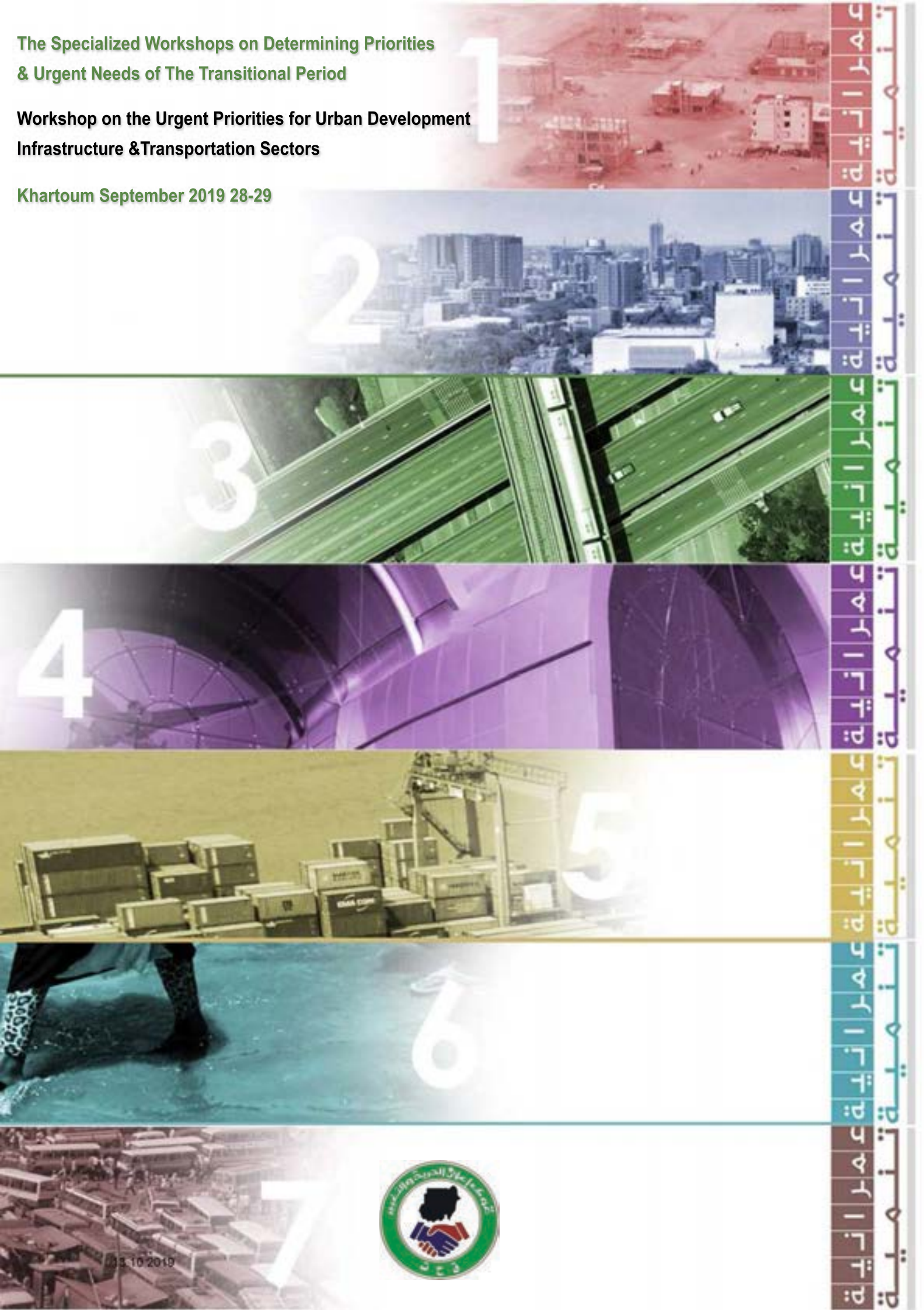


The Specialized Workshops on Determining Priorities  
& Urgent Needs of The Transitional Period

Workshop on the Urgent Priorities for Urban Development  
Infrastructure & Transportation Sectors

Khartoum September 2019 28-29



تأهيلات  
البنية التحتية  
للمدينة  
الانتقالية



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## **1. INTRODUCTION**

### **1.1. BACKGROUND**

The Sudan uprising of December 2018 turned into a political and social revolution, which began with overthrowing the regime on April 11<sup>th</sup> 2019, to embrace an envisioned modern Sudan whose slogan (Freedom, Peace, and Justice), One which is founded on science, rationality, democracy and development, within the framework of cultural, ethnic, gender, linguistic and religious diversity.

We are now on the verge of building a modern Sudan and establishing a new system based on democratic development and a civil state; it is our duty to contribute to this goal through supporting the **Alternative Policies Project** with detailed scientific and practical programmes. We hope that it would help in laying a strong foundation for Sudan, to step on the path of democracy, stability, justice and development.

This workshop is one of a series of specialized workshops that has covered the main work priorities of the transitional government. It was organized in the same format, with the participation of specialists in the field, representing governmental, non-governmental and academia & research sectors.

The workshop was divided into seven themes that are falling under the concept of urban development. The main objective was to identify the urgent action priorities, for each theme, and to come up with recommendations for remedial solutions, to be followed during the first six months of the transitional period. The workshop also aimed to set the features for medium and long-term plans, which are able to pave the way for removing the effects of political corruption and mismanagement, practiced by the previous regime.

### **1.2. THEMES**

The workshop was divided into 7 working themes;

- 1.2.1. Physical Planning
- 1.2.2. Housing and Construction
- 1.2.3. Land Transport and Railways
- 1.2.4. Air Transport
- 1.2.5. Water Transport
- 1.2.6. Water Utilities and Drainage
- 1.2.7. Roads, Bridges, and Traffic

### **1.3. OBJECTIVES**

- 1.3.1. Support the transitional government, technically, by providing expert advice in the fields of urban development, infrastructure and transportation.
- 1.3.2. Define urgent and future issues and challenges, and draft action plans to tackle them.

1.3.3. Bring together stakeholders from the government sector, the non-governmental sector, and research and academia, to develop a shared understanding of the needs and challenges facing the transition process and to explore potentials for collaborating their efforts towards achieving their common goals.

#### **1.4. EXPECTED OUTCOME**

1.4.1. Identify challenges and priority issues within the seven working themes.

1.4.2. Produce a draft action plan for each theme.

#### **1.5. ORGANIZERS**

1.5.1. Coordination Committee on Determining Priorities and Urgent Needs for the Transitional Period

The Coordination Committee was formed to define priorities and urgent needs for the transitional period, in order to support the Alternative Policies Project with detailed scientific and practical programs that would help in laying strong foundation for change, freedom, peace, justice, and sustainable development.

1.5.2. Sudan Urban Development Initiative SUDI

Sudan Urban Development Initiative represents the integrated efforts of more than one hundred Sudanese experts and engineers, in the fields of urban development, infrastructure, and transport, with international and local expertise.

The initiative aims to draft practical and implementable measures that can tackle existing and expected challenges, related to the operation of all governmental bodies that are concerned with urban development, considering the local economic and political characteristics.

The main goal of the Initiative is to provide technical support to the transitional government in the short-term, as well as providing medium- and long-term plans and strategies in nine specialized areas: urban planning, housing, transportation and infrastructure, displacement, building materials and technology, national building code, professional practice and development, procurement and contracts, governance and institutional reform.

The initiative also aims to facilitate drafting a roadmap for urban development, in collaboration with the main development partners and stakeholders, from the various sectors. It aims to direct national efforts towards achieving the Sustainable Development Goal of the inclusive urban environment and human settlements that are resilient, safe and sustainable.

1.5.3. The United Nations Development Programme UNDP

UNDP is the UN's global development network; an organization advocating for change and connecting countries to knowledge, experience and resources, to help people build a better life. UNDP's activities in the Arab States region build on UNDP's five thematic priorities, with additional emphasis placed on addressing the main impediments to human development in the region as identified by the Arab Human Development Report series, namely freedom and good governance, knowledge, and women's empowerment.

## **1.6. PARTICIPANTS** (Annex 1: Workshop Attendance Lists)

- 1.6.1. Governmental and public institutions concerned with the sector
- 1.6.2. Institutions of higher education and scientific research
- 1.6.3. Advocates from private sector
- 1.6.4. Professional establishments concerned with the sector
- 1.6.5. University of Khartoum Teaching Staff Initiative
- 1.6.6. University of Khartoum Engineers Association

## **1.7. PROGRAMME** (att.2: Workshop Programme)

The first day was designed to define the objectives of the workshop and identify the main challenges facing the sector and urgent and intermediate priorities. A number of papers were presented to enrich the discussion.

The second day was designed to focus on developing detailed action plans, for each of the seven workshop themes.

Few days after the workshop, coordinated efforts took place among reporters for the seven themes, and the Drafting Committee, to produce the final report.

## **2. WORKSHOP**

### **2.1. DAY 1 (28/9/2019)**

The workshop started its activities with an inaugural session chaired by Arch. Asjad Faisal, Coordinator of SUDI Sudan Office. The attendees were welcomed and introduced to the workshop programme, objectives, and organizers. Three speeches were presented:

First; the speech of Mr Hisham Al-Mufti, representative of the Coordinating Committee for the Urgent Needs and Priorities Programme for the transitional period. Mr Mufti spoke about the programme goals and the urgent need to provide support and technical advice to the transitional government.

Then, Mr Madani Abbas Madani, Minister of Trade and Industry, spoke about the main role of infrastructure in all development sectors and stressed on the full support of the transitional government, to all proposals and projects dedicated to improving it. Stating that the success of industry and trade depends on effective infrastructure, Mr Minister also advised that he is attending the workshop on behalf of the Minister of Infrastructure, who has not been appointed at the time.

Arch. Asjad Faisal then presented the workshop overall programme, provided an explanation of action plans templates and how to use them.

The second part of the inaugural session was devoted to reviewing previous efforts with goals similar to the workshop's goals. There were two presentations; the first speaker, Dr. Amjad Othman, (the University of Khartoum Teaching Staff Initiative), presented a paper with the title "Infrastructure and Housing Priorities." In his presentation, Dr Amjad talked about the University of Khartoum Teaching Staff Initiative, its goals and objectives, as well as the initiative's outputs regarding the sector. (Appendix 4: Papers Presented)

Next Eng. Walid al-Riah, (the University of Khartoum Engineers Association), presented a speech with the title "Illuminations on Administrative and Political Challenges facing the work of the Minister at the Ministry of Infrastructure." The speech reviewed the role of state institutions and the challenges they would face. The speaker also addressed institutional reform and the need to bring about a fundamental change in the governing structures, their relations and networking with one another, and the way they internally function. The presentation included discussing financial challenges and issue of corruption, explaining the importance of the non-technical role of the Minister in reforming and restoring these institutions.

