Knowledge Building and the Challenge of Development Returns in Iraq

The Stakes of Transformation for a Sustainable Future

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Introduction

It is widely acknowledged that the world has passed through the Fourth Industrial Revolution and is now entering an early but very real transition to the Fifth. In this new era, digitisation has become the universal language through which we communicate with every corner of the globe, while our existence moves steadily into a virtual environment.

Amid a host of challenges, one question keeps resurfacing. Are we prepared to make sufficient efforts to secure better living standards, raise the quality of education and health, and safeguard the entitlements of future generations? The world is changing at lightning speed, and economic and health crises continue to leave severe consequences in their wake. While some people manage to build resilience and endure, others fall prey to sweeping change and remain neglected and marginalised. The human being is the atom without which the whole living organism cannot be sustained. Human survival therefore depends on solidarity and unity, and no matter how much our reality changes, our capabilities, knowledge and skills remain indispensable to shaping the future.

Numerous studies have underlined the importance of human capital as a key driver of economic growth and social progress. In both the short and the long term, research has shown that greater spending on health and education contributes strongly to sustainable human development. Higher healthcare spending, lower child mortality, reduced illiteracy and wider access to schooling all strengthen the human security of individuals and society alike, since health is one of the core elements of human development, including its dimensions of expenditure and life expectancy at birth.

At the social level, measures of social cohesion are generally linked to equality and education. Equality gives individuals a shared sense of common purpose. When it fades, we become less likely to believe that we have much in common with the people who live alongside us and share our concerns. Inequality makes people less inclined to believe that what affects one person affects everyone. As a result, communities grow less welcoming towards people from diverse backgrounds, and those at the bottom have little reason to believe that they control their own destiny or that anyone cares about them. Consequently, no strong sense of social cohesion can take hold.

I. Human Capital as a Principal Engine of Growth

Modern theories of sustainable development stress the accumulation of human capital as a principal engine of growth. Development theorists, moreover, often emphasise the interactions that may cause the social returns to human capital to exceed its private returns. People with greater skills frequently raise the productivity of those who work with them, and the accumulation of human capital may therefore increase total factor productivity across the economy.[1] This paper presents an overview of the growth models that generate such externalities and critically assesses the empirical literature that seeks to identify these effects in aggregate and micro-level data.

Iraq's population doubles roughly every 23 to 25 years and reached 46,118,793 in 2024, with about 70 per cent living in urban areas and 30 per cent in rural ones. Life expectancy at birth stands at approximately 73 years.[2] Against this backdrop, the country's human capital faces mounting challenges amid compound and successive crises, both internal and external, that push the human security of state and society to the brink. Meeting these challenges requires an exceptional effort, one that examines the trajectory of human capital in depth, diagnoses its setbacks and gaps, and ultimately builds development indicators that secure the entitlements of future generations.

The widening scope of volatility, fragility and development gaps drives up unemployment. This, in turn, degrades the characteristics of the population, worsens living conditions and lowers human capital indicators, which inevitably fuels the growth of poverty and human marginalisation and erodes quality of life. Social pressures and environmental problems consequently intensify. As these pressures mount, closed communities become more likely to form, storing pent-up negative energy that threatens the stability of society as a whole. Such communities generate negative patterns of behaviour, although these surface as individual cases that may recur from time to time. Furthermore, the accumulation of negative energy produces an escalating threat as tense zones take shape in cities, zones liable to explode under additional pressure that could tear the social fabric apart and undermine the foundations of the state.

[1] Lucas, Robert E. (1988). “On the Mechanics of Economic Development.” *Journal of Monetary Economics* 22: 3-42.

[2] Ministry of Planning, *National Development Plan 2024-2028*.

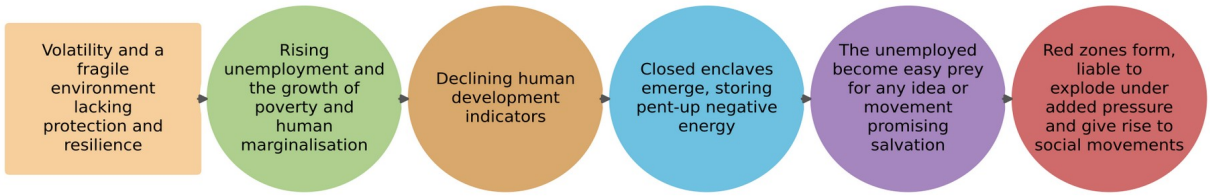


Figure 1. The effects of volatility and environmental fragility in the informal sector on the conditions and characteristics of the population and on the sustainability of development[3]

The indicators of the Sustainable Development Goals (SDGs) for Iraq, together with the available data, reveal a mixed picture of progress towards the seventeen goals. Nevertheless, several challenges are shared across the region. According to the Arab Region SDG Index reports, Goal 5 (gender equality) stands out as a major challenge for every country in the Arab region, since it is the only goal on which all Arab states receive a red rating. Other common challenges include Goal 16 (peace, justice and strong institutions), Goal 8 (decent work and economic growth), Goal 14 (life below water) and Goal 15 (life on land).[4]

