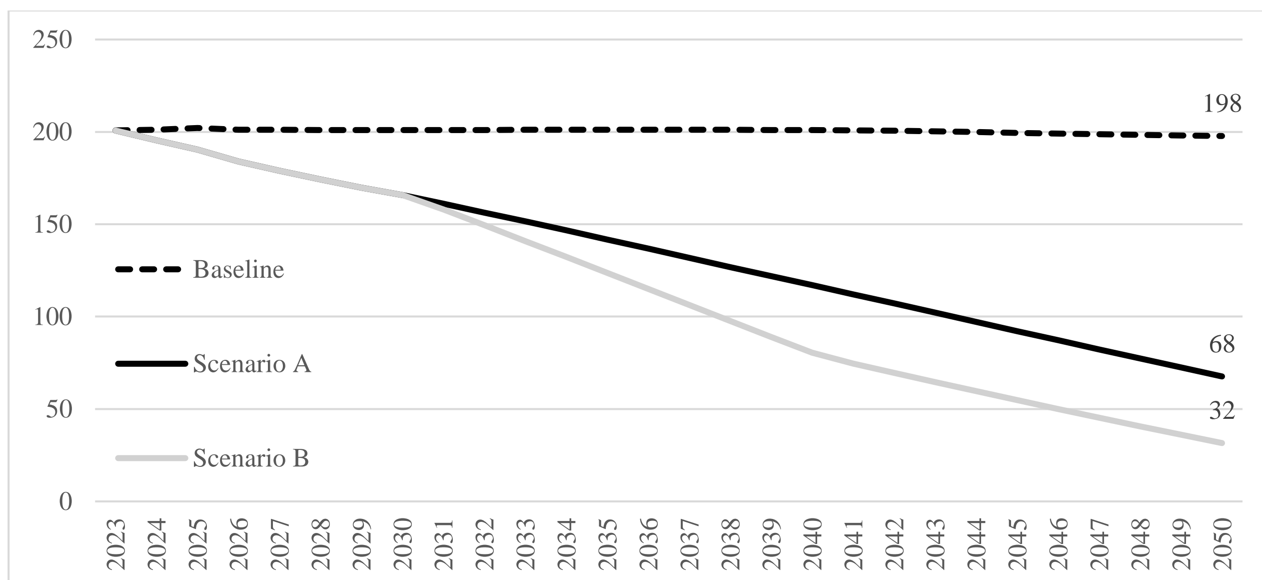

Figure 2: Maternal mortality rates per 100,000 women of reproductive age projected under both scenarios, 2023-2050

Under Scenario A, productivity improvements and health system savings linked to reductions in mortality and morbidity are projected to reach CFA 33 trillion by 2050, while averted stunting contributes an additional CFA 32 trillion and reduced maternal deaths add roughly CFA 5 trillion. These combined benefits total an estimated CFA 70 trillion (USD 120 billion) (Figure 3). Under Scenario B, economic gains rise to around CFA 100 trillion (USD 180 billion), more than 40% higher than under

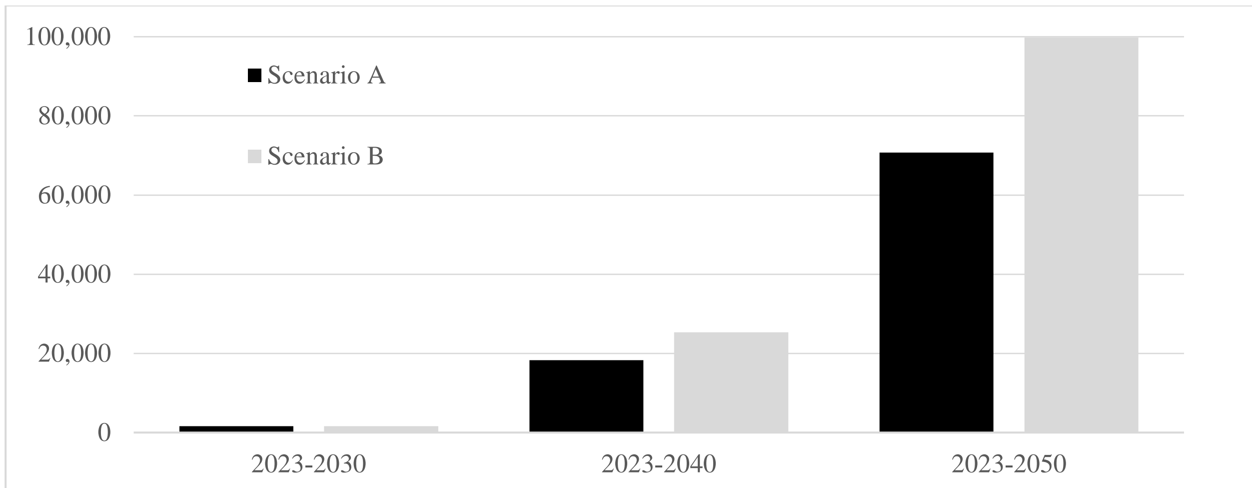

Figure 3: Economic benefits projected under both scenarios, 2023-2050, in CFA billions, adjusted for inflation and discounted at a rate of 5%

