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Overview of the Factors Contributing to the Sudan Uprising





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Abstract

Purpose

The purpose of this paper is to discuss the major factors that contributed to the success of the Sudan uprising.

Design/methodology/ approach

This paper uses a descriptive method and secondary data.

Findings

The findings of this paper support the research hypothesis that the dynamic interaction between the internal factors (youth, women, ICT, the Sudanese Professional Association and University of Khartoum Teaching Staff Initiative) and external factors (diaspora) contributed to the support of the Sudan uprising and potential transformation in Sudan.

Originality/value of the paper

This paper fills the gaps in the literature and provides an extremely valuable contribution to that literature by presenting a new and more comprehensive analysis of the factors that contributed to the success of the Sudan uprising, including the internal and external factors that contributed to the support of the Sudan uprising.

Policy implications

The major policy implication is the importance of the full utilisation and mobilisation of the internal and external factors in achieving the objectives of the Sudan uprising, and the achievement of inclusive growth and sustainable development in Sudan.

Keywords

Economic development, social and human development, sustainable development, youth, ICT, Sudan.



Introduction

This paper aims to provide an overview of the Sudan uprising and discuss the major factors contributing to its success.

The Relevance, Importance, Objectives, Hypotheses and Structure of the Research

The issues discussed in this paper are both timely and relevant in view of the increasing interest in improving understanding about the Sudan uprising at the international level. This paper aims to fill the gap in the literature by providing a new contribution and presenting a more comprehensive analysis of the factors that contributed to the success of the Sudan uprising. A novel element in our analysis is that we investigate the dynamic interaction between the internal factors (youth, women, ICT, the Sudanese Professionals Association (SPA), and University of Khartoum Teaching Staff Initiative), and external factors (diaspora) that contributed to supporting the Sudan uprising from a policy perspective. Our findings support this hypothesis.

This paper uses new secondary data; it also uses both descriptive and comparative approaches to provide an overview of the Sudan uprising. The paper is structured as follows: this section presents the introduction. The next section shows the general political context and socio-economic characteristics of Sudan, followed by a section that discusses the internal and external factors that contributed to the uprising in Sudan. The final section provides the conclusions.



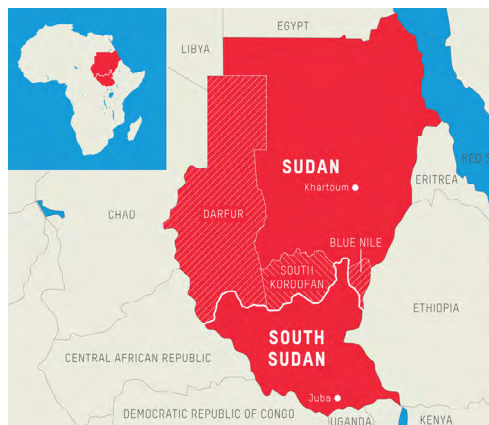


General Political Context and Socio-Economic Characteristics of Sudan

Before assessing the factors that caused, and those that contributed to, the success of the uprising in Sudan, it is useful to start by explaining the general political context and socio-economic characteristics of Sudan.

Sudan was the largest country in Africa and the Arab world until 2011, when, following an independence referendum, South Sudan separated as an independent country. Sudan is now the third largest country in Africa (after Algeria and the Democratic Republic of Congo); it is also the third largest country in the Arab world (after Algeria and Saudi Arabia). The political context in Sudan is characterised by a long history of political instability and continuous complex conflict. Even after the independence of South Sudan in 2011, Sudan still endured political instability, a lack of good governors, a lack of sound and systematic institutions, and a lack of a commitment to implementing long-term sustainable and balanced economic development plans and strategies. This implies that the interaction between these political, economic and institutional factors together have unfortunately continued to contribute to a low standard of economic development in Sudan, as explained below (Nour, 2013a, b, c, 2015).

With regard to the general socio-economic characteristics and economic development context in Sudan, Figure 1 illustrates the substantial gap between Sudan and world regions in standards of economic development,



as measured by Gross National Income (GNI) per capita and the human development index (HDI). In general, Sudan is characterised by low standards of economic development together with high population. For instance, Figure 1 shows the low GNI per capita income in Sudan; this is higher than only the least developed and Sub-Saharan Africa countries. According to the World Bank classification of economies, Sudan is classified among the lower medium-income economies. According to the classification of the UNDP-HDI, the human development index (HDI) for Sudan is classified among the world's low-income and low human development index group and is, on average, lower than the average for the world. According to UNDP-HDR (2019) Sudan is still classified amongst the low human development countries and the bottom of developing countries in terms of HDI (0.507), as it ranked 168 out of 189 countries. Furthermore, average life expectancy, mean

years of schooling, expected years of schooling, literacy rate and gross enrolment ratios in primary, secondary and tertiary education for Sudan fall behind the standard rate of the world regions and North Africa region (see Figure 1).