II. Education and Development as an Enabling Right

The twenty-first century is the century of the information and communication technology revolution. This revolution rests on advanced knowledge and the more efficient use of information, and its foundation is the human mind, an inexhaustible and renewable source of energy. Consequently, it will not remain the preserve of any particular society, group or state that possesses raw materials or a vast military arsenal. It is a revolution that belongs to all humanity, and every nation may enter its arena provided its people are well prepared through upbringing and education. Moreover, this revolution has transformed the organic relationship between the forces and relations of production, and it will erase the distinction between physical and mental labour as well as the boundaries between economic sectors. The human being will thus become the principal actor in the movement of society and the economy and a force shaping the environment, acquiring multiple skills and embracing lifelong learning and training as a member of the information society.

Preparing people to play an active role in the knowledge society requires an education system that keeps pace with developments in a borderless world. Advanced countries have grasped this reality and have directed their efforts towards reforming education and diagnosing its problems, seeking a roadmap for comprehensive reform aligned with the demands of scientific and technical progress. The education system operates as an integrated whole and forms part of the prevailing economic, social and political order. There is, moreover, a close relationship

[3]Figure prepared by the author.

[4]World Governments Summit (2025). *The Arab Region SDG Index and Dashboards 2025: Building Resilience*, p. 9.

between education and sustainable development. Development cannot be achieved without an advanced, high-quality education system that operates efficiently and effectively through sustainable universities and good governance, and that responds to the practices and goals of sustainable development in the fight against poverty.

Box 1. Education as a Key Equaliser

Education acts as a key equaliser, helping to reduce the negative effects of economic inequality on health, knowledge and other social variables such as crime and educational attainment, with clear consequences for social mobility.

A study of the relationship between economic inequality, education and ten social variables across 153 countries found that economic inequality is associated with worse outcomes on some, though not all, health and social problems, and that this association is stronger in countries with higher human development. Societies with higher average levels of education achieve better outcomes. However, education does not offset the negative effect of economic inequality. The study also examined how far education can equalise opportunities for intergenerational social mobility at the individual level. The available evidence suggests that education does indeed equalise cognitive skills, although affluent families consistently manage to shield their children from downward mobility when those children perform poorly. Education therefore remains the best route for developing the abilities of children from families of low socio-economic status. Yet the elevator does not move downwards when children from families of high socio-economic status fail, and this finding casts a shadow over the full potential of education to promote social mobility.

Adapted from Fabrizio Bernardi and Ilze Plavgo, Education as an Equalizer for Human Development, Human Development Report Background Paper No. 4-2019, United Nations Development Programme (UNDP).

Protecting the environment from pollution, empowering girls, economic growth, decent work, innovation, global citizenship, peace, partnerships and stronger social cohesion share a common feature. In each of them, the “green” university student can serve as both the means and the end, becoming one of the principal forces driving social change and progress across every field of life. Education, therefore, is not merely a fundamental human right; it is an enabling right that directly affects the realisation of all other human rights. It is the main tool through which economically, socially and politically marginalised adults, young people and children can lift themselves out of poverty and gain the means to participate fully in their communities. Education also plays a vital role in empowering girls and women and in protecting children from exploitative labour and its attendant dangers. Furthermore, it reinforces the multiplier effect of rights, since access to education shapes the extent to which people enjoy all their other rights.

The United Nations Committee on Economic, Social and Cultural Rights has issued detailed guidance on the obligations of states to respect, protect and fulfil the right to education. The Committee has also affirmed that this right comprises a set of interrelated features with specific elements. Accordingly, education is a global public good and a principal driver of the SDGs, as well as the foundation of peaceful, just, equal and inclusive societies.

Education and the Sustainable Development Goals

The fourth SDG, on quality education, aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. It comprises seven targets.

1. Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes by 2030.
2. Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education by 2030.
3. Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university, by 2030.
4. Substantially increase the number of young people and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship by 2030.
5. Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations, by 2030.
6. Ensure that all young people and a substantial proportion of adults, both men and women, achieve literacy and numeracy by 2030.
7. Ensure that all learners acquire the knowledge and skills needed to promote sustainable development by 2030, including through education for sustainable development and sustainable lifestyles, human rights, gender equality, a culture of peace and non-violence, global citizenship, and an appreciation of cultural diversity and of culture's contribution to sustainable development.

This framework is closely tied to the Incheon Declaration, adopted by some 1,600 participants at the World Education Forum held in Incheon, Republic of Korea, in May 2015. The declaration embodies a firm commitment by countries and the global education community to a single, comprehensive education agenda. Moreover, the Education 2030 Framework for Action, adopted by representatives of some 180 member states of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in November 2015, sets out how global education commitments can be translated into policy and practice at the national, regional and global levels.