The second session of the day resumed after a short break. The session was divided into two parts:

The first part was chaired by Dr. Zuhail Al-Tayeb Awad, (the Building and Road Research Institute). The session commenced by discussing the two papers presented during the opening session. Questions and comments were collected in writing from participants, and the discussion was initiated by asking the two presenters to respond to them. The majority of the discussion revolved around the necessity of identifying the institutions currently operating in the sector and defining the role of each, as well as the importance of linking the different action plans; that are going to be developed, with all stakeholders; from governmental and non-governmental sectors, as well as academia.

Then Eng. Abdel-Hafez Abdel-Baset Abdel-Moneim gave a presentation introducing the Sudan Urban Development Initiative explaining its goal and its modes of operation. Eng Abdel-Hafiz stressed on the crucial role of this workshop and the upcoming ones in fulfilling the initiative's goals.

A brainstorming session followed; the goal was to identify the main issues and challenges facing the sector and to prioritize them. The attendees were divided into thematic groups representing the seven themes of the workshop. Arch. Inas Mohammed Mukhtar provided a short explanation of the upcoming process and the expected outputs at the end of the session. Accordingly, each group coordinator used cards to collect the ideas from participants, to categorize, group and label them. Each participant was asked to identify the four most important challenges facing the theme in question; from their point of view and based on their experience in the field, and to write each idea on a separate card.

These cards were then collected, pinned to a flip chart, for the group to view. Participants were then asked to sort, classify and arrange these cards into groups, each group containing similar ideas. Following, the participants were asked to give titles to each group. Each title represented one of the issues and challenges that the participants agreed on its importance. At the end, the participants were given additional time to add any challenges that were not previously mentioned; sort, classify and title them, as well. Then, each group discussed the identified challenges with the aim of forming a general understanding and agreement on them. Each group was asked to prioritize these challenges. The flipcharts produced by each thematic group were displayed on wall, so that all participants would be able to view them

during and after the break period, with the purpose of encouraging exchange of opinions and experiences, between the different thematic groups. (Annex 3: Photos)

During the third session of the day, thematic groups were asked to agree on a leader and a reporter for their group. The groups then continued with identifying challenges and prioritizing. Action plan templates were distributed to the groups, during the second half of the session. They were asked to start familiarizing themselves with the templates and start forming general outlines for the action plans.

The closing session, the first day was dedicated to presenting the outputs of the thematic groups in a general assembly of the workshop's participants. A speaker from each theme presented the outputs of their group, for discussion and feedback from the assembly. This was followed by a short briefing on day-2 programme.

## **2.2 DAY 2 (28/9/2019)**

Day 2 started with reviewing the workshop programme of the day, and a more detailed explanation on how to fill-out the templates. Examples from day-1 were previewed and critiqued. The three sessions which followed afterwards, were devoted to formulating these action plans and filling the templates. Each thematic group, thoroughly, discussed the prioritized challenges and collaborated in forming draft action plans.

At the closing session, chaired by Arch. Asjad Faisal, each thematic group presented their draft action plan to the general assembly, for discussion and feedback.

Next, Eng. Abdel-Hafiz Abdel-Baset Abdel-Moniem addressed the assembly expressing his gratitude to all participants on behalf of the SUDI and thanked the organizers and facilitation team for their efforts. He invited the participants to support the Initiative's efforts in mobilizing Sudanese experiences, to address urban development issues in the country and stressed on the importance of continuation of works in the specialized thematic groups of SUDI.

After that, Arch. Inas Mokhtar explained shortly the upcoming process of drafting the workshop recommendations and outputs.

Mrs. Nadia Al-Sir Ali, coordinator of the Committee on Urgent needs and Priorities, then thanked the participants and organizing team for their hard work and mentioned that it is one of the most important workshops that were organized within the previous period.

Dr. Hassan Abdel-Atti, the head of the Committee on Urgent Needs and Priorities, expressed his gratitude to all participants. He dedicated special thanks to SUDI team, inside and outside Sudan, for their hard work and assured that the workshop's recommendations and outputs will be forwarded to officials, with close follow-up.

The closing session was filled with an atmosphere of positivity and contentment with what was accomplished, with a lot of enthusiasm and keenness, to continue developing the outputs of the workshop.

The workshop concluded its work with prayers for the soles of the Martyrs and a reminder of the promise to preserve the wins and gains of the revolution. Attendees sang the national anthem signing off the workshop proceedings.



## 2.3 DRAFTING AND EDITING

In the days that followed the workshop, reporters from each thematic group worked, closely with the drafting committee; on compiling and editing reports and action plans. Some thematic groups organized follow-up meetings to agree on the final output. When all the groups have finished writing their recommendations, the Drafting Committee has compiled, merged and coordinated the recommendations, to produce the final report.

## 3 GENERAL RECOMMENDATIONS

- 3.1 The **Workshop on the Priorities of Urban Development, Infrastructure and Transport** is part of a series of specialized workshops that were organized successively within the **Programme for the Urgent Priorities and Needs for the transitional period**. It is necessary to coordinate and synchronize the outputs of all these workshops in order to form a unified vision, unified path, and basis for the transitional government's work, in which efforts are united towards consistent goals and priorities that are all aimed to paving the way to a nation-wide renaissance.
- 3.2 The workshop' action plans represent an outline for the transitional period, in relation to the urban development sector, infrastructure, and transportation. These outputs are not a final product but should be considered as a base upon which to develop detailed action plans for each theme.
- 3.3 The development and elaboration of the presented action plans should be undertaken with the involvement of a comprehensive group of stakeholders, experts and specialists from the governmental sector, non-governmental sector, and academia and research sector to ensure a balanced representation, of the interest of the main development partners.

## 4 CONTACT INFORMATION

Lead	Arch. Hashim Ibn Aouf	+ 974 6660 4883
Sudan Urban Initiative		hashim.suliman@gmail.com
Coordinator for Sudan Office	Arch. Asjad Faisal	+249 91267 9100
Sudan Urban Initiative		asjad85@gmail.com

# 3 Workshop Outputs

# 1 Action Plans



Action Plan for Urban Planning

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No 1: National Comprehensive Planning</b>										
1.1	Develop comprehensive planning at different levels	<p>First: Planning at the National (Federal) Level</p> <p>Establish a central planning department at the national level to:</p> <p>Develop the general framework for planning, setting development goals and approving regional plans</p> <p>2. Develop a National Urban Plan (Long-term)</p>	<p>Set general policies for planning according to the national strategy and making a comprehensive vision for urbanism in the country</p> <p>Identify and approve frameworks and guidelines for regional urban plans</p> <p>Develop and formulate general standards and guidelines for planning</p> <p>Develop standards to control development and expansion of cities</p> <p>Support major production projects</p> <p>Support development in areas of displacement and war</p> <p>Support the achievement of comprehensive peace</p> <p>Oversee and monitor the performance of planning departments at other levels</p>	<p>Existence of an effective planning department at the national level that fosters, includes, studies, and sponsors planning activities at all levels</p> <p>Existence of a National Urban Plan</p> <p>Written frameworks for regional planning</p>	3-5 years		<p>Direct Responsibility</p> <p>Council of Ministers</p> <p>Key Partners</p> <p>All Relevant Ministries</p> <p>Regional Governments</p> <p>Civil Society Organizations</p> <p>Communal societies</p> <p>Experts</p>	<p>National budget</p> <p>Technical expertise</p> <p>Government agency</p>	<p>Sophisticated and Up-to-date softwares</p> <p>Foreign expertise</p> <p>Support from international institutions</p>	<p>Insecurity and lack of peace</p> <p>Strong political will</p> <p>Lack of a comprehensive national strategy</p> <p>Insufficient information Coordination and communication with different planning levels</p> <p>Cooperation between different institutions</p>
		<p>Second: Regional planning</p> <p>Establishment of a regional planning department at the state level to:</p> <p>11. Regional planning, such as transport, transportation, water, energy and equilibrium in land use</p> <p>2. Making regional urban plans for all states (long term)</p>	<p>Achieve the objectives of the National Urban Plan</p> <p>Support the development plan in the urban and rural areas</p> <p>Guidance for local urban planning</p> <p>Support planning in production places according to the development strategy in the region in consultation with the planning departments of the city level in the region</p> <p>Support the planning of IDP settlements in the affected territories</p> <p>Promote land use sustainability principles</p> <p>Achieve the balance in the use of land in the region between agricultural and</p> <p>Promote community participation in planning</p>	<p>Effective planning management at the regional level</p> <p>Make a regional plan for each region according to the national plan</p> <p>Implementation of the guidelines of the development plan of the region urban plan</p> <p>Planning services and infrastructure for rural areas</p> <p>Conserve natural resources and define sustainability policies</p> <p>Existence of specific technical and legal guidelines for local plans</p>	One Year		<p>Direct responsibility:</p> <p>Regional Government</p> <p>Partners:</p> <p>Regional government units</p> <p>Civil society organizations</p> <p>Representatives of the community</p> <p>Federal Government</p> <p>Developers and the private sector</p> <p>Experts</p>	<p>Technical expertise</p> <p>Government agency</p> <p>Regional budget</p> <p>Centralized support</p> <p>Benefit from the redistribution of redundant cadres in the various planning departments</p>	<p>Sophisticated software</p> <p>Local expertise from other regions</p> <p>Foreign expertise</p> <p>Support from international institutions</p>	<p>Weak central support</p> <p>The absence of a reliable and trusted system of communication and information channels between different levels</p> <p>Lack of sufficient information</p> <p>Absence of regional strategic plans</p> <p>The National Urban Plan was delayed</p>
					May 1, 2020	May 1, 2025				
					May1, 2020	May 1, 2021				
1.2	Continuous development of the planning process and linking it to reality changes	<p>Establish a department to monitor the implementation and evaluation of plans and add the role of neighborhood committees in monitoring the evaluation and implementation of plans</p> <p>Setting up a continuous evaluation system and a special management</p> <p>Provide an electronic system for correspondence and reports to ensure accountability and transparency</p> <p>Develop standards to measure the effectiveness and efficiency of the planning process and plans</p>	<p>Follow up the implementation of the plans and evaluate the implementation process to benefit from them in the continuous development of the planning proces</p> <p>Ensure transparency in the planning process and community participation at different levels</p>	<p>Create a Planning Control Execution Manager</p> <p>Produce an initial version of the system of criteria for evaluating the planning process</p> <p>Establish an electronic reporting system with high transparency.</p>	One Year		<p>Direct responsibility:</p> <p>Urban Planning Department</p> <p>Partners:</p> <p>Regional government units</p> <p>Civil society organizations</p> <p>Developers and the private sector</p> <p>Community committees and community representatives</p>	<p>Local expertise</p>	<p>Foreign expertise</p> <p>Advanced software and systems</p>	<p>Resistance to change</p>
					May 1, 2020	May 1, 2021				