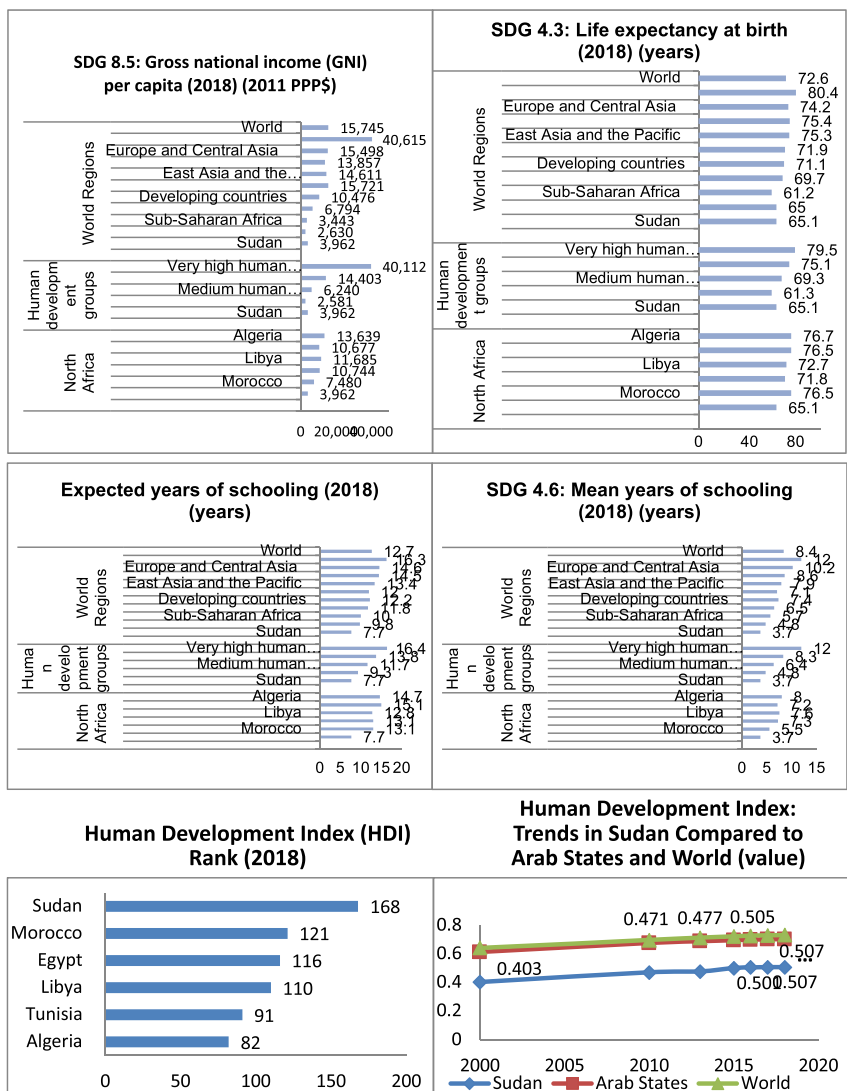


Figure 1: General socio-economic characteristics of Sudan compared to North Africa and world regions (2019)

Source: Adapted from UNDP - Human Development Report (2019)



The interaction between the internal and external factors contributing to the success of the Sudan Uprising

This section discusses the interaction between the internal factors (the role of youth, women, ICT, the SPA, University of Khartoum Teaching Staff Initiative) and external factors (diaspora) that supported the Sudan uprising. We examine the second hypothesis that the dynamic interaction between the internal and external factors contributed to support the Sudan uprising.

The role of youth in the Sudan uprising

The role of youth in supporting the successful transition in Sudan is important and inspiring for other African countries. The distribution of population by gender and age and the population pyramid for Sudan (2018) indicates that the Sudanese nation is a young nation. Of the total population, 41.3% are aged 0-14 years, 61.2% are aged 0-24 years, and 75.5% are aged 0-34 (see Figure 2).

We observe that in view of the fact that the demographic structure implies a high share of youth (those aged 0-24 years) that forms 61.2% of the total population in Sudan, it is not surprising that the youth are the most effective population group in supporting the Sudan uprising. It is widely recognised that the rationale for the great enthusiasm, and motivation for the extensive participation of youth in the Sudan uprising, is most probably related to the increasing interest among youth in achieving a better future.