The idea behind the fourth goal centres on education for all, so that no one is left without an education. It thereby responds to the founding principle of the 2030 Agenda for Sustainable Development, adopted in 2015, to “leave no one behind”. From this principle emerged a humanistic vision of education and development grounded in human rights, dignity, social justice, protection and social responsibility.

According to the prevailing vision in planning and development work, efforts to achieve the SDGs in Iraq should proceed on three levels.

- **The national level.** The government should update the National Development Plan 2024-2028 so that it takes the SDGs as its foundation, ensuring that their targets are met and their indicators monitored. Educational institutions, in turn, can help the federal government foster dialogue and develop alternative development pathways towards these goals.
- **The local level.** Achieving the SDGs requires integrating them into local development and familiarising local institutions in each governorate with them. Educational institutions can support provincial councils and local government bodies through services and advisory support.
- **The operational and procedural level.** In their current form, the SDGs need to be explained and clarified by researchers and academics so that officials, decision-makers and beneficiaries at other levels understand them better. Such understanding paves the way for making them a national priority, provided that the philosophy behind them is grasped.

III. Education Indicators in Iraq

Education policy in Iraq has largely focused on gender equality rather than on inequality in general, and the country reached relative parity in earlier periods. Even so, data from the 2024 General Population Census (Table 1) show that men and women have not received comparable education. Large gaps and clear disparities by sex persist, and the preference for men continues across groups through practices rooted deep in a social structure dominated by a patriarchal culture. It must also be acknowledged that educational standards in Iraq are low and that their improvement is slow.

Among the gravest challenges facing knowledge building in Iraq is the challenge of foundational learning. The term refers to basic literacy and numeracy, as well as transferable skills such as social and emotional ones, which together form the building blocks of all more complex learning, knowledge and skills. These core skills are essential if children are to receive a quality education, a right guaranteed to every child under the fourth goal of the 2030 Agenda. The “Analysis of Foundational Learning in Iraq”[5] brings the problems of enrolment, dropout and school overcrowding clearly into view, and these problems threaten opportunities to invest in human capital. Foundational learning is an inherent right. However, learning gaps disproportionately affect the least advantaged, namely the poor and the vulnerable, thereby limiting their life chances.

[5]The foundational stage typically covers two years of pre-primary education (for children aged 3 to 5) and grades one to three of primary school.

Losing foundational skills in the early stages deprives children of essential pillars of learning and development and undermines their capacity for critical thinking, which ultimately affects their productivity. Conversely, foundational learning helps children achieve better educational and health outcomes and helps build more cohesive families, since it opens better prospects for successive generations and protects them from falling into poverty and fragility. At the national level, foundational learning is therefore an indispensable pillar of the SDGs.

Statistical data reveal a persistent gender gap in Iraq. The gap narrows somewhat in the early stages of education but widens again in postgraduate studies (higher diploma, master's and doctorate). A detailed analysis by governorate shows large gaps and clear disparities by environment and sex. Indeed, these gaps persist, and the preference for men across groups remains a practice rooted in patriarchal culture.

Table 1. Educational levels in Iraq according to the 2024 General Population Census

Educational level	Number	Share (%)
Illiterate	5,400,578	15.7
No certificate, reads only	1,129,643	3.3
No certificate, reads and writes	4,348,494	12.6
Literacy certificate	101,896	0.3
Primary	10,404,528	30.2
Intermediate	4,471,269	13.0
Basic education	964,910	2.8
Preparatory (upper secondary)	2,682,098	7.8
Diploma	1,378,294	4.0
Bachelor's	3,219,161	9.3
Higher diploma	43,741	0.1
Master's	197,053	0.6
Doctorate	94,614	0.3
Total	**34,436,279**	**100.0**

Compiled from the Statistics and Geographic Information Systems Authority, results of the 2024 General Population Census.

The data show that about 62 per cent of Iraq's population has an education below the intermediate level, compared with 38 per cent who have reached intermediate level or above.

According to the census results, illiteracy stands at 15.7 per cent, and women account for 64.7 per cent of the illiterate population compared with 35.3 per cent for men. The gap then narrows gradually among those without a certificate, whether they read only or read and write. Men's shares remain higher than women's at the primary, intermediate, preparatory, diploma and bachelor's levels, and they rise sharply in postgraduate studies. Most alarmingly, around 62 per cent of the population falls below the intermediate level (Table 1).