Action Plan for Urban Planning

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
Priority No.2: Governance										
2.1	Minimizing political and administrative interference between different parties and institutions	Formation of a committee to study the overlaps and their causes and proposals for solutions  Initiate, discuss and introduce laws	Reduce overlaps between different entities  Determine the type of problems and classification (administrative, legal, ..)  Develop proposals to solve problems  Amend laws based on the committee's report  Define the laws concerned with the work of different bodies at different levels  Review past outputs and the jurisprudence of other countries	The output document of the committee outlining the identified overlaps, guidance to the parties responsible for the solution, and a list of implementation evaluations  Amend laws and policies based on the outputs of committees and evaluation documents	6 Months		Direct responsibility: Secretariat of the Council of Ministers  Parliament  Partners: State planning authorities Ministry of Justice The Land Department in States.  Ministry of Local Government  Universities with planning departments  Related Research Centers Advisory Council of the Council of Ministers  Representatives of the community	Experts in the fields mentioned  Legislative and executive institutions  Budget	Not available	Complicated problems Resistance to change
					Nov 1, 2019	May 1, 2020				
2.2	Increase the efficiency and effectiveness of planning institutions	Forming task forces to review the structures of planning institutions and propose amendments  Forming teams to identify the gap in qualification and jobs  Forming boards to support innovation and creativity in institutions  Establish and approve the existence of independent advisory councils  Support and develop rehabilitation plans and training in various institutions	Enhance the effectiveness of institutional structures  Increase the efficiency of the employees of the institutions  Support innovation and creativity  Address redundance in planning institutions  Make a clear job description for each employee	Number and percentage of approved structures after modification Identify training programs  Number of initiatives in different institutions  Number and percentage of approved structures after modification	6 Months		Direct responsibility: the secretarit of council of ministers  Urban Planning Institutions  Partners: Ministry of Justice Local and foreign experts	Budgets of Ministries	Local and foreign experts from similar countries  Effective management software  finance	Sacnitions and technical ban  Resistance to change Weak data on the current qualification of employees
					May 1, 2020	Dec1, 2021				

Action Plan for Urban Planning

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
2.3	Activating the role of community participation in planning. Participate in decision-making, monitoring, evaluating, addressing, proposing and supporting planning processes and planning departments	<p>Establishing the principle of transparency and citizen ownership of information as a legitimate right</p> <p>Placing community participation and consultation as a key requirement and requirement in any planning decision making process</p> <p>Training competencies from different levels of planning on methods and approaches of community participation and how to manage them</p> <p>Create a popular council at every level of planning</p> <p>Creating different platforms to exchange ideas and experiences through different media, conferences and open days workshops</p> <p>Encouraging the formation, representation and use of networks of professionals and experts in planning at different levels of planning</p> <p>Activating the role of neighborhood committees, local councils, people's councils in cities and legislative councils in the regions</p>	<p>Activate direct public participation and involving citizens from different sectors of society in the different planning and re-planning stages</p> <p>Make planning processes participatory</p> <p>Benefit from the diverse experiences of individuals and communities</p> <p>Enable citizens to contribute to planning, re-planning and evaluating plans</p>	<p>"Representation and participation of councils of planning departments</p> <p>Include community participation in planning decision making procedures and regulations</p> <p>Create popular councils</p> <p>Create platforms for brainstorming</p> <p>The presence of an advisory body containing a network of professionals and experts in the field of urban planning</p> <p>Competencies trained on community participation methods in each institution</p>	One Year		<p>Direct responsibility:</p> <p>Local Government Administration</p> <p>Partners:</p> <p>Urban Planning Departments</p> <p>Regional, city and local governments</p> <p>Parliament</p> <p>Ministry of Social Affairs</p> <p>Ministry of Youth and Sports</p> <p>Ministry of Local Government</p> <p>Neighborhood committees</p> <p>Local councils</p> <p>Popular city councils</p> <p>Legislative councils in the regions</p> <p>Universities and scientific research centers</p> <p>Professional associations and professional councils</p> <p>Civil society organizations</p> <p>Different sectors of society</p>	<p>Experts in the fields mentioned</p> <p>Legislative and executive institutions</p> <p>Budget</p>	<p>The existence of conscious committees and elected councils</p> <p>Employment of places to work committees</p> <p>Regulations explaining the mechanism of work of committees and councils</p> <p>Equipment and tools for working</p> <p>Budgets for work</p>	<p>Strong political will</p> <p>Resistance to change</p> <p>Stability of the democratic process</p> <p>Lack of Information</p> <p>The presence of conscious committees and elected councils</p>
					May 1, 2020	May 1, 2021				
2.4	Anti-Corruption Measures	Forming committees to curb corruption	<p>Inventory and monitoring of administrative and financial irregularities in the previous government</p> <p>Grievance redress and justice</p> <p>Trading on government money</p> <p>Deter spoilers</p>	<p>Adjusting and accounting spoilers</p> <p>Addressing grievances</p> <p>Achieving justice</p>	4 Months		<p>Ministry of Justice</p> <p>Ministry of Infrastructure</p> <p>Council of Ministers</p> <p>Planning Departments</p> <p>Office of the Attorney General</p>	<p>Documents, witnesses</p> <p>Grievances and complaints</p> <p>Social media platforms</p>	Budget	
					Nov 1, 2019	March 1, 2020				

Action Plan for Urban Planning

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues	
					Start	End					
<b>Priority No.3: Land Issues</b>											
3.1	Strengthen land management policies to support inclusive and sustainable development	<p>Form a committee to review and rectify land titles for foreigners</p> <p>Form a committee to review and correct land titling contracts for the Sudanese</p> <p>Form a committee to modernize the land registration system</p> <p>Form a committee to review the bases of land allocation and disposal</p> <p>Form a committee to consider the criteria for controlling land prices</p> <p>Forming a committee to enumerate land violations</p> <p>Review land ownership formulas</p> <p>Inventory, classification and work of land information databases</p> <p>Review administrative structures working in the field of land</p> <p>Review the calculation and payment system for improvement teams</p> <p>Establish a tax system to reduce land speculation</p>	<p>Achieving social justice in land ownership and usage</p> <p>Inventory and legalization of foreign ownership of land in Sudan</p> <p>Anti-corruption in land administration</p> <p>Legalize the real estate market so that housing is available to all</p>	Activating the committees	Two Years	<p>Main responsibility: Council of Ministers</p> <p>Partners: Land Departments (In the States) Ministry of Local Government Ministry of Urban planning Ministry of Justice</p>	<p>Land records</p> <p>Local expertise</p> <p>Equipment and Appliances</p>	<p>Modern land registration system</p> <p>Local foreign experiences</p>	<p>Strong political will</p> <p>Resistance to change</p> <p>Budget</p> <p>Land issues and land ownership are sometimes complicated</p>	Nov 1, 2019	Nov 1, 2021
<b>Priority 4: Informatics and databases</b>											
4.1	Provide planning information at different levels	<p>First: Providing statistics and gathering information</p> <p>Census work</p> <p>Inventory and mapping of natural resources, economic activity, population distribution and other demographic information related to urban planning</p> <p>Form a committee to collect and monitor research and studies done in the field of planning and extracting information from them</p> <p>Inventory and computerization of old charts and maps</p> <p>transpercry in informatin database and relatinship between agency</p>	<p>Provide an information base to support urban planning at different levels</p>	<p>Complete census</p> <p>Complete data and maps required for economic activity and natural resources</p> <p>establish regulation and legalization to catch information</p>	One Year	<p>Direct responsibility: Council of Ministers</p> <p>PARTNERS: Relevant ministries National Security Agency National Statistical Organization</p> <p>Remote sensing institutions Urban observatories</p> <p>Planning Departments</p> <p>Peace and Elections Commissions</p>	<p>Available statistics</p> <p>Available records and</p> <p>Local technical expertise</p> <p>Information gathering institutions and bodies</p> <p>National Security Administration database</p>	<p>International institutional support</p> <p>Sophisticated software</p> <p>Information management techniques</p> <p>Operating budget</p> <p>Trainings</p>	<p>Strong political will</p> <p>The absence of a reliable system of communication and information channels between different levels</p> <p>Poor budget</p> <p>Public fears of information sharing</p> <p>Weak administrative and technical organization</p>	Nov 1, 2019	Nov 1, 2020
		<p>Second: Create an electronic database system</p> <p>Create an electronic system for the preservation and sharing of information in the areas of urban planning and linking it to the Internet</p> <p>Provide an electronic portal to serve customers (citizens, consultants, contractors and others) at different planning levels (federal, state and local).</p>	<p>Facilitate the preservation and sharing of information across different levels and channels</p> <p>Document and update information in the field of urban planning</p> <p>Reduce the negative effects of bureaucracy</p> <p>Ensure work efficiency</p> <p>Establish the principle of information transparency and developing relations between relevant institutions.</p>	<p>Complete database</p> <p>Efficiency of electronic systems</p> <p>Time required for coordination and transmission of information</p> <p>The time required to implement the procedures and transactions</p> <p>Existence of legislation and regulations that guarantee access to information</p> <p>Dissemination of appropriate data to the public</p>	One Year	<p>Direct responsibility: Ministry of Planning and Urban Development</p> <p>Partners: Ministry Of Justice Security agencies Existing information institutions</p>	<p>Experts</p> <p>Information gathering institutions</p> <p>Networks</p> <p>Computers</p> <p>Network Servers</p> <p>National Security Council database</p>	<p>Sophisticated software</p> <p>Information management techniques</p> <p>Operating budget</p> <p>Training</p>	<p>Weak internet networks</p> <p>Poor political and legal support</p> <p>Poor culture of information and knowledge sharing</p> <p>Challenges of communication with the National Security Agency</p>	May 1, 2020	May 1, 2021