Inspired by the Arab Spring of 2011, the previous unsuccessful revolution in Sudan in September 2013, and the increasing awareness

among the youth, the youth generation was becoming more persistent in continuing with the revolution and demonstrations to change and overthrow the previous regime. This was because the majority of documented victims and deaths was among the youth generation. The significant contribution of youth in the revolution is also demonstrated from the intensive participation of different age groups of the youth generation, those from different education and occupation backgrounds, and the high participation of higher education students from both public and private universities. Higher education students from public universities had a longstanding contribution to previous Sudanese revolutions in 1964 and 1985. In the recent revolution, the significant contribution from higher education students from private universities is widely recognised to be very important and a new aspect that indicates national unity among the youth generation in Sudan.

Youth contribution to the revolution is also demonstrated with their proposal for the

adoption of a new political, economic and social contract to achieve freedom, peace and equality. For instance, from the youth perspective, the proposal for the Ministry of Finance and Economic Planning is grounded on social protection for the poor; it does this by supporting the poor with the adoption of a cooperative social responsibility principle: 'those who have should give, and those who need should take'. In addition, Sudan's youth gathered in the Army Headquarters for nearly 57 days, characterised by a unique social and national unity among youths from different regional, social and economic backgrounds. This implies the potential success of the youth in establishing equality and overcoming the longstanding discrimination based on regional, social and economic backgrounds. The gathering was also characterised by high levels of coordination, implying the success of the youth generation in managing the demonstration's activities, even under very hard and complex situations in Sudan.

The young volunteers also arranged various revolution activities with great interest and good coordination. For instance, young volunteer doctors and pharmacists arranged for a pharmacy to provide medication to those who needed it, with companies and volunteers arranging for the medicine to be provided free of charge. The volunteers also arranged for blood donations to ensure availability of blood for individuals injured during the protests.

There was also a coordinated effort to ensure the provision and availability of cash, water and

food donations to those who needed it during the uprising period; this was done free of charge.

The gathering of the young Sudanese 'revolutionaries' in the Army Headquarters from 6 April-2 June 2019, revived national unity in Sudan. For instance, the arrival of the Atbara train, together with the arrival of various regional representatives from northern, central, eastern, western Sudan, implies increasing awareness about the importance of national unity in supporting the success of the revolution and the potential peaceful transition. The young Sudanese 'revolutionaries' were praised for overcoming and breaking the wall of fear, for being very brave, peaceful, very cooperative, and for committing to unity and solidarity that deserved the appreciation from both local and international communities. The organisational and management skills and ability of youth were also successful in attracting the interest of the international community. These skills also brought the attention of the representative diplomats in Sudan who visited the gathering of the young in the Army Headquarters.