Table 2. Population of Iraq by educational level and sex

Educational level	Males	Males (%)	Females	Females (%)	Total
Illiterate	1,905,154	35.3	3,495,424	64.7	5,400,578
No certificate, reads only	518,125	45.9	611,518	54.1	1,129,643
No certificate, reads and writes	2,106,235	48.4	2,242,259	51.6	4,348,494
Literacy certificate	41,279	40.5	60,617	59.5	101,896
Primary	5,609,978	53.9	4,794,550	46.1	10,404,528
Intermediate	2,380,378	53.2	2,090,891	46.8	4,471,269
Basic education	516,084	53.5	448,826	46.5	964,910
Preparatory (upper secondary)	1,421,275	52.9	1,260,823	47.1	2,682,098
Diploma	729,646	52.9	648,648	47.1	1,378,294
Bachelor's	1,703,870	52.9	1,515,291	47.1	3,219,161
Higher diploma	25,403	58.1	18,338	41.9	43,741
Master's	122,517	62.2	74,536	37.8	197,053
Doctorate	64,990	68.7	29,624	31.3	94,614
Total	**17,144,934**	**49.8**	**17,291,345**	**50.2**	**34,436,279**

Compiled from the Statistics and Geographic Information Systems Authority, 2024 General Population Census data.

Table 2 also shows that women's shares are lower at every stage of education. At the primary level, women account for 46.1 per cent compared with 53.9 per cent for men, and the same pattern holds at the intermediate, preparatory, diploma and bachelor's levels. Men's shares, however, rise markedly in postgraduate studies, reaching 58.1, 62.2 and 68.7 per cent at the higher diploma, master's and doctoral levels respectively.

Although the National Development Plan does not dedicate a separate section to women, the detailed programming of development work, which forms the backbone of the plan, reflects a clear orientation towards an “empowered and participating woman”.

Table 3. Educational level by environment and sex

Educational level	Males			Females			Grand total
	Urban	Rural	Total	Urban	Rural	Total	
Illiterate	1,125,254	779,900	1,905,154	1,981,022	1,514,402	3,495,424	5,400,578
No certificate, reads only	321,563	196,562	518,125	366,691	244,827	611,518	1,129,643
No certificate, reads and writes	1,450,081	656,154	2,106,235	1,507,917	734,342	2,242,259	4,348,494
Literacy certificate	27,649	13,630	41,279	42,793	17,824	60,617	101,896
Primary	3,840,043	1,769,935	5,609,978	3,364,829	1,429,721	4,794,550	10,404,528
Intermediate	1,763,155	617,223	2,380,378	1,644,301	446,590	2,090,891	4,471,269
Basic education	401,069	115,015	516,084	352,937	95,889	448,826	964,910
Preparatory (upper secondary)	1,095,925	325,350	1,421,275	1,043,935	216,888	1,260,823	2,682,098
Diploma	593,528	136,118	729,646	573,491	75,157	648,648	1,378,294

Educational level	Males			Females			Grand total
	Urban	Rural	Total	Urban	Rural	Total	
Bachelor's	1,365,490	338,380	1,703,870	1,320,640	194,651	1,515,291	3,219,161
Higher diploma	21,244	4,159	25,403	16,442	1,896	18,338	43,741
Master's	102,829	19,688	122,517	68,124	6,412	74,536	197,053
Doctorate	58,316	6,674	64,990	28,062	1,562	29,624	94,614
Grand total	**12,166,146**	**4,978,788**	**17,144,934**	**12,311,184**	**4,980,161**	**17,291,345**	**34,436,279**

Compiled from the 2024 General Population Census.

As for the educational attainment of women and men by environment, Table 3 reveals marked differences between the sexes in both rural and urban areas. Illiteracy among rural women rises to 30.41 per cent, compared with 16.09 per cent among urban women, and the same pattern applies to women without a certificate, whether they read only or read and write. Among men, illiteracy is likewise higher in rural areas, at 15.66 per cent compared with 9.25 per cent in urban areas.

At the primary level, the share of women stands at 28.71 per cent in rural areas compared with 27.33 per cent in urban areas, while the share of men reaches 35.55 per cent in rural areas compared with 31.56 per cent in urban ones. This convergence stems from compulsory primary education. However, the disparity becomes more visible at the intermediate level, where the share of rural women falls to 8.97 per cent compared with 13.36 per cent for urban women. At the preparatory level, the share of rural women falls further to 4.36 per cent compared with 8.48 per cent in urban areas.

The rural and urban divide is also stark at the bachelor's level. Only 3.91 per cent of rural women hold a bachelor's degree, compared with 10.73 per cent of urban women. Similarly, the share among men rises to 11.22 per cent in urban areas compared with 6.80 per cent in rural ones. In postgraduate studies, the disparities are clear at every level (Table 4).