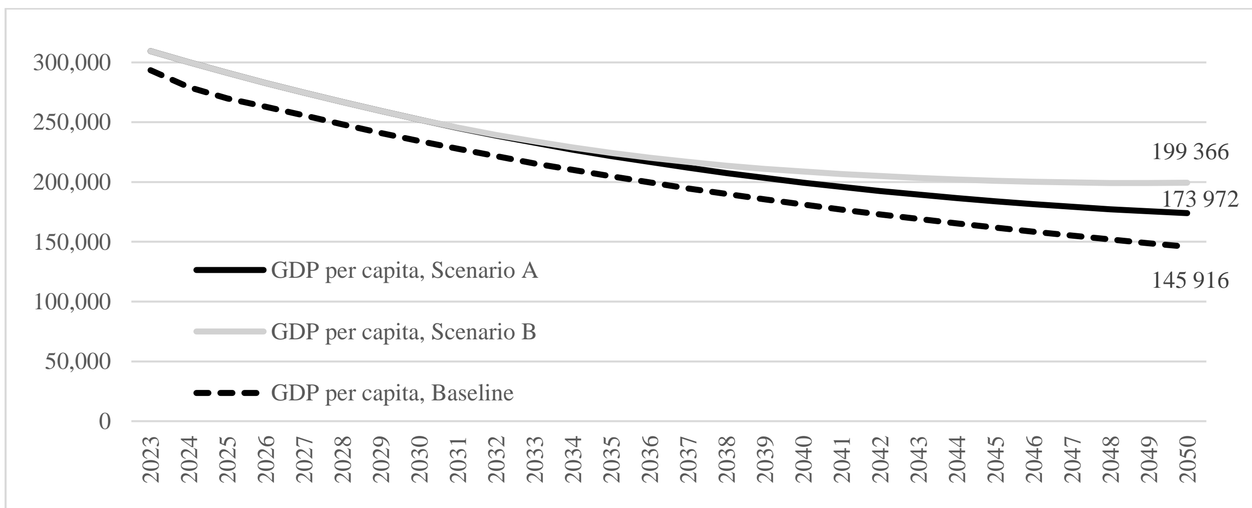

Figure 4: Estimated GDP per capita for Scenarios A and B, based on expected population projections due to family planning interventions compared to baseline population projections in CFA francs, 2023-2050

the linear growth trajectory. Achieving a 20% contraceptive prevalence rate by 2030 requires an additional CFA 237 billion, or about CFA 178 per capita per year, and would yield a benefit–cost ratio of 87:1. Sustaining this incremental investment through 2050 increases the ratio to 318:1.

Reductions in fertility would also directly raise GDP per capita. With GDP held constant in the projections, declining fertility alone increases GDP per capita from approximately 146,000 to 199,000 CFA francs by 2050 or by an estimated 53,000 CFA francs (about USD 87) (Figure 4). This figure represents a conservative estimate, as future real economic growth would amplify these gains and further strengthen national wealth accumulation.

Economic losses

The cost of inaction is equally significant. If current low investment levels persist, Chad will face large and escalating economic losses driven by preventable maternal and child deaths, high fertility, increased dependency ratios, and foregone productivity. Under a no-change scenario, economic losses are estimated at CFA 1.6 trillion (USD 2.8 billion) by 2030. By 2050, the losses rise dramatically to CFA 71 trillion (USD 130 billion) when compared with Scenario A and CFA 99 trillion (USD 180 billion) when compared with Scenario B. The long-term losses are especially pronounced because the cumulative benefits of family planning

grow exponentially over time, meaning that the opportunity cost of inaction becomes larger with each passing year.