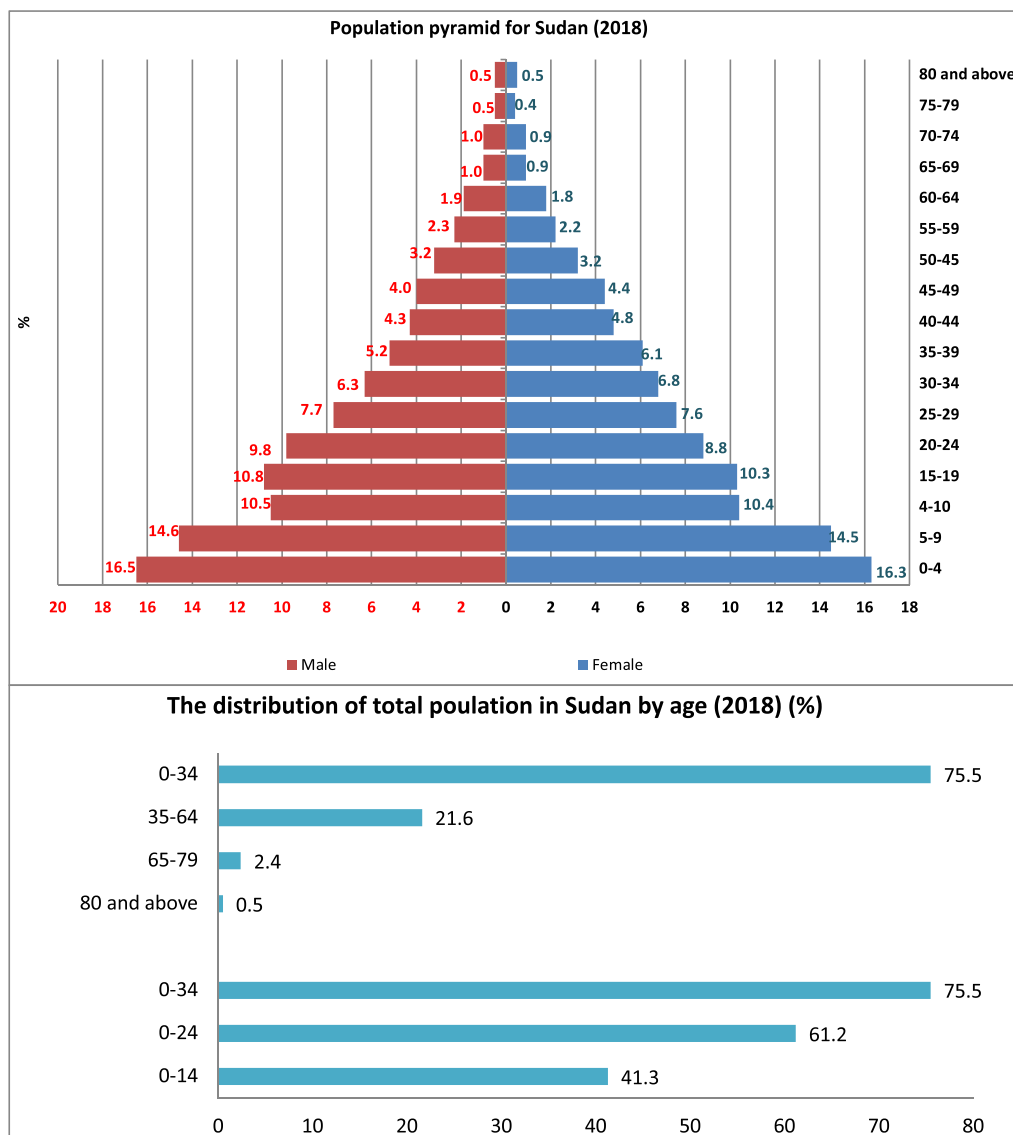


Figure 2: The distribution of total population by age and the population pyramid for Sudan (2018)

Source: Adapted from (1) Sudan Central Bureau of Statistics and (2) Central Bank of Sudan Annual Report (2018), p. 139.

The significant role of women in the Sudan uprising

For many years, the role of women has been widely recognised in political, economic and social development in Sudan, and the historical contribution of women has been widely recognised and documented in Sudanese literature. The role of women in the recent Sudan uprising has been widely acknowledged and recognised at the national, regional and international levels, with the majority being interested in leading the revolution to support the downfall of the previous regime. Sudanese women's role in leading the uprising against the previous regime contributed to its success. The spirit of revolution spread among the majority of people in Sudan, including men and women. In particular, women's participation reveals a significant contribution in the leadership of the political and social transformation in Sudan. Women are more motivated and interested to support the protest movement because they suffered from the previous regime, mainly from a lack of proper support in all respects. The reasons behind the significant contribution of women in Sudan's uprising can be explained by the fact that Sudanese women suffered from the long standing gender gap in education and employment, and the inadequate participation of Sudanese women in political, economic and social activities in Sudan (Nour, 2014). In addition, the large number of youth victims motivated women to continue their leading role to support demonstrations to force the collapse of the

previous regime. The important role of women is demonstrated by the extensive contribution of women from all ages and occupation levels to support the protest movement since the end of December 2018. For instance, Sudanese women working in medical fields contributed to the provision of medical services for the protestors, and Sudanese women working in different occupations significantly contributed according to their abilities. The participation of Sudanese women in International Women's Day on 8 March 2019, reveals their strong commitment in supporting the Sudan uprising and potential transition for a better future for all Sudanese women.





The significant role of ICT in the Sudan uprising

We observe that in view of the fast diffusion of ICT and increasing utilisation of ICT, in particular mobile phones and the Internet in Sudan during the period (1990-2018) (see Figure 3), it is not surprising that ICT is an extremely important instrument for supporting the Sudan uprising and potential transformation. The transitional military council shut down the Internet to limit the influence of the revolution. Although this impeded contact between the revolutionaries, it also motivated them to continue the revolution to fulfil all its objectives. The increasing use of ICT facilitated connection and coordination between the SPA, youth, women and diaspora to support the Sudan uprising. ICT facilitated the arrangements of various activities during the revolution, including protesters' movements. Without the use of ICT, it would have been impossible to arrange for the various activities and to make the protestors' movement successful for the achievement of the revolution's objectives. This implies an outstanding and full utilisation of ICT in supporting the uprising and the potential transformation in Sudan. The use of ICT not only facilitated the connection and coordination between the revolutionaries, but also between the revolutionaries and their families, the revolutionaries inside Sudan, and those in the diaspora, increasing the involvement of diaspora in supporting the revolution. The high share of youth in the participation in the revolution implies that the use of ICT was of great benefit for the