Table 4. Distribution of the population by educational attainment, environment and sex (%)

Educational attainment	Urban			Rural			Iraq		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Illiterate	9.25	16.09	12.69	15.66	30.41	23.04	11.11	20.21	15.68
No certificate, reads only	2.64	2.98	2.81	3.95	4.92	4.43	3.02	3.54	3.28
No certificate, reads and writes	11.92	12.25	12.08	13.18	14.75	13.96	12.28	12.97	12.63
Literacy certificate	0.23	0.35	0.29	0.27	0.36	0.32	0.24	0.35	0.30
Primary	31.56	27.33	29.43	35.55	28.71	32.13	32.72	27.73	30.21
Intermediate	14.49	13.36	13.92	12.40	8.97	10.68	13.88	12.09	12.98
Basic education	3.30	2.87	3.08	2.31	1.93	2.12	3.01	2.60	2.80
Preparatory (upper secondary)	9.01	8.48	8.74	6.53	4.36	5.44	8.29	7.29	7.79

Educational attainment	Urban			Rural			Iraq		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Diploma	4.88	4.66	4.77	2.73	1.51	2.12	4.26	3.75	4.00
Bachelor's	11.22	10.73	10.97	6.80	3.91	5.35	9.94	8.76	9.35
Higher diploma	0.17	0.13	0.15	0.08	0.04	0.06	0.15	0.11	0.13
Master's	0.85	0.55	0.70	0.40	0.13	0.26	0.71	0.43	0.57
Doctorate	0.48	0.23	0.35	0.13	0.03	0.08	0.38	0.17	0.27
Grand total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Compiled from the results of the 2024 General Population Census.

When educational levels are analysed by environment, sex and governorate, illiteracy among women and girls emerges as a complex issue shaped by intersecting social, economic, cultural and environmental factors. Indicators drawn from the 2024 census reveal clear variation in educational levels by sex, environment and governorate. Despite notable improvement in recent decades, the knowledge gap remains wide in many areas, particularly rural ones, owing to several factors, chief among them the following.

- **Social and cultural factors.** These stem from a traditional heritage rooted in a narrow outlook that prioritises the education of boys over girls. Traditions of early marriage also play a major role in pushing girls out of school, as a girl is forced to leave her studies to shoulder domestic and family responsibilities beyond her years.
- **Economic factors.** Poverty, which afflicts many low-income families, is a major obstacle that forces households to choose between educating their children and coping with the pressures of modern life. Many families therefore channel their resources into educating sons, while daughters stay at home to help with household duties or to reduce costs. Child labour, moreover, pushes girls into work at an early age, whether in agriculture or domestic service, to contribute to household income.
- **Geographical and logistical challenges.** The distance of schools, particularly in remote areas, forces female students to travel long distances. This raises parents' fears for their daughters' safety and often ends the girls' education once they complete primary school. Weak infrastructure, including the absence of basic facilities such as separate toilets or safe transport in some schools, further reduces girls' chances of continuing their studies.

The census data also point to five key findings.

1. **Primary enrolment remains persistently low.** The 2024 census shows a primary enrolment rate of 88 per cent, of whom 51.5 per cent are boys and 48.5 per cent are girls.
2. **Illiteracy is becoming feminised in rural areas.** The data[6] show that the greatest threat to knowledge building in Iraq lies in the rural areas of the governorates, where women record the highest illiteracy rates in the country. Among rural women in governorates

[6]Statistics and Geographic Information Systems Authority, 2024 General Population Census data.

such as **Maysan, Muthanna, Dhi Qar and Wasit**, illiteracy ranges from **36 to 45 per cent**, more than double the rate among men in the same areas. This clearly reflects the sharp gender gap outside urban centres. By contrast, illiteracy among women falls to 21.3, 22.9 and 23.8 per cent in Diyala, Karbala and Baghdad respectively. In the governorates of the Kurdistan Region, illiteracy is higher among rural women than among men, reaching 34.9, 31.9 and 30.8 per cent in Duhok, Erbil and Sulaymaniyah respectively. Female illiteracy is also high in Nineveh, at 36.3 per cent.

3. **Female education is surging in urban centres.** In sharp contrast, the figures reveal considerable success in empowering women in urban communities. In governorates such as **Baghdad, Basra and Najaf**, the share of women holding a bachelor's degree matches that of men almost exactly, at around **13 per cent**. This demonstrates that urban women's appetite for higher education is strong and on a par with men's.
4. **Education recedes in rural areas.** Although a large proportion of the rural population holds a **primary** certificate (up to **41 per cent** in some areas), this share falls very sharply at the university and postgraduate levels. Knowledge attrition is most visible among rural women, whose share drops from high levels at the primary stage to less than **3 per cent** at bachelor's level and **0.1 per cent** in postgraduate studies.
5. **The knowledge elite is concentrated in urban centres.** The figures confirm that holders of postgraduate degrees (master's and doctorate) are almost entirely concentrated in urban areas. While the major cities hold a solid pool of highly qualified women, women with doctorates are virtually absent in the rural areas of most governorates.

The data above show that Iraq's low rate of secondary school completion poses a particular challenge to its development path. It causes heavy national economic losses in the form of potential labour-market earnings that could have been generated had young Iraqis received the same level of education as their peers in comparable countries. Consequently, this wide gap between Iraq's educational attainment and its potential as an upper-middle-income country carries a steep social cost that threatens future development returns.