Action Plan for Urban Planning

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues	
					Start	End					
<b>Priority 5: Resilience and Disaster Risk Management</b>											
5.1	Protect citizens and properties from various disasters and reduce their risks	Develop an urgent national plan to prevent and deal with the effects of disasters and provide important services  Conduct state-level studies to determine the extent of floods, floods and other natural disasters	Providing databases for disaster prone areas  Address the effects of disasters in war zones and conflicts  Plan to prevent natural disasters and minimize their effects	Existence of data and maps for disaster areas  Identify disaster prevention as a priority within plans at different levels  Separate disaster prevention budgets  Minimizing effects and recurrence of disasters  Actual disbursement to prevent the effects of disasters  List of new building codes and regulations	6 Months	Nov 1, 2019	May 1, 2020	Direct Responsibility Council of Ministers Ministry of Planning and Urban Development  Partners: Governments and regional institutions  Civil society organizations International institutions  Revival committees and councils	Previous experiences Professional skills International support	Independent Budgets Sophisticated techniques	Strong Political Will Inefficiency of legislation, laws and regulations  Insufficient information Coordinate with different planning levels  Ignoring disaster prevention in the state's plans  Lack of specific agency responsible for disaster prevention at different levels and within institutions
5.2	Sustaining the economic activity of urban centers	Conduct a study to identify disaster-affected activities at the regional level  Develop laws and regulations that will achieve the sustainability of economic activity	Identify activities that may be affected by risks  Achieve the sustainability of economic activity	List of activities affected by disasters	One Year	May 1, 2020	May 1, 2021	Direct Responsibility Ministry of Environment and Urban Development  Partners: All ministries Governments and regional institutions	Professional skills	Budgets	Resist change Inefficiency of legislation, laws, and regulations  Insufficient information Coordinate with different planning levels
<b>Priority (6): Laws and regulations</b>											
6.1	Strengthen laws supporting urban planning processes	Amendment of urban planning laws, building codes, local government and revenue laws	Eliminate conflicts between laws at different levels  Amend laws to support development rather than revenue collection  Make technical references a basis for planning decisions by enforcing laws rather than political estimates or decisions  Reduce the role of politicians in the planning process  Make laws obliged to make more detailed regulations  Eliminate inconsistencies between the said laws on urban development  Identify the bodies responsible for violating urban plans  Tight penalties for urban chaos Amend laws to accommodate changes in government structure and powers  Amending laws and regulations to accommodate community participation	Amend the said laws  The existence of texts binding the technical references in the laws Existence of deterrent penalties in the planning law	6 Months	Nov 1, 2019	May 1, 2020	Direct Responsibility Council of Ministers Partners: Ministry of Planning and Urban Development  Ministry of Justice Ministry of Interior Ministry of Local Government  Ministry of Finance	Previous laws and regulations Legal departments Experts General budget	International expertise (technical and managerial)	Weak political will to amend the law  The absence of a reliable system of communication and information channels between different levels  Resistance of some quarters to legalize their powers Weakness of the law-enforcement institution



Action Plan for Urban Planning

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority 7: Financing</b>										
7.1	Provide the necessary funding to activate the work of planning departments	Benefit from international grants and funding programs  Determine a percentage of fees and taxes and redistribute them at different planning levels  Provide a separate budget for planning resources from the regions, cities and localities	Provide financial support to accomplish planning programs and projects	Available budget for planning departments	6 Months		Council of Ministers Ministry of Infrastructure Ministry of Finance International organizations  Governments and regional institutions	Experts	Experts Certain workplaces and equipment  Accounting Software	Scarcity of resources Corruption
					Nov 1, 2019	May 1, 2020				
<b>Priority No. (8): Environment</b>										
8.1	Achieving sustainable urban development	Review laws and regulations to include environmental impact studies for all new schemes  Conduct an environmental impact study of the implemented plans, especially those whose purpose has been changed from agricultural land to residential, and the plans implemented in the areas of floods and floods and areas near the industrial zone and sewage treatment plants.	Minimize the negative effects of climate change on Sudan  Minimize the negative effects of urban development on the environment	Updated laws in environmental protection  Establish a reference system for sustainable planning in Sudan	One Year		Direct Responsibility Ministry of Planning and Urban Development  Partners: Council of Ministers Ministry of Local Government  The Ministry of Environment  Ministry of Justice Higher education and scientific research institutions	Local expertise Previous studies	Foreign expertise Detailed studies of the current situation  Subscriptions to international electronic libraries	The presence of significant environmental damage in some areas Unbalanced urban growth in and around cities
					May 1, 2019	May 1, 2020				



Action Plan for Housing and Construction

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 1 : Organize Housing &amp; Construction Sector (Institutionalization in the housing and construction sector)</b>										
1.1	Structuring of housing institutions	Formation of specialized committees Initiating Workshops	Create a ministry or body that can fulfill the housing requirements Determine the responsibilities and components of the Ministry from the different departments  Coordinate between the Ministry of Housing and other ministries and bodies concerned with housing Coordinate between the Ministry of Housing and other ministries and bodies concerned with housing	Issuing a Republic decree for forming a Ministry of Housing Define specialities Define components The presence of the administrative structure of the Ministry Define the required cadres for each department	6 Months		Ministry of Transport and Urban Development National Council for Urban Development The National Fund for Housing and Development Ministries of urban planning in the states House of Expertise Council Engineering Council Sudanese Standardization & Methodology Organization Engineering Works Contractors Council	Cadres in governmental institutions Local experts in the field of housing	Regional and international experience and partnerships in the field of housing International organizations	Political will Conflict of interest between the different ministries Failure to define clear terms of reference and responsibilities for the parties involved in providing housing
1.2	Stop the Government dominance on the construction sector	Formation of specialized committees Forming joint committees of the concerned authorities	List the governmental companies operating in the construction sector	Create balanced and fair job opportunities Availability of a classification for the governmental and private companies Enforce strict laws to regulate work in the construction sector	6 Months		Council of Ministers Ministry of Justice Ministry of Finance	Ministry of Justice Ministry of Defence Ministry of Internal Affairs Other Governmental Institutions		Political will Conflict of interest Army forces insist on keeping their companies
1.3	Ensuring sound professional practice in the construction sector	Organize a general conference for the country construction industry Form a joint committees of the concerned authorities	Achieve a national strategy and action plan for the construction industry Identify follow-up and control mechanisms Define fair and rewarding contractual forms Rated tax classification Legalization of financing & guarantees	Issuing a Republic decree forming the higher Council for Construction Industry  Defining specialities	6 Months		The ministries concerned Engineering Bodies	Local, regional and international experts Research Papers	Regional and international experience and partnerships in building and construction International organizations	Political will Conflict of interest
<b>Priority No. 2 : Achieving social Justice in the housing and construction sector at a national level (housing is a right not a privilege)</b>										
2.1	Determine the need for housing and survey and classify housing needs(Weak Sectors)	Formation of specialized committees Initiating workshops Organizing the National Housing Conference	Survey and classify housing needs Prepare a model that can be applied in any state, starting with conflict areas, torrential disasters and floods Activate community participation	Housing guide work Create a database on housing options and quantities to be provided and their levels both for the present and future	6 Months		Engineering Research and Materials Technology Institute National Research Center Building and Road Research Institute, University of Khartoum  Ministries of urban planning in the states Central Statistical System The National Fund for Housing and Development + State Funds	Local experts in the above-mentioned organizations	UN HABITAT UNDP WORLD BANK	Coordination between the concerned parties Choosing Experts to prepare the mentor Getting accurate information
2.2	Developing national housing policies and strategic plans	Forming a national committee	Review current and previous housing policies and plans Propose housing policies for the transitional period, focusing on conflict and displacement areas and those affected by the torrents	Availing approved Housing policies for implementation Preparing short and long term housing plans	6 Months		Ministry of Housing - (if formed according to point 1 above), or Ministry of Transport and Urban Development National Council for Urban Development Ministries of urban planning in the states	Local experts in the different housing departments Local and international literature in the field of housing	Workshops in the housing fields Training personnel responsible for preparing and implementing policies	Implementing a unified policy at the national level without conflicts at the state level Mechanism for following up the implementation of policies Adjusting the situation of those affected by changing the policies in force currently
2.3	Confirm the state's commitment to housing support and financing	Formation of specialized committees Initiating workshops Organize a national conference for housing and houses	Provide financing for housing projects Reduce the housing gap Application of exemptions for housing and construction sector related to the housing sector in the short and long term	Government funds and banks to finance housing projects Partnerships with regional and international banks and organizations in the housing finance sector Special tax and customs laws for institutions and companies associated with the housing sector	6 Months		Ministry of Housing - (if formed according to point 1 above) The National Fund for Housing and Development	The National Fund for Housing and Development	Regional and international Regional and international banks UN HABITAT UNDP WORLD BANK	Overcome political obstacles to attract external financing Commitment of Ministry of Finance / Bank of Sudan to payment policies The states' commitment to tax and customs exemptions for housing projects