successful achievement of the revolution's objectives. In particular, the role of youth in using ICT to support the Sudan uprising is not surprising in view of the extensive use of ICT by the young population, as explained in the Sudanese literature (see Nour, 2015). For instance, Nour (2015) finds that the relative distribution of individuals that use mobiles, computers at home and outside home, and the Internet defined by age is higher for those aged 15-24. This is followed by those aged 25-34, 35-44, 45-54, 55-64, 65-74, and 75 and above respectively.



The role of ICT is demonstrated by its contribution in improving national and regional awareness about the Sudan uprising through the widespread use of social media hashtags, including, for instance, #IAmSudaneseRevolution #PrayforSudan #SudanMassacre #BlueForSudan. According to Patrick (2019), people on social media turned their profile pictures blue to stand in solidarity with Sudan and bring awareness to the uprising that is currently sweeping the North African country. Hashtags like #BlueForSudan have gained momentum on social media, with [some world] stars putting up the colour and using the hashtag to bring awareness to the situation in Sudan (Patrick,

2019). In addition, according to Belam (2019), social media users use the #BlueforSudan hashtag to show solidarity for protesters; it has also been used to raise awareness about the protests in the country. People on social media are turning their profile avatars blue and posting blue-themed artwork in memory of 26-year-old Mohamed Mattar, who was killed during an attack by security forces in Sudan at the beginning of June. The #blueforSudan hashtag first started appearing in English on Twitter on 11 June; by the following day it had become a rallying point for Sudanese activists on social media, both inside and outside the country (Belam, 2019).

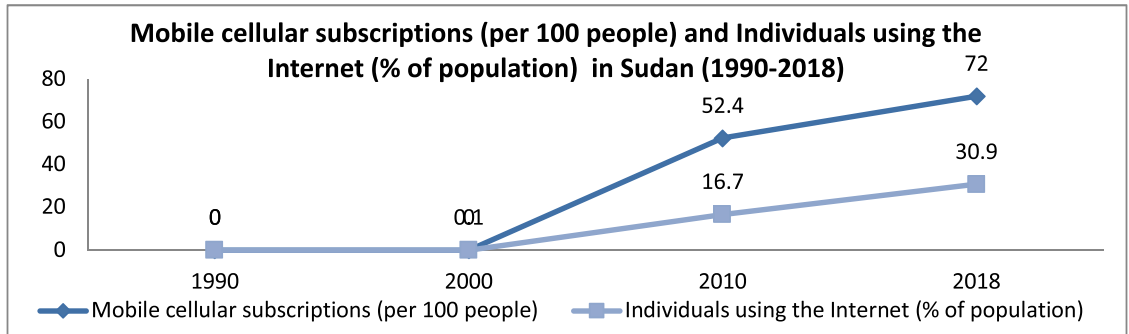


Figure 3: The fast diffusion of mobile and Internet in Sudan during the period (1990-2018) (%)

Source: Adapted from World Bank, 2020



The significant role of the Sudanese Professionals Association (SPA) in the Sudan Uprising

The Sudanese Professionals Association (SPA) was formed in 2016 as an alliance of professional groups, including staff from universities; it had a lead role in anti-government protests that started on 19 December 2018.¹ The significant contribution of the SPA is demonstrated by their increasing efforts and involvement in providing well-planned guidance for demonstrators to increase the widespread series of mass demonstrations that remained active during and after the period December 2018-April 2019. The SPA provided significant guidance for the mass demonstration that initially started in the city of Atbara in December 2018 and continued to spread in other regions, including the capital, Khartoum. The SPA is an umbrella association of 17 different Sudanese trades unions. In December 2018, the group called for the introduction of a minimum wage and participated in protests in Atbara against the rising cost of living. During 2019, the SPA came to take an increasingly prominent role in the protests against the government of Omar al-Bashir.