A 2023 study by Amjad Rabi for the International Labour Organization (ILO) illustrates the scale of the problem. If young Iraqis aged 15 to 29 completed secondary education at the same rate as their peers in comparable upper-middle-income countries, their potential earnings over their working lives would, on average, exceed current levels. The difference between these two earnings streams amounts to between 17.65 and 29.95 per cent of gross domestic product (GDP).[7] Moreover, educational deprivation and the resulting loss of income carry other significant costs, including social problems, poor health, mortality and psychological deprivation. This fact, together with the conservative assumptions the study uses, gives reason

[7] Amjad Rabi, *The Cost of Inaction: Poor Education in Iraq and the Potential of Developmental Social Protection Programmes to Improve Educational Outcomes*, International Labour Organization, 2023.

to believe that its estimates represent only the lower bound of the potential cost of Iraq's education gap.

Addressing this phenomenon requires integrated efforts. These include legislation to curb school dropout, improvements in household economic conditions and greater awareness of women's education as a cornerstone of sustainable development.

IV. Education as a Counterpart of Development

Academic circles continue to debate the significant strategic and developmental benefits of education. Numerous studies have examined the relationship between spending on education and health on the one hand and economic growth on the other. These studies have shown that higher health spending has a strong positive effect on economic growth and, consequently, on human development.[8] The same applies to education, as studies have found that higher education spending contributes considerably to faster economic growth[9] and thus to improved human development.

Education also strengthens social cohesion for two main reasons.

The first is that education acts as an equaliser across the population. Universal education prevails in countries with high levels of equality, and education in turn produces greater equality. In this regard, the economists Thorvaldur Gylfason and Gylfi Zoega compared 74 countries between 1980 and 1997 and found that every 1 per cent increase in public spending on education reduced the Gini coefficient by 2.3 points.[10]

The second is that universal education creates strong social bonds among the different groups that make up society, as many researchers argue. This, in turn, makes divisions based on patronage and sub-national loyalties less likely. As a result, a broad policy of free public education yields positive returns and expands opportunities for social and economic equality.[11]

Conversely, high levels of inequality allow elites to undermine legal and political institutions and turn them to their own advantage. Economic elites are more likely to pursue socially harmful policies when inequality is high, because legal, political and regulatory systems will not hold them to account.[12] Access to education, moreover, gives more people the skills they

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[8]Piabuo, Serge Mandiefe and Tieguhong, Julius Chupezi (2017). Op. cit.

[9]Owusu-Nantwi, Victor (2015). "Education Expenditures and Economic Growth: Evidence from Ghana." *Journal of Economics and Sustainable Development* 6 (16).

[10]Gylfason, T. and G. Zoega (2002). "Inequality and Economic Growth: Do Natural Resources Matter?" CESifo Working Paper No. 712 (5), p. 24.

[11]Darden, K. (2013). *Resisting Occupation: Mass Literacy and the Creation of Durable National Loyalties*. New York, Cambridge University Press; Uslaner, E. M. (2002). *The Moral Foundations of Trust*. New York, Cambridge University Press.

[12]Dutta, I. and A. Mishra (2013). "Does Inequality Foster Corruption?" *Journal of Public Economic Theory* 15: 602-619; Glaeser, E., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2004). "Do Institutions Cause Growth?" *Journal of Economic Growth* 9: 271-303, p. 200.

need to secure gainful employment, so that they need not depend on corrupt power structures built on clientelist loyalty.

The experiences of many countries that achieved remarkable growth on the path to prosperity and modernity reveal a sharp decline in educational disparities between rich and poor, particularly in countries that established universal education.[13]

Iraq's 2005 Constitution affirms the importance of spending on education and health and of increasing the spending mandated in these areas. Egypt has followed a similar approach in recent years, driven by the conviction that higher public spending on these services will raise the country's level of human development. Studies have also pointed to a positive relationship between housing and economic and social growth, since affordable housing promotes economic growth.[14] Investment in social housing can likewise have a significant effect on the health and well-being of its beneficiaries. Furthermore, providing housing for those on low incomes, or for those unable to obtain decent housing, supports equality and helps reduce poverty.[15]

The changes that human societies are undergoing, and the repercussions that follow from them, call for an approach built on a framework for assessing how crises unfold and what they leave behind. Such an approach should also shape responsive social policies that build on people's latent potential and their freedom to pursue what they aspire to in life.

Any assessment of a crisis and its effects on human security must draw on the core foundations of human development indicators. These indicators take account of the educational dimension, which carries great weight in overcoming the crises of poverty and unemployment that threaten human security in society. A decline in these indicators reflects narrowing opportunities for capacity building, which obstructs every form of human progress and development in the years ahead. More importantly, these variables highlight the importance of promoting equity and building capacity, as the state, with all its institutions, seeks to close development gaps and heal wounds in pursuit of human development, resilience and a better and more sustainable quality of life.

Recent developments reveal four key issues.

1. The social costs of multidimensional poverty reflect a human development crisis that affects education, health, the economy and broad social dimensions of development, and that may erode gains accumulated over decades. The issue also shows the need to view

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[13]Joong-Kyung Choi, *Upside Down Success Story of Korea's Economic Development*, DAEWON Publishing, 2013; Mahathir Mohamad, *A Doctor in the House*, MPH Publishing, Malaysia, 2011.