**Action Plan for Land Transport and Railways**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and) (Funding)	Resources Needed (Technical and) (Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 1: The revision of laws and regulations</b>										
1.1	Reformulating existing laws and issuing specialized laws to restructure institutions (federal)	Issuing a law for land transport, as is the case  Issuing a regulations for passenger transport  activiating rail transport regulations  Issuing regulations regarding the security and safety of rail transport	1. Adjust and rationing traffic within cities and between the States 2.The compilation of laws scattered in one place in order to facilitate dealing with them 3. Reduce the fees imposed by other laws Quality control of vehicles and the imposition of tariffs and forcing vehicle to comply with the main lines Organizing work between the different sections of the railway, and between them and other government institutions Raising the level of safety and security for the locomotives, passengers and goods Prevent the infringement of property and rail tracks	Legalize the movement of transport  Legalize passenger traffic  Raising the level of security and safety  Increased level of coordination  % Reduced encroachments	six months  Nov 1, 2019   May 1, 2020		Ministry of Transport and Infrastructure Ministry of Justice Ministry of Interior Union of Transport Chambers	Previous studies from the relevant departments	The formation of a government committee to implement	The Legislative Council has not been formed yet
1.2	Reformulating existing laws and issuing specialized laws to restructure institutions (state and local).	Review the state and interstate transport law with the federal and local level and include local transport departments under the ministry or the relevant state unit	Organizing work and defining responsibilities clearly	Issuing a specific public transport and transportation law that does not have private intersections (lines authentication, field control, transportation and traffic parking management)	six months  Nov 1, 2019   May 1, 2020		Ministry of Transport and Infrastructure Ministry of Justice Ministry of Interior Union of Transport Chambers	Previous studies from the relevant departments	Formation of a government implementation committee	The Legislative Council has not been formed yet
<b>Priority No. 2: Reviewing administrative structures and work systems and regulations</b>										
2.1	Monitor and develop land	Allocate an administration at the Ministry for ground transportation	Monitor national transport preparing a transport development plan  Study and standardize public transport procedures centrally	% Database is complete % completion of detailed plans	six months  Nov 1, 2019   May 1, 2020		Ministry of Transport and Infrastructure		Technical support from a body with specialized experience Finance	The task is big and it takes a long time
2.2	Civil Service Reform	Commissioning a committee to define horizontal and vertical intersections and overlaps within and outside institutions  Assigning a committee to review the executive structures and define tasks and functions for departments, units and	Increasing the efficiency of the institutions' work  Raising the efficiency of the work of institutions Increase job satisfaction	Performance measurement indicators	six months  Nov 1, 2019   May 1, 2020		Ministry of Labor Ministry of Transport and Infrastructure		Technical support from a body with specialized experience Finance	
<b>Priority No. 3: Supporting and organizing the public transportation sector</b>										
3.1	Support and organize the public transport sector	Submit a proposal to the federal government to cancel or reduce customs on general vehicle spare parts and allow the import of used spare parts (scraping)  Excluding importing vehicles of capacity 25 - 45 passengers from Model Team. Strengthening the field monitoring system and using smart systems to monitor and track the operation process.  Review the working hours of departments, institutions, and education houses. Continuous updating of the transportation tariff and government support improve transport carriers, by setting standards and regulating, also putting them under a unified administration.	Issuing promorional policies and regulations supporting the improvement of public transport vehicles and services	Issuing a separate law or regulation for public transport vehicles  The monitoring of public transport by deterrent laws  Adjustment of school hours and government institutions Adjusting the transportation tariff according to the current cash value Establish standard operating controls and regulations	six months  Nov 1, 2019   May 1, 2020		Concerned Ministry (state and federal) Ministry of Infrasturcture and Transprot Ministry of Finance Customs police Legislature Ministry of Labor	studies and proposals previously submitted (for example, a proposal was submitted by the state of Khartoum to the Federal Government before)	Technical support from a body with specialized experience Finance	Policies for controlling and controlling vehicles and companies and ensuring their work in the field of public transport  The Legislative Council has not been formed yet

**Action Plan for Land Transport and Railways**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and) (Funding)	Resources Needed (Technical and) (Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 4: Maintaining the rail network and raising its efficiency</b>										
4.1	Maintenance of the railway network and the current assets of the railway authority	Determination of maintenance requirements from the competent departments and their priorities according to the tracks and their feasibility, preparing and submitting bids according to the following implementation priorities:  First: Opening paths to closed and war-affected areas to support their development (South Kordofan + Darfur states)  Second: Connecting the production areas with the center and with seaports and reducing the value and cost of transportation (passengers / goods) to and from these areas.  Third: Strengthening import and export operations through land border crossings with the Arab Republic of Egypt	Maintenance of the 900-km-long line between Madani, Al-Abyadh and Babnusah  Continuing work on projects for the rehabilitation of the Abu Jabra-Nyala line  Maintenance of the Atbara line - Halfa 600 km	% Completion and operation of the proposed projects	6 months - 3 years	Nov 1, 2019	May 1, 2022	Ministry of Infrastructure and Transport Railway Authority Ministry of Finance	Human resources  Spare parts for cabinets Line materials maintenance machinery and equipment	finance
4.2	Increasing the number of transported passengers, raising the transported ton and reducing the cost of freight according to the capabilities currently available	Form a committee to review cargo and passenger services and develop a plan to develop it / raise detailed maintenance needs and start procurement and contracting procedures  Increase tugboat and carrier vehicles	The transported ton increased from 600 thousand to 2 million  Increasing the number of passengers from 300 to 600 thousand  Maintenance of 50 locomotive Maintenance of 1000 vehicles	% Increase in transported ton % Increase in the number of	6 month - 3 years	Nov 1, 2019	May 1, 2022	Ministry of Infrastructure and Transport Ministry of Finance Railways Authority	Human resources  budget	finance
4.3	Improving the work environment	Determine the maintenance needs of workshops, offices and buildings / prepare tender documents and designs / bidding according to specified for maintenance	Rehabilitation of buildings inside and outside Providing the workshops with the necessary maintenance equipment, machinery and devices and preparing them in terms of buildings, equipment and safety and security systems.	% Of the buildings maintained  % Of workshops maintained	3years	Nov 1, 2019	May 1, 2022	Ministry of Infrastructure and Transport Ministry of Finance Railways Authority	Human resources  budget	finance
4.4	Modernizing communication and signaling systems (identifying needs)	Identify the needs for modernizing communication and signaling systems	Change the signal system and intersection control system (manual) currently in use and replace it with smart traffic control systems  Changing existing (narrowband) wireless systems and replacing them with smart systems that rely on Internet, GPRS and GPS services	% increase of operational efficiency	3 years	Nov 1, 2019	May 1, 2022	Ministry of Infrastructure and Transport Ministry of Finance Railways Authority	Human resources  budget Smart systems Technical support capacity building	finance
4.5	Improving operations	Introduction of modern goods handling systems such as cranes (defining the required systems and their specifications)  Improving the level of services provided to the public in terms of quality, quality and stability (Customer oriented services)  Development of the passenger ticket system and its computerization	increasing productivity and reducing the time spent on charging and unloading decrease the time of distillation (time between two flights) between trains Provide a special mechanism for receiving complaints, suggestions and notifications  Update a number of services related to ticketing and reservation systems: Electronic tickets Smart Tickets via Smart Apps Create a online booking platform on the website.  Providing the necessary technical infrastructure to connect with electronic payment systems and electronic virtual wallets provided by local commercial banks	% of workshops maintained	3 years	Nov 1, 2019	May 1, 2022	Ministry of Infrastructure and Transport Ministry of Finance Railways Authority	Human resources  budget Smart systems Technical support capacity building	finance

**Action Plan for Land Transport and Railways**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources Technical and) (Funding	Resources Needed Technical and) (Funding	Potential Implementation Challenges/ Issues
					Start	End				
Priority No. 4: Maintaining the rail network and raising its efficiency <span style="float: right;">Continued from the previous page</span>										
4.5	Operational maintenance	design daily and routin maintainance protocols Raising the ability of the stations to maintain minor faults between them by defining the required requirements / raising the detailed needs and their specifications and starting the procurement and contracting procedures to rehabilitate the workshops and stations	Reducing breakdowns and reducing their risk.  Reducing the stops of locomotives or vehicles at maintenance stations.  Improve the level of periodic and preventive maintenance, which increases the life of locomotives and vehicles and reduces the cost of large maintenance.	% Reduction in maintenance time % increase in workshops capacity for periodic, routing and light maintenance Service time provided	3 years		Ministry of Infrastrucrture and Transprot Ministry of Finance Railways Authority	Human resources	budget Smart systems Experiences	Finance
					Nov 1, 2019	May 1, 2022				
4.6	Utilization of the railway infrastructure to support the public transport network in cities For example (the local train project (Khartoum)	Forming a committee to evaluate and review the maintenance and completion of the railway projects used in public transport and transportation / specifying technical requirements and raising recommendations / preparing initial drafts and bidding for either the consultant or the contractor according to the outputs of the committees	Review projects' priorities, path details and priorities to contribute to public transportation and add another type of transportation  Reviewing the Khartoum tram project study (there is a design for the first line of Omdurman for Khartoum).	% Completion and operation of ongoing projects  The number of deportees via the network	3 years		Ministry of Infrastrucrture and Transprot Ministry of Finance Railways Authority	Existing structural plans (for example, transport and traffic infrastructure chart, Khartoum State Self funding for studies Previous contracts Available Feasibility studies for Available Designs Consultancy firms	finance Consultancy firms	Finance Coordination with different bodies
					Nov 1, 2019	May 1, 2022				
Priority No. 5: Sound plans that support sustainable development										
5.1	Ensuring the sound and balanced development of the center, the states, and the enclosed regions	Study the current transport situation and future opportunities, with a focus on the weaker areas, by calling for bids on: Making studies and structural plans for cities which do not have them Updating the existing plans	The flow of transportation in all states to take advantage of available opportunities in uninhibited areas such as developing border trade, for example, improving relations with neighboring countries	% Schemes completed	3years		Ministry of Infrastructure and Transport Related state ministries Ministry of Finance	Previous technical studies from the relevant departments Previous strategies and plans  University studies and research Previous workshop and conferences recommendations self finance for feasibility specialized workshops and initiatives outcomes qualified human resources	Technical support from a body with specialized experience  Formation of a government committee for implementation capacity building Provide budgets to match the workload required to update	The existence of a comprehensive national development plan for the Funding. human resources The scarcity of qualified Previous contracts
5.2	Prioritize the implementation of projects	review ongoing projects that are under development or planning and priority projects with the greatest impact through consultative bodies (preparing and submitting bids via technical committees)	Faster returns for projects	% completion of a clear implementation plan for project priorities and implementation according to feasibility studies						
5.3	Optimal use of resources	Study available carriers, (functioning and none-functioning),determain their ability to meet projected needs, and explore how to increase their efficiency	Better usage of resources							
5.4	Rehabilitation of border crossing points	Improving the flow of border land transport with neighboring countries (Egypt / Ethiopia) and increasing the volume for passengers and goods, this will support the following:  a.Increase the volume of national export products issued across land borders. b. Increasing the volume of border trade c. Combat border smuggling.	Preparing and submitting preliminary technical studies for consultants to design, qualify and establish the following:  1 / Rehabilitation of the Arqeen Crossing - the land borders with the Arab Republic of Egypt. 2 / Establishing the land port in Wadi Halfa to accommodate and organize the heavy border 3 / Completion of the implementation of the Qallabat crossing - land borders with Ethiopia	% completion						
					Nov 1, 2019	May 1, 2022				