The Atbara protests started during the 2018-19 Sudanese protests; the SPA initially decided to coordinate with the protestors by adding a call for an increased minimum wage. After discussions with the protestors, they decided to support the calls for “regime change”.² The SPA not only provided continuous guidance for the mass street demonstrations, but also provided a well-defined vision for comprehensive reform and transition for rebuilding the country after the success of the revolution. This is shown in the ‘Declaration of Freedom and Change’ arranged by the SPA in Khartoum on 1 January 2019. Through the Declaration of Freedom and Change, the SPA confirmed their continued efforts to support the mass demonstration and continued peaceful struggle until the totalitarian regime was removed.³ The SPA called for the Sudanese to continue peaceful non-violent resistance and to support the transition period following the success of the uprising.⁴

¹ The Sudanese Professionals Association traces its roots to October 2016, when an alliance charter was drafted and approved by three of Sudan's largest professional groups. See <https://www.sudaneseprofessionals.org/en/about-us/>. Accessed 20 February 2020.

² See https://en.wikipedia.org/wiki/Sudanese_Professionals_Association, Accessed 20 February 2020.

³ See <https://www.sudaneseprofessionals.org/en/declaration-of-freedom-and-change/>, Accessed 20 February 2020.

⁴ See https://en.wikipedia.org/wiki/Sudanese_Professionals_Association, Accessed 20 February 2020.

The important role of the University of Khartoum Teaching Staff Initiative (UKTSI) in the Sudan uprising

The University of Khartoum Teaching Staff Initiative (UKTSI) is a group of faculty members at the University of Khartoum, founded in December 2018. Expressing their conscience, they rose up and supported the peaceful popular movement that began in December 2018; this was in fulfilment of the message that the University of Khartoum has, for decades, been in the service of society. In this initiative, they pledged to harness all their knowledge and energy to achieve the noble goal of continuing to work for the benefit and the service of society in Sudan.⁵ The important role of UKTSI is proven by the fact that they provided an inspiring, well-planned and organised roadmap from the university elites' perspective to support comprehensive change and to facilitate

peaceful transition during the critical period of mass demonstrations (December 2018-April 2019). Based on the UKTSI roadmap, UKTSI became increasingly involved in supporting the demonstrators and uprising. They not only provided continuous support for the mass street demonstrations, but also provided the university elites' perspective and vision for comprehensive reform and transition for rebuilding the country after the success of the uprising. The result of this can be seen in the arrangement of a series of specialised workshops that had active participation from academic teaching staff. These workshops provided practical and useful policy recommendations towards the solving of various problems confronting the transition period following the Sudan uprising.



⁵ See <https://sudannextgen.com/members/u-of-k-teaching-staff-initiative-%D9%85%D8%A8%D8%A7%D8%AF%D8%B1%D8%A9-%D8%A3%D8%B3%D8%A7%D8%AA%D8%B0%D8%A9-%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A7%D9%84%D8%AE%D8%B1%D8%B7%D9%88%D9%85/>. Accessed 20 February 2020.



The significant role of diaspora in the Sudan uprising

We observe that in view of the increasing number of Sudanese diaspora, it is not surprising that the diaspora proved to be an extremely important external factor in their support of the Sudan uprising and potential transformation. This is because, for many years, the diaspora have sent contributions towards economic and social development in Sudan. The increasing number of Sudanese diaspora and the increasing use of ICT facilitate the connection and coordination between the SPA, youth, and the Sudanese diaspora to facilitate the arrangements of various revolution activities, including protesters' movements. During the Internet shutdown, the support of the diaspora contributed significantly towards making the protesters' movement successful for the achievement of the revolution's objectives. The diaspora's involvement is demonstrated through their direct financial support to the revolution, as well as their direct support in the form of participation in the increasing awareness

about the importance of supporting the Sudan uprising at the international level. For instance, the Sudanese diaspora in the United States and Sudanese doctors in the United Kingdom, Ireland and Gulf countries coordinated various initiatives for the collection and provision of direct financial support to support the Sudan uprising. In addition to other initiatives for the provision of indirect and non-monetary support, the Sudanese diaspora in Saudi Arabia coordinated an initiative to facilitate the provision of electricity services during the electricity shortage throughout the critical time of civil disobedience during the Sudan uprising.

Our results in this section therefore corroborate the hypothesis that the dynamic interaction between the internal factors (youth, women, ICT, the SPA and UKTSI) and external factors (the diaspora) contributed to support the Sudan uprising and the potential transformation in Sudan.