[14]Wang, Zhimin, Han, Jung Hoon and Lim, Benson (2012). "The Impacts of Housing Affordability on Social and Economic Sustainability in Beijing." *Australasian Journal of Construction Economics and Building*, Conference Series 12, pp. 47-55.

[15]Fransen, Lieve, Del Bufalo, Gino and Reviglio, Edoardo (2018). *Boosting Investment in Social Infrastructure in Europe*. Report of the High-Level Task Force on Investing in Social Infrastructure in Europe. European Commission.

societal responses within their specific context whenever economic and social activities are restricted for public health reasons.

2. This crisis strikes societies that have endured escalating and compound tensions and crises, where efforts to find quick solutions often falter. These tensions run between people and technology, between people and the planet, and between the haves and the have-nots, and together they shape a new generation confronting crises steeped in inequality. Yet the response needed to confront the crisis is also an opportunity to rethink how these tensions are addressed.
3. Without appropriate policies at the right time and place, the indirect effects of crises may outweigh their direct effects on society. History shows that crises, even short-lived ones, have long-term effects on human development that are often hard to monitor and predict, and that are frequently distributed unequally.
4. Innovation in policies and investments to advance progress and narrow disparities in human development is vital to ensuring timely recovery and preparedness for future crises. The human development perspective, after all, is concerned with expanding people's choices and capabilities, protecting public health, maintaining living standards and improving quality of life.

Building on the above, progress and the narrowing of disparities in both basic and enhanced capabilities are among the new imperatives of the twenty-first century identified in the 2019 Human Development Report of the United Nations Development Programme (UNDP), and they are key to achieving both goals.

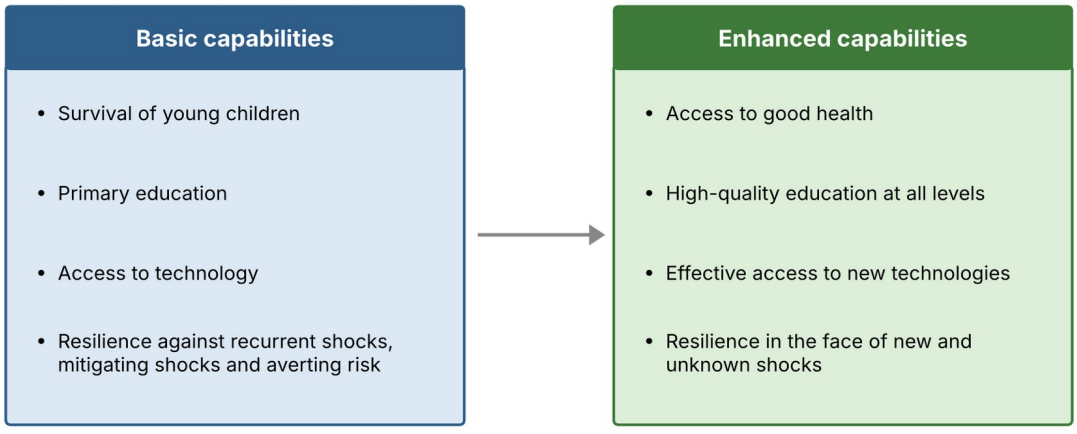


Figure 2. Human development and the shift from basic to enhanced capabilities[16]

In *The Idea of Justice* (2009), the economist and philosopher Amartya Sen acknowledged that an environment suited to people's needs helps expand their opportunities and build their

[16]Human Development Report Office, UNDP.

capabilities. Nevertheless, recognition of the environment as a core dimension of human well-being remains unclear.[17]

Defining human development in a way that is truly sustainable requires innovation within what Sen calls the capability approach. Sen consistently maintains that this approach should not be regarded as a general theory. Instead, he calls for innovation and for leaving the door open to complementary ways of thinking within the public sphere.

Through the concepts of human development and human capital, we continue to believe that shared responsibility is the main guarantee of a long, healthy and creative life, and of a dignified life for all. Global and national human development reports draw the attention of policymakers and decision-makers to social and economic development in general and to human capital in particular, while taking account of the major global challenges and changes that lie ahead. Rapid technological progress had for some time been producing a "new reality". However, the COVID-19 pandemic confirmed the need to accelerate the digital transformation and to manage it properly.

For this reason, national reports, documents and studies on human development draw on numerous analyses that seek to answer one important question. How can the digital transformation improve the quality of life of all Iraqis by 2030, contribute to building human capital and help achieve the SDGs? While the digital transformation shapes opportunities for building human capital and the paths of development, people can harness it through knowledge, creative thinking and innovation. In doing so, they can create a digital environment that neither perpetuates old inequalities nor generates new ones, and in this sense the principle of "leaving no one behind" sets us on the path of progress.