**Action Plan for Land Transport and Railways**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources Technical and) (Funding	Resources Needed Technical and) (Funding	Potential Implementation Challenges/ Issues
					Start	End				
Priority No. 5: Sound plans that support sustainable development <span style="float: right;">Continued from the previous page</span>										
5.5	Public transport sector: Ensuring the provision of comfortable, safe and reliable public transport service	Formation of a committee to review and update the structural plans for transportation and the priority of projects with high capacities (direction for high capacities in public transport, according to the outputs of the MIFIT) - TOR setting and update tender bid	start the implementation of projects that are appropriate to the needs of the state and its residents, according to the priorities set by the structural plan	% Work completed	3years		Ministry of Transport and Infrastructure Related state ministries Ministry of Finance	Previous technical studies from the relevant departments Previous strategies and plans University studies and research Previous workshop and conferences recommendations  self finance for studies specialized workshops and initiatives outcomes human resources	Technical support from a body Formation of a government capacity building Provide budgets to match the	The existence of a comprehensive national development plan for the country  Funding. The scarcity of qualified companies. lack of qualified human resources
		Issuing standard specifications for public transport vehicles	Issuing standard specifications	specifications issued						
		Ensure that maintenance is carried out for the locally transported scales and the availability of spare parts or work to manufacture them locally.	Issuing protocols for periodic and preventive maintenance	protocols issued						
		Construction and rehabilitation of bus stations, sub stations and bus stops	Construction and rehabilitation of target number of stations, sub stations and bus stops	% Work completed						
		Form a committee to develop policies to encourage partnership between the public sector, represented by the public transport authority and the private sector, represented by businessmen and investors interested in the transport sector, to carry out transport operations, whether state-owned facilities, or privately owned carriers / drafting /recommendations / policy recommendations draft project proposals	issuing a report on opportunities for PPPs in the provision of public transport services	PPP policy document issued						
					Nov 1, 2019	May 1, 2022				
Priority No. 6: Establishing a modern and integrated network of railways										
6.1	Design and create a new network with international standards	Complete and update the railway development study by appointing an advisory team to clarify the merits of the strategic plan and discuss it with all the stakeholders and partners and then call for tender for consultancy firms.	Completion and updating of the study to Sindt to the French Railway Company 1-SNCF. To achieve a national strategy and a comprehensive road map for the railway transport sector.	% completion of study	7-10 years		Ministry of Transport and Infrastructure Railway Authority Consultancy Firms	Previous technical studies from the relevant departments Previous strategies and plans University studies and research Previous workshop and conferences recommendations  self finance for studies specialized workshops and initiatives outcomes human resources	Funding capacity building Specialized contracting companies	The existence of a comprehensive national development plan for the country  Funding. lack of qualified human resources
		Preparing a study to establish the expansion in the network field by linking cities with closed areas. Establishing 3000 km to link the interior areas according to the features and exasperations of the consultative team's work of the advisory plan. Complete detailed studies and designs	Connecting centres through a complete and efficient network	% completion of study						
		Preparing a study to establish 1000 km to connect Sudan and the neighboring countries, transport 75% of the goods transported by land through Sudan / prepare the initial study and submit the tender to an advisory body for the detailed study, complete the studies and detailed designs	Establishing a network to link Sudan and neighboring countries and also connecting sea ports to production areas	% completion of study						
		Conducting studies for public rail transport such as metro and express trains	Supportign the national economy directly and indirectly by operating an effeciant transportaion network	% completion of study						
					Nov 1, 2019	Nov 1, 2029				



## 4. Aviation



Action Plan for Aviation

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 1: Review and formulation of laws, regulations and organization systems for the aviation sector</b>										
<b>Reform and the fight against corruption and the establishment of the rule of law</b>										
1.1	Revision of laws and regulations regarding the national facilities program and the National Aviation Security Program, and fill the deficiencies	The formation of specialized committees Use of specialized aviation consultants Committees to complete their assigned work Share drafts and recommendations with the concerned authorities Stakeholders consultation on final drafts Submit the final drafts for approval	Raise operational efficiency Improve the quality of services Reduce security breaches Facilitation and speed of services Improve air traffic flow Clear definition of organizational relations, avoiding conflicts in decision making	Percentage of approved laws, regulations and systems and programs and their implementation	Six months to 1 year		Parliament Council of Ministers Ministry of Finance Ministry of Justice Ministry of Defence Sudan Airports Holding Company	Previous laws and regulations Drafts of regulations and programs (security, safety, Facilities ..) Specialized human resources Advisory bodies	Technical support from international aviation organizations	Conflicts between different regulatory bodies Implementation of regulations, laws, and programs Organizational cultural change
					May 1, 2020	Nov 1, 2019				
<b>Priority No. 2: Development of infrastructure for air navigation and airports</b>										
<b>Achieving Sudan's Revolution goals: Peace and Prosperous Economy</b>										
2.1	Increase the capacity of Khartoum Airport	Preparation of necessary studies & tenders by relevant committees Set the Initial design of airport site plans by The Airport Engineering Company Bidding tenders by the Tender Committee (air traffic areas, lounges, buildings, air freight villages, warehouses , etc.) Determine necessary systems, devices, equipment and facilities by specialized committees	Enhancing the operational efficiency Improving the quality of services Expansion of air traffic areas and lounges, and construction of a transit lounge Provision of necessary devices and equipment, systems and facilities Optimal utilization of sites, buildings and available spaces in the airport	Reduce service time Increasing customer satisfaction Increase Revenue Site plan of the airport Increase the traffic of aircrafts, passengers, cargo and mail Increase the number of airlines Effective operating systems	Six months - continuous		Ministry of Finance Sudan Airports Holding Company Ministry of Finance Civil Aviation Authority Khartoum International Airport The state of Khartoum The Airport Engineering Company Systems and equipment	Partial self-funding Engineering designs Qualified human resources Required space for expansion	Update technical studies Importing construction materials Operating systems (security systems, Intelligent Transportation Systems (ITS), etc.) Approvals of other competent authorities (state, customs .....) Consultancy offices in the sector Coordination with industry stakeholders	Funding for the six months period Coordination with relevant
					May 1, 2020	Nov 1, 2019				
2.2	Increase the carrying capacity of the airports Three Regions and production areas (Zalingei, Daein, White, Damazin, Kassala, Kadugli, Sudan)	Prepare necessary studies & tenders by relevant committees Set the Initial design of airports sites plans by The Airport Engineering Company Tenders bidding by committee Determine necessary systems, devices, equipment and facilities by specialized committees	Enhancing the operational efficiency Improving the quality of services Expansion of air traffic areas and lounges, and construction of a transit lounge Delivering balanced Completion of financing Portsudan airport Provide minimum environmental requirements (noise, air quality, emissions, etc.)	Reduce service time Increasing customer satisfaction Increase Revenue Effective communication between the center and the Three Regions and ensuring provision of basic services and assistance Modern equipment Site plans of airports Satisfying environmental requirements	Six months to a year		Ministry of Petroleum and Gas, Ministry of Finance, and Customs  Civil Aviation Authority National Environment Council Sudan Airports Holding Company Airlines The state of Khartoum Concerned States related to these airports	Partial self-funding Proposed engineering designs Qualified human resources Required space for expansion Identified environmental	Update technical studies Importing construction materials Operating systems (security systems, Intelligent Transportation Systems (ITS), etc.) Approvals of other competent authorities (state, customs .....) Consultancy offices in the area Coordination with industry Effective environmental	Funding for six month period Coordination with relevant Provide sufficient quantities of fuel in airports
					May 1, 2020	Nov 1, 2019				
2.3	Increasing carrying capacities in airspace management and flight information systems and provide safety, security, and quality systems	Formation of committees to prepare studies, determine the technical specifications, and finalizing committees' work Supply and installation of communications and air navigation equipment at each stage Supply and installation of a grid system for monitoring and control of various navigational devices via the navigation center Update air navigation, quality, safety and security systems Automated air traffic information	Implementation and compliance with air safety Smooth and safe air traffic Development of the technical performance Measuring and monitoring safety Enhancing the operational efficiency and quality Increasing air traffic information accuracy, security, and reliability Provision of systems and services and ensure	Sophisticated navigation systems Increase Revenue Achieving safety in air traffic Enhance the efficiency of air navigation Increase the availability and reliability of	Six months to 3 years		Ministry of Finance Ministry of Defence Sudan Airports Holding Company	Organization legislation Self-financing Studies, systems, devices, and equipment Qualified human resources Phasing plans	Required plans for each stage Regional & global experiences Global Plan of Air navigation Directons of Regional Plans Technical and advisory support Coordination and integration with the region states	Funding for the implementation period Required funds Economic embargo Rehabilitation of the human staff to keep up with new developments
					May 1, 2020	Nov 1, 2019				
<b>Priority No. 3: restructuring of the aviation sector</b>										
<b>Reform of the state and the achievement of social justice</b>										
3.1	Determine optimal subordination of civil aviation authority	Formation of specialized committees Organizing workshops Formulation of the outputs of the committees Presenting recommendations to the concerned	Determining the subordination of civil aviation to the relevant and appropriate ministry that match its nature and activity	Committees recommendation Sovereign decree to determine the dependency of civil aviation	six months		Council of Ministers Parliament Defense Ministry Ministry of Justice Civil Aviation Authority Sudan Airports Holding Company	internation best practice Currently existing institutions Segregation reports Strategic Plan for Civil Aviation Strategic Plan of the Holding Private companies operating plans in the aviation sector	Expertised consultancy offices The experiences of other additional	Political will to achieve the goal
					May 1, 2020	Nov 1, 2019				
3.2	Enhance administrative, operational, professional, technical efficiency of the Aviation Sector	Formation of committees to review the segregation and the relationship between the regulatory and service bodies Formation of committees for restructuring the Formation of Job Description committees Formation of a review committee for Committees reports	Preparation organaztional structures describing the relationships between the components of the aviation sector	Organizational structure contains a precise description of the tasks and burdens, and relations between the aviation sector institutions  Decrees and regulations issued by the concerned authorities (the Council of Ministers, the Council of sovereignty)	six months		Civil Aviation Authority Sudan Airports Holding Company Council of Ministers Ministry of Defence	Qualified human resources Required space for expansion Current organizational structures Strategic Segregation reports Technical Studies (Falcon)	Expertised consultancy offices in the preparation of structures Other States' experiences in the private aviation sector structures (similar structures)	Funding for the six months period Coordination with relevant authorities
					May 1, 2020	Nov 1, 2019				
3.3	Reducing governmental role and increasing partnerships between the public and private sectors	Provide aviation information, ensure continuity, accuracy, and information validity to guide decision making, investors and relevant organizations	Increase role of private sector		six months		Civil Aviation Authority Ministry of Finance	Qualified human resources	capacity building	active laws and legislations
					May 1, 2020	Nov 1, 2019				