Conclusions

This paper provides an overview of the Sudan uprising and discusses the major factors that contributed to its success. We improve understanding, fill gaps in the literature, and provide an extremely valuable contribution to the literature by presenting a new and more comprehensive analysis and investigation of the factors that contributed to the success of the Sudan uprising. A novel element in our analysis is that we investigated the dynamic interaction between the internal factors (youth, women, ICT, the SPA, and UKTSI), and external factors (diaspora) that contributed to the support of the Sudan uprising. From a policy perspective, the relevance of our analysis is that we explain the internal and external factors that supported the Sudan uprising.

Following the introduction, the next section showed the general political context and socio-economic characteristics of Sudan. A discussion of the internal and external factors that contributed to the uprising in Sudan (including the role of youth, women, ICT, the SPA, UKTSI, and diaspora) is in the next section. Our results support the hypothesis that the dynamic interaction between the internal factors and external factors contributed to support the Sudan uprising and potential transformation in Sudan.





References

- Belam, M. (2019):** #BlueforSudan: social media users show solidarity for protester, *The Guardian*, 14 June 2019. Available at: <https://www.theguardian.com/world/2019/jun/14/blueforsudan-social-media-users-show-solidarity-for-protester>. Accessed 20 February 2020.
- Bertelsmann Stiftung (2016):** BTI 2016: Sudan Country Report. Gütersloh: Bertelsmann Stiftung. Available at: <https://www.bti-project.org/en/meta/downloads.html?content=country&country=SDN>.
- Central Bank of Sudan (2018):** Annual Report 2018, Central Bank of Sudan, Khartoum, Sudan, p.139. Available at: <https://cbos.gov.sd/en/publication-type/annual-reports>. Accessed 20 February 2020.
- Freedom House (2016a):** Freedom in the World: Sudan. Available at: [https://freedomhouse.org/sites/default/files/2020-02/Freedom in the World 2016 complete book.pdf](https://freedomhouse.org/sites/default/files/2020-02/Freedom%20in%20the%20World%202016%20complete%20book.pdf), pp.651-656.
- Freedom House (2016b):** Freedom of the Press. Available at: <https://freedomhouse.org/report/freedom-press/2016/battle-dominant-message>.
- Fund for Peace (2016):** Fragile State Index 2016, Washington DC: Fund for Peace. Available at: <https://fragilestatesindex.org/>.
- Nour, S. (2011a):** Assessment of the impact of oil: Opportunities and challenges for economic development in Sudan, *African Review of Economics and Finance*, Vol. 2, No. 2, pp.122-148.
- Nour, S. (2011b):** *The importance (impact) of knowledge at the macro-micro levels in Sudan*, UNU-MERIT Working Paper series 2011-034, Maastricht, the Netherlands, June 2011, pp.1-28.
- Nour, S. (2011c):** *Education, training and skill development policies in Sudan: Macro-micro overview*, UNU-MERIT Working Paper series 2011-032, Maastricht, the Netherlands, June 2011, pp.1-72.
- Nour, S. (2012):** Assessment of science and technology indicators in Sudan, *Science, Technology and Society*, Vol. 17, No. 2, pp.321-354.
- Nour, S. (2013a):** *Technological Change and Skill Development in Sudan*, Springer, Berlin, Heidelberg, Germany, 501pp.
- Nour, S. (2013b):** Science, Technology and Innovation Policies in Sudan, *African Journal of Science, Technology, Innovation and Development*, Vol. 5, No. 2, pp.153-169.
- Nour, S. (2013c):** *Development and social justice: Education, training and health in Sudan*, UNU-MERIT Working Paper series 2013-013, Maastricht, the Netherlands, January 2013, pp.1-31.
- Nour, S. (2014):** Assessment of the gender gap in Sudan, *International Journal of Sudan Research (IJSR)*, Vol. 4, No. 1, pp.7-35. World Association for Sustainable Development, Brighton, United Kingdom.
- Nour, S. (2015):** Information and Communication Technology in Sudan: An Economic Analysis of Impact and Use in Universities, *Springer Series Contributions to Economics*, Springer International Publishing, AG, Cham, Switzerland.
- Nour, S. (2018):** The National Innovation System in Sudan – Is it enhancing national competitiveness and contributing to a higher business performance? in Alabi,

R.A., Gutowski, A., Hassan, N.M., Knedlik, T., Nour, S.S.O.M. and Wohlmuth, K. (Eds): *Science, Technology and Innovation Policies for Inclusive Growth in Africa: Unit 1: General Issues and Country Cases*, Vol. 20, LIT Verlag, Münster, pp.207-250.

Patrick, A. (2019): Why social media is going blue for Sudan, CNN, 13 June 2019. Available at: <https://edition.cnn.com/2019/06/13/africa/sudan-social-media-campaign-intl/index.html>. Accessed 20 February 2020.