Although many Iraqis enjoy internet access above the global average and use it very frequently, digital access is unevenly distributed. Social disparities are evident both geographically and in how society uses digital tools, varying with age, sex, income and environment.

While the business community regards digitisation as a historic opportunity to save time and respond faster and more efficiently, others see it as a threat. They believe that robots will increasingly replace them and that automation will wipe most jobs from the market. This view often goes hand in hand with limited use of digital tools to create new value or to overcome challenges such as those posed by the COVID-19 pandemic. For this reason, the potential of digital tools to advance human development needs constant reaffirmation.

To ensure the growth of knowledge building and the creation of an accountable, service-oriented administration, there remains an urgent need to set out possible scenarios for the future of human capital as the cornerstone of society's human security. It is equally necessary to

[17] Amartya Sen, *The Idea of Justice*, Cambridge, MA, Belknap Press of Harvard University Press, 2009.

identify suitable policy options and ways of overcoming the obstacles to transformation, particularly by drawing on smart specialisations, information and development strategies for Iraqi society. Technological change, notably, moves hand in hand with progress in human development across a range of dimensions. Human development reports have a long tradition of analysing human development and technology, one that recognises a two-way relationship between human capabilities and technological change, reinforced by economic growth, knowledge and innovation.

Yet human development is also a crucial means of building and advancing technology as an expression of human potential. The 2001 Human Development Report showed that advanced levels of education lead to strong contributions to the development, use and diffusion of technology. In practice, human development and technological progress reinforce each other, creating a virtuous cycle of mutual influence.

Education is the key to societal well-being and stable human security. According to the global concept of human development that the UNDP has promoted since the early 1990s, investment in education yields the highest return of any investment.

However, inequality and gaps often hold back progress on human development indicators, including education as one of their core pillars. For Iraq, a key challenge lies not only in designing a new generation of curricula, education policies and teaching materials, but also in ensuring that this new, fit-for-purpose education reaches everyone. From an advanced graduate of Iraq's best universities to a primary school pupil in the most remote village, education must be within everyone's reach.

Data on spending in the health and education sectors show that Iraq's investment remains low and is declining. Iraq allocates a smaller share of its general budget to these two sectors than the countries of the Middle East and North Africa or upper-middle-income countries. Less than 10 per cent of the general budget goes to education, compared with 22.6 per cent in Tunisia, 19.1 per cent in Syria, 12.3 per cent in Morocco and 11.6 per cent in Jordan.[18] Health spending, meanwhile, does not exceed 5 per cent of the state's general budget.

The inefficiency of this spending stems partly from high salary allocations, which have swollen at the expense of investment and other essential inputs needed to deliver quality services. Salaries dominate public spending on health and education. In 2019, they accounted for 76 per cent of the government's total health budget and 93 per cent of its education budget. In addition, the high salary bill in the health sector has been linked to a large increase in the hiring of administrative and non-specialist staff, alongside falling allocations for medicines and equipment. The investment budget for education, for its part, has long suffered from a shortage

[18]World Bank, *Addressing the Human Capital Crisis: A Public Expenditure Review for Human Development Sectors in Iraq*, 2021.

of resources. Given the destruction and deterioration of educational infrastructure after years of conflict and violence, greater public investment in education is a prerequisite for delivering effective educational services.

Conclusion

It is now widely accepted that many of the crises confronting the world's nations are not new. Social, economic and technological conditions, however, often differ from those of a century ago, and these differences have heightened the vulnerability of society's human security and pushed it to the brink. For policymakers and decision-makers in every country, the main concern therefore remains investing in knowledge building, closing gaps and promoting gender equality, and placing these at the forefront of policy objectives. Closing educational gaps, moreover, is seen as a decisive step towards economic and social equality between women and men.

Recognising the scale of the problem and the difficulty of the path ahead, this paper has sought to shed light on the challenges and opportunities facing human capital formation in Iraq, with particular attention to the impact of the digital transformation on quality of life.

The faltering progress we witness today in knowledge and technological security calls for a bold agenda that matches the scale of the challenges and is advanced with humility in the face of the unknown. This means rejecting fragmented, piecemeal remedies in the face of changes that are likely to widen gaps and deepen inequality, since the response such remedies produce is likely to come too late or prove ineffective in the long run.

There is, without doubt, a greater need than ever to explore every option for easing these challenges. The realities on the ground place everyone before the responsibility of adopting a robust national strategy that examines these realities in depth and paves the way for a development take-off, one that charts a national, ethical and spiritual horizon for the future.

The time has come to review our value and knowledge systems, our educational tools and our health settings in order to build society along with its institutions and its cultural, scientific and intellectual systems. This path demands an exceptional effort from everyone. Acting now amounts to a form of insurance against losses that may prove very large. Our uncertainty about the likelihood of such losses, or about their precise or probable timing, should not serve as a pretext for failing to take every measure needed to insure against them. We know that the danger is imminent and accumulating, and we know too that the damage and costs of inaction may grow with every day we delay the steps needed to contain it.

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