Action Plan for Aviation

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 4: Improving civil aviation infrastructure and information technology systems</b>										
<b>Achieve economic goals and reform of state institutions</b>										
4.1	Enhance Operation efficiency, improving the quality of service provided and maximize aviation and non-aviation revenue	Forming review committees to assess current situation of the infrastructure and systems in the airport and civil aviation authority	Introduce modernized information system and network Provision of necessary devices, equipment, and facilities Development of navigation systems and air traffic information Implementation of automated billing system Application Information Security System	Adherence to international standards Updated system and network Time for service provision % improvement in customer satisfaction ratings Increase Revenue	six months		Ministry of Finance Civil Aviation Authority Sudan Airports Holding Company National Information Center	Partial self-funding Previous plans, proposals, and acceptable provision of devices and technical equipment Previous studies Previous contracts	Expertise and specialized consulting Finance Capacity building	Funding Coordination between relevant authorities Weak capacities in management and operation of systems The multiplicity of systems used in a single institution European and US embargo on the aviation sector
					May 1, 2020	Nov 1, 2019				
4.2	Provide aviation information, ensure continuity, accuracy, and information validity to guide decision making, investors and relevant organizations	Forming technical committee to study the alternatives and the plan-oriented information at the airport and authorities	Provision high quality information of air traffic to state and international organizations	Accurate air traffic information dissemination of information	six months		Ministry of Finance Civil Aviation Authority Sudan Airports Holding Company National Information Center	Partial self-funding Previous studies Previous contracts	Expertise and specialized consulting Finance Capacity building	Absence of scientific methodology in the implementation of complementary systems
					May 1, 2020	Nov 1, 2019				
4.3	Updating electronic announcement, information and guidance system within airports	Preparing necessary studies by relevant committees and Tender development preparing the initial design by competent staff Tender bidding by the Tender Committee Provision of necessary devices, equipment, and facilities by relevant committees Training of technicians	Enhancing operational efficiency Improving service quality Maximizing revenue Increasing customer satisfaction	Reducing service time Increasing customer satisfaction Increasing revenue Effective communication between the airport and the beneficiaries of airport services Electronic information services and efficient digital screens advertisements within the airports	six months		Sudan Airports Holding Company Ministry of Finance Civil Aviation Authority The state of Khartoum Ministry of Culture and Ministry of Tourism Ministry of Communications and Concerned states Airlines Beneficiary companies	Partial self-funding Previous studies Can be fully self-financed	Update technical studies Approvals of competent authorities (jurisdictional, Coordination between the	Coordination between the Previous contracts Rehabilitation and training of cadres for the management and
					May 1, 2020	Nov 1, 2019				
<b>Priority No. 5: Review and formulation of a comprehensive civil aviation sector strategy</b>										
5.1	Development of an ambitious	Formation of audit committees of civil aviation strategy 2017-2031 Appointment of advisory team Developing draft strategy Involving all relevant parties in strategy development Approval by competent minister and relevant regulatory governmental and Legislative Council Implementation of control activities and activation of quality systems by the Civil Aviation Authority. Formation of a higher committee for statistics and optimal utilization of resources	Development of the road map for the development of the aviation sector in Sudan "Establishing an ambitious strategy for Sudan aviation industry compatible with the next generation of the aviation industry "Next Generation Achieving the best levels of safety in the air aviation system in accordance with international standards. Achieving service quality and customer Airport development and support for the purchase of modern equipment and systems	Approved, written, and published Roadmap for the institutions of the sector for the development of the aviation sector in Sudan Phasing plans Operational plans for each institution	six months		Civil Aviation Authority Sudan Airports Holding Company Council of Ministers Ministry of Defence Defence Minister Airlines Service providers The National Council for Strategic Planning Council of Ministers Ministry of Petroleum and Gas Ministry of Finance	The current strategy Annual operating plans Qualified staff Information about the constituent institutions of the aviation sector. Previous studies Laws and regulations Bilateral and multilateral agreements for air transport services	Similar references in the field of Houses of expertise National Strategy Airlines and service companies Similar references to investment in the field of aviation Specialized expertise houses National Strategy	Formulation and preparation of Poor planning and strategic culture among industry partners Lack of accurate information about the reality of current statistical information of aviation US and European embargo Funding for projects Coping with the laws
					May 1, 2020	Nov 1, 2019				
<b>Priority No. 6: raising economic, technical and operational efficiency of service providers and national airline companies</b>										
6.1	Raise economic, technical and operational efficiency of service providers and national airline companies	Performing necessary studies to establish Civil Aviation policies and standards Formation of committees to study investment opportunities in airports and increase non-aviation revenue Formation of committees for safety, facilities, security, and technical committees in airports Review halls, squares, airports, service providers contracts Removing intersections in the laws and	Development of equipment and air navigation Employing proportion of resources in staff development Developing and encouraging scientific research in the field of aviation Compliance with European standards to be delisted from no-fly system Restoring confidence of European airlines to operate in Sudan Airports management on economic basis Increasing carrying capacities in airspace, airports, and airline fleet Best use of the resources of civil aviation in industry development Promoting economic and technical control over the national airlines service providers Increasing efficiency of the performance of service providers through the safety audit, security, facilities and quality systems	Consistent Laws and regulations Effective operational systems Quality Systems and Safety certified and approved Increase revenues Career Succession Plan Preparation of the program of the next generation of aviation professionals Development of Aviation Research Plan Optimal use of Sudanese airspace and airports	six months		Tourism and Investment Sector Ministry of Defence Competent ministerial sector Civil Aviation Authority Sudan Airports Holding Company Airlines and service providers The National Council for Strategic Khartoum State and other states Contracting companies in Khartoum airport and state airports Fuel companies Air navigation Relevant international organizations (AASA, IATA, etc.)	Documents, supplements and versions of the International Civil Aviation Organization Legal contracts Airports Limited operating systems	Airlines and service companies Airports Council International (ACI) Legal contracts relating to activities within the airports Papers and recommendations of	Training and rehabilitation
					May 1, 2020	Nov 1, 2019				

Action Plan for Aviation

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 7: Enhance coordination between civil aviation and related organizations of the State</b>										
<b>Achieve economic goals and reforming state institutions</b>										
7.1	Enhance coordination between civil aviation and relevant government institutions	<p>Formation of a supreme committee to confine intersections and joint business</p> <p>The preparation of a road map regulating the relationship between civil aviation and related institutions</p> <p>Unify policies</p> <p>Hold bilateral memoranda of understanding with the relevant institutions</p>	<p>Achieve the highest levels of cooperation and coordination between government institutions to serve national interests</p> <p>Avoiding inconsistent decisions negatively affecting the aviation sector</p> <p>Raise the quality of performance, quality of service, and customer satisfaction</p> <p>Achieve the highest revenue rates</p> <p>Continuity of air transport operations</p>	<p>Road map governing the relationship between government institutions</p> <p>Well studied and agreed upon decisions between relevant institutions</p> <p>Increase revenue</p> <p>bilateral and collective memoranda of understanding</p> <p>Administrative, technical and economic efficiency rates</p> <p>Raise the rates of safety, security and facilities</p>	<p>six months</p>	<p>May 1, 2020</p> <p>Nov 1, 2019</p>	<p>Council of Ministers</p> <p>The competent ministry</p> <p>Competent ministerial sector (finance, interior, oil, foreign affairs, tourism, taxes, the Bank of Sudan, urban planning, security agencies )</p> <p>Aviation Authority</p> <p>Sudan Airports Holding Company</p> <p>Air transport industry</p> <p>The National Council for Strategic States</p>	<p>National Comprehensive Strategy</p> <p>The aviation industry's strategy in Sudan 2017-2031</p> <p>Publications and supplements of international organizations for the aviation sector</p>	<p>Goverment institutions plans</p> <p>Laws and legislation for each sector or institution</p> <p>Database of the relevant decisions of the state institutions affecting the aviation sector</p>	<p>Poor coordination and slow response in communication between government institutions</p> <p>Multiple charges and levies imposed on the aviation sector institutions</p> <p>The intersection of decisions without coordination</p> <p>Conflicts of interest between different institutions</p>
<b>Priority No. 8: Review the charges of airports, airfields, air navigation services and the cost of aviation services and fuel</b>										
<b>Achieve economic goals and reform of state institutions</b>										
8.1	Establishing operational policies for airports to stimulate service providers and economic returns that helps in continuity and growth of air transport	<p>Formation of a committee to review flight fees schedules and prices of aviation services using supplements and versions of the International Civil Aviation Organizations regarding fees and service cost and consult industry stakeholders</p> <p>Formation of a committee to review the pricing methodology and the development of jet fuel prices taking into account the interests of the industry at airports and using the International Civil Aviation Organization supplements and versions regarding fair competition in addition to coordinating with industry stakeholders to guarantee sufficient and continuous flow of fuel</p>	<p>Establishing a structured framework to modify the formulation and adoption of fee schedules and prices of aviation services</p> <p>Approval of fee schedules by competent authorities</p> <p>Appropriate pricing for aviation fuel at airports to raise the volume of traffic and increase non-aviation and aviation revenue</p> <p>Approving prices of aviation fuel by the competent authorities</p>	<p>Air traffic volume indicators</p> <p>Fair and realistic fee schedules and prices of services at airports acceptable to service providers through a survey assessing their satisfaction</p> <p>Fair and balanced revenue achieving stakeholders' satisfaction in the sector</p> <p>Increasing rates of use of jet fuel in airports and increasing the volume of passenger and cargo transport per trip</p> <p>The relative stability of the current operations and increasing rates of public air transport operations</p>	<p>six months</p>	<p>May 1, 2020</p> <p>Nov 1, 2019</p>	<p>Council of Ministers</p> <p>Competent ministerial sector (financial, oil, Central Bank of Sudan Aviation Authority</p> <p>Ministry of Defence</p> <p>Aviation Authority</p> <p>Sudan Airports Holding Company</p> <p>Air transport industry</p> <p>States</p>	<p>Charges schedules for Airports, airfields and air navigation 2011 and 2018</p> <p>Prices schedules of aviation services at airports</p> <p>Publications and supplements of the International Civil Aviation Organization for this matter</p> <p>Studies and reports by the Civil Aviation Authority especially the former air traffic volume data</p> <p>Part of the decisions and publications of aviation fuel prices (monthly)</p> <p>Specialized staff</p>	<p>Relevant resolutions of the government institutions affecting the aviation sector</p> <p>Related studies in this regard</p> <p>Decisions and minutes of meetings and publications of aviation fuel prices (monthly)</p> <p>Pricing methodology for jet fuel in dollars and the Sudanese pound</p> <p>Rates of fuel quantities in Sudan airports compared with the global and regional rates</p>	<p>Conflicts of interest between different institutions</p> <p>Poor coordination and slow communication response between Governemnt institutions</p> <p>Multiple charges and levies imposed on the aviation sector institutions</p> <p>Sudden decisions in the pricing of jet fuel</p> <p>Levies imposed on aircraft fuel in the states</p>
<b>Priority No. 9: reformation and rehabilitation of Sudan Airways</b>										
9.1	Achieve financial, technical, administrative and economic efficiency and to ensure continuity of Sudan Airways operations	<p>Formation of a committee to review Sudanair and develop a plan for the rehabilitation and restructuring, and develop a plan to take advantage of regional partnerships and alliances</p> <p>Rehabilitation and modernization of the fleet of Update ground handling equipment and The Aircraft Catering</p> <p>Development of Aircraft Maintenance Workshop</p> <p>Development of booking and marketing systems</p> <p>The development of the company's restructuring</p> <p>Smart Partnerships with relevant international institutions</p>	<p>Conclude the feasibility of developing Sudanair</p> <p>Continuity and sustainability of Sudanair operations efficiently and competitive with other companies.</p> <p>The development of an effective organizational Increase Sudanair revenues</p> <p>The best use of all company's resources inside and outside Sudan</p> <p>The implimentation of the quality and excellence systems in the company</p>	<p>Acceptable return on investment to justify injecting money into Sudanair</p> <p>High occupancy rates compared to commercial counterparts</p> <p>Quality indicators in all Sudanair operations</p> <p>Revenues commensurate with the feasibility study</p> <p>Continuity of efficient operations of Sudan Airways and achieve the highest rates of operation</p> <p>Continuity and sustainability of Sudanair operations efficiently compared with other companies.</p> <p>Increase Sudanair revenues</p>	<p>six months</p>	<p>May 1, 2020</p> <p>Nov 1, 2019</p>	<p>Council of Ministers</p> <p>Ministry of Defence</p> <p>Competent ministerial sector (Finance, Central Bank of Sudan</p> <p>Sudan Airways</p> <p>Civil Aviation Authority</p> <p>Sudan Airports Holding Company</p>	<p>Studies and papers from previous Air transport services agreements, bilateral and collective</p> <p>Fixed assets, aircraft and ground handling equipment, Aircraft catering and maintenance workshop</p> <p>Current organizational structure</p> <p>Cargo warehouse</p> <p>Qualified and efficient human resource</p> <p>The aviation industry laws</p> <p>Studies and reports</p>	<p>Finance</p> <p>Necessary studies for the rehabilitation</p> <p>Expertised consultancy offices</p> <p>Smart partnerships</p>	<p>Finance</p> <p>US and European embargo</p> <p>Debt on the company</p> <p>Suspended employees of the Sudanair</p>

Action Plan for Aviation

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 10: Capacity building and training of air transport professionals</b>										
<b>Achieve economic goals and reform of state institutions</b>										
10.1	Capacity building, raising the efficiency of professionals in the air transport sector, effective contribution of scientific research in the development of the aviation industry and the dissemination of the culture of aviation	<p>Formation of specialized committees to study the development of training and education in the field of air transport</p> <p>Developing a training plan for certified trainers and curriculum developers</p> <p>Formation of a higher committee of specialists and representatives of the relevant ministries and Civil Aviation Authority to organize and support scientific research on the aviation industry</p> <p>Develop a plan to get international accreditation for training and education institutions in the field of aviation</p> <p>Partnerships with relevant international institutions</p> <p>Develop a plan for the establishment of aviation clubs</p>	<p>Raise the administrative, technical and operational efficiency of the professionals of the air transport sector through clear measurable programs</p> <p>Rehabilitation, development of training institutions, and education in the field of aviation</p> <p>Reach a sufficient number of qualified and competent staff for the operation and management and sustainability of the air transport system, the current and future based on international standards for safety, capacity and efficiency of air navigation, aviation security and facilities, economic development of air transport and environmental protection</p> <p>The formulation of the rehabilitation plan and the training of the human staff of each institution and to be linked to their career paths.</p>	<p>Plans to support human resources development strategies for the aviation industry</p> <p>Staff rehabilitation through a training course linked to career path and relevant to the steady development in the industry field</p> <p>Rehabilitation plan and the adoption of qualified and accredited training institutions using innovative training techniques</p> <p>Raise public awareness through the culture of aviation magazines, publications, scientific research in the field of aviation</p> <p>Memoranda of understanding with the training institutions</p> <p>Achieving satisfaction of trainees and their institutions</p> <p>A list of permanent institutions or committees oriented to scientific research</p>	May 1, 2020	Nov 1, 2019	<p>Council of Ministers</p> <p>Ministry of Defence</p> <p>Competent ministerial sector (Finance, Central Bank of Sudan)</p> <p>Civil Aviation Authority</p> <p>Sudan Airports Holding Company</p> <p>Higher Education</p> <p>National Training Center</p> <p>Training Council-Khartoum State</p> <p>Centers and training academies</p> <p>Relevant international</p>	<p>Accredited training institutions</p> <p>Previous training plans</p> <p>Partnerships with international and regional relevant institutions</p> <p>Certified Curricula and courses</p> <p>Specialized academic programs</p> <p>Certified Trainers</p> <p>Manual of accredited of training institutions- (Doc 9841-ATOs)</p> <p>Training Development Guide (Doc Supplement No. 1 to the Chicago Convention</p> <p>Regaulation No. 1- Civil Aviation</p> <p>The training methodology on capacity building (Doc 9941-TDG-TCB)</p> <p>Training Manual (Doc 9868-PANS-TRG)</p>	<p>Finance</p> <p>Realistic plans for training</p> <p>Linking the training track with career path plans</p> <p>Government support for training and education institutions</p> <p>Institutions and related organizations</p> <p>Coordination between concerned authorities to certify aviation training institutions (Civil Aviation Authority, the National Council and state)</p> <p>The preparation of regulations governing the work of aviation clubs and drones</p>	<p>Finance</p> <p>Employ graduates and trainees in specialized jobs</p> <p>Identification of training needs</p> <p>Job analysis and determine the career path</p> <p>Ability of training institutions to meet the requirements of international accreditation</p> <p>Conflicted laws and regulations in the certification of training institutions (Civil Aviation Authority, the National Council for Training, Training Council Khartoum State)</p> <p>Linking scientific research the aviation industry challenges and problems</p>



**Action Plan for Water Transport**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Funding)	Resources Needed (Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>(Priority No. 1: Restructuring: River and Maritime Transport -Urgent</b>										
1.1	Restructuring of River Transport Authority	To merge Sudanese Co & Nile Co. into one firm Provide Capacity building and technical support	Merging Government owned Companies	Completion of merger	3 Months		Council of Ministers Ministry of Transport and Urban Development Ministry of Finance and Economic Planning Ministry of Labour and Human Development Ministry of Justice	Self-Financing		Dealing with Shares of Foreign Companies
					Nov. 1st 2019	Feb 1st 2020				
1.2	Restructuring of Sea Ports	Reduce Manpower Reassess and amend laws and regulations  Review Job Descriptions	Increasing the production and financial efficiency of the ports Optimize operational cost	Detailed Job Descriptions Updating Maritime Laws & Regulations	6 Months		Ministry of Infrastructure and Transport Ministry of Justice The National Legislature Ministry of Labour and Human Development Expertise	Self-Financing		developing alternative job opportunities for surplus employees
					Nov. 1st 2019	May 1st 2020				
1.3	Establishment of Sudan Sea Ports Corporation	Separate the Maritime affairs from the Ports Authority Establishment of Sudan Ports Corporation  Conducting a conference on Maritime Transportation Establishment of Advisory Board for the Minister	Separate operation from supervision and sovereign action	Revision of Maritime Transportation 2010 Laws & Regulations  Repeal the Port Authority Law Update regulations to conform to international laws	Months 3		Ministry of Infrastructure and Transport	Maritime Transportation 2010 Laws & Regulations Self-Financing Technical staff		Management and work protocols  Work organization methods
					Nov. 1st 2019	Feb 1st 2020				
1.4	Restoration of the National Carrier	Re-establishment of Sudan Sea Ports Corporation Decision of Council of Ministers	establishment of the national carrier	Re-establishment of Sudan Sea Ports Corporation Financial liquidation of Sinjib's	1 Month		Prime Minister  Central Bank of Sudan	Previous Laws of Sudan-Line and the technical staff		
					Nov. 1st 2019	Dec 1st 2019				
<b>Priority No. 1: Restructuring - River Transport - Intermediate</b>										
1.5	Localization of the Maritime transport industry	Establishment of new laws, regulations and structure Formulation of specialized and qualified technical committees Appointment of a foreign consultant to prepare job description and evaluation	Rehabilitation the River Transport Corporation to contribute to setting policies and specifications for Maritime transport Rehabilitation the River Transport Corporation  Reassessment of the Corporation	Maritime Navigation Regulation Specifications of vessel building Navigational use regulations	6 Months		Ministry of Infrastructure and Transport Ministry of Justice National Standards and National Legislature Ministry of Labor and Social Development	Laws & Regulations	\$300,000 Consultancy Fees	qualified Manpower
					Nov. 1st 2019	May 1st 2020				
1.6	Activating the Nile Valley Authority for Navigation	Increased of Vessels (10 units) Modernization of Wadi Halfa Port	Contribute to the development of the region as an economic return	Facilitating the movement of 10 floating Vessels split in half between Sudan and Egypt	6 Months		Sudan & Egypt Local Governments Private Sector Maritime Transportation Companies	\$30,000,000 Fund to provide 10 Vessels	\$30,000,000 Fund to provide 10