Radio Dabanga (2014): Sudan's Auditor General Reports 'Corrupt Figures', *Radio Dabanga*, 17 December 2014. Available at: <https://www.dabangasudan.org/en/all-news/article/sudan-s-auditor-general-reports-corrupt-figures>

Radio Dabanga (2017): 'Considerable Embezzlement, Irregularities in Sudan's El Gedaref state': Auditor-General. *Radio Dabanga*, 26 February 2017. Available at: <https://www.dabangasudan.org/en/all-news/article/considerable-embezzlement-irregularities-in-sudan-s-el-gedaref-state-auditor-general>

Sudan Central Bureau of Statistics: Available at <http://ghdx.healthdata.org/organizations/central-bureau-statistics-sudan>, accessed on 20 February 2020.

UNDP (2019): *Country Profile: Sudan*, UNDP – Human Development Report, available at <http://hdr.undp.org/en/countries/profiles/SDN#>, accessed 20 February 2020.

University of Khartoum Teaching Staff Initiative (UKTSI) Report (2019): University of Khartoum Teaching Staff Initiative – Department of Planning and Programme Report (August, 2019), pp.1-97. Khartoum, Sudan, 2019.

World Bank (2017): *Doing Business 2017: Equal Opportunity for All*, Washington DC. Available at: <https://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-0948-4>.

World Bank (2019a): *World Development Indicators database*. Washington, DC. Available at: <http://data.worldbank.org>. Accessed 21 June 2019.

World Bank (2019b): *World Development Indicators database*. Washington, DC. Available at: <http://data.worldbank.org>. Accessed 15 July 2019.

World Bank (2020): *World Development Indicators database*. Available at: <http://data.worldbank.org>. Accessed 16 February 2020.

Biography

Prof. Dr. Samia Satti Osman Mohamed Nour is Affiliated Researcher at United Nations University – Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT), the Netherlands, and Full Professor of Economics at Khartoum University, Sudan, a member of the University Senate and the Department and Faculty Board. She is the first female professor in the Faculty of Economic and Social Studies, University of Khartoum since its establishment in 1958, first female professor of Economics, in the Department of Economics, Faculty of Economic and Social Studies, University of Khartoum since the establishment of the the Department of Economics, and also the first new professor of Economics in the Department of Economics,



University of Khartoum since the mid of 1970s. She received her PhD in Economics from Maastricht University (the Netherlands) in 2005. She is the first Arab student and the first African female student graduated from the Ph.D. Programme on Economics and Policy Studies of Technical Change: Maastricht Economic Research Institute on Innovation and Technology (MERIT) – Faculty of Economic and Business Administration- Maastricht University and the United Nations University (UNU) – Institute for New Technologies (INTECH), Maastricht- the Netherlands since its inception in 1995. She is the author of several articles published in international refereed journals. She is the author of several books including: *Economic Systems of Innovation in the Arab Region* (Palgrave Macmillan, USA, 2016), *Information and Communication Technology in Sudan: An Economic Analysis of Impact and Use in Universities* (Springer, Switzerland, 2015), *Technological Change and Skill Development in Arab Gulf Countries* (Springer, Switzerland, 2013), and *Technological Change and Skill Development in Sudan* (Springer, Germany, 2013). She is the co-author of the Arab States Chapter of the UNESCO Science Report in the World (2015). She is the co-author of African Capacity Report (2017) “Building Capacity in Science Technology and Innovation for Africa’s Transformation”. She is the co-editor of the Unit of Sudan, African Development Perspective Yearbook “Science Technology and Innovation Policy for Inclusive Growth in Africa,” Volume 20, Institute for World Economics and International Management (IWIM), the University of Bremen, Germany (forthcoming 2017). Prof.

Nour has worked as Economic Consultant for international institutions such as the European Investment Bank (EIB), ILO, OECD, UNESCO, UNDP, UNFPA, and UNECA. She was a member of the advisory committee for the UNDP Third Arab Knowledge Report 2014. She received the Arab Fund for Economic and Social Development Distinguished Scholar Award and Post Doctoral Fellowship (2010-2011) and the University of Khartoum Scientific Excellence Award Prize in Humanities and Educational Studies (in the field of Economics) (2013). Prof. Nour’s main research interests are in the fields of Economics, Economics of Innovation and Technological Change, Macroeconomics, Microeconomics, Development Economics, International Economics, Labour Economics, Inclusive Growth and Sustainable Development, Endogenous Growth, Human Capital, Public Policy, Migration, Transfer of Knowledge, and Knowledge Economy.