Discussion

The family planning investment case for Chad demonstrates that expanding access to modern contraception is among the most effective strategies for improving population health and accelerating socioeconomic development. The projected health gains are considerable: modelling indicates that up to 186,000 maternal deaths could be prevented by 2050 under the exponential growth scenario, reinforcing global evidence that contraceptive use reduces maternal mortality by up to 40%.[20] The implications for adolescents are especially important. With an adolescent fertility rate of 138 per 1,000 girls aged 15–19,[7] scaling up adolescent-friendly services would reduce early childbearing, lower school dropout rates, and expand future opportunities. Evidence from Ethiopia and Malawi shows that such services increase contraceptive uptake and educational attainment.[23,24] In Chad, these improvements could help break cycles of early marriage, poverty, and poor health.[21,22]

The economic analysis confirms that family planning is a powerful investment. Under the exponential growth scenario, total economic gains could exceed USD 180 billion by 2050 (Figure 4), producing a return on investment greater than 300:1. These findings are consistent with global studies showing that every dollar invested in family planning generates multiple dollars in health-system savings and productivity gains.[25] Fertility decline allows households to allocate more resources to education and nutrition, while at the macro level it accelerates the demographic transition and promotes conditions for a demographic dividend.[9,10,12] For Chad, where over 40% of the population lives in poverty, capturing this dividend could add billions to GDP by mid-century. In contrast, failing to scale up investments would forfeit these gains, with cumulative economic losses projected at up to USD 180 billion by 2050. Sustaining these gains requires stronger financing and system reforms. Chad's family planning programme remains heavily donor-dependent, an arrangement that is increasingly fragile in light of shifting global priorities, as demonstrated by the withdrawal of USAID support in 2025.[26,27] To ensure sustainability, the country must increase domestic financing through dedicated budget lines; integrate family planning within universal health coverage packages; mobilize innovative instruments such as results-based financing and public–private partnerships;[28] and improve efficiency by strengthening procurement and supply chains. Persistent inequities also require deliberate attention. Rural modern contraceptive prevalence remains below 4%, compared with nearly 12% in urban areas (Table 1), and adolescents face stigma and confidentiality barriers. Closing these gaps requires expanded community distribution,[29] adolescent-friendly services,[30] and financial protection mechanisms for low-income households vulnerable to shocks such as droughts, floods, and political instability.[31]

Governance and political economy factors further shape the feasibility of scaling up family planning. Fertility preferences in Chad are influenced by sociocultural and religious norms, making it essential to frame family planning as a maternal and child survival intervention rather than population control. Validation workshops revealed strong support for this approach. Political leadership, parliamentary engagement, civil society participation, and community and religious leaders all play vital roles in generating demand, countering misconceptions, and sustaining financing commitments. The investment case's participatory development process strengthened ownership and accountability among stakeholders.

The findings support several policy directions aligned with Chad's FP2030 commitments and the SDGs, particularly targets 3.1 and 3.7. Family planning should be prioritized as a life-saving intervention; domestic financing must increase through budgetary commitments and innovative financing; equity must be central to programme design; and routine monitoring systems should track financing flows, service delivery, and outcomes. A real-time dashboard would improve transparency and enable timely course correction.

This analysis has limitations. It relies heavily on secondary data from household surveys and administrative systems that may contain reporting errors, incomplete HMIS entries, or recall bias. Assumptions regarding changes in fertility preferences and sociocultural barriers may be optimistic, as such shifts are typically gradual and uneven. The modelling framework assumes relative political and fiscal stability, even though conflict,

economic shocks, or governance disruptions could affect scale-up trajectories. Economic valuation of productivity gains also carries uncertainty because long-term returns depend on concurrent investments in education, employment, and governance. However, triangulation of multiple data sources, the use of validated modelling tools, extensive stakeholder consultation, and sensitivity analyses help ensure that the estimates are plausible and robust across a range of assumptions.

Conclusion

The family planning investment case for Chad shows that expanding contraceptive access is both a public health necessity and a powerful economic strategy. By 2050, increased investment could avert up to 150,000 maternal deaths, prevent millions of unintended pregnancies, and substantially reduce unsafe abortions. Even under conservative assumptions, the financial returns far exceed the required resources, with benefit-cost ratios above 300:1 and rising to 318:1 under an ambitious scale-up scenario. These findings confirm that family planning remains one of the most cost-effective interventions for improving population health and reducing maternal morbidity and mortality.

The broader socioeconomic implications are equally compelling. Lower fertility supports higher educational attainment, increased female labour participation, and improved household wellbeing, while at the national level it accelerates the demographic transition and could add billions to GDP by mid-century. In contrast, failing to expand services would result in millions of unintended pregnancies, thousands of preventable maternal deaths, and significant productivity losses. The investment case offers strong evidence to guide policy and financing decisions; the remaining challenge is sustaining political commitment and ensuring effective implementation. If acted upon, family planning can become a foundational driver of Chad's long-term development.

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Data availability

The original contributions presented in this study are included in the supplementary material. Further inquiries can be directed at the corresponding author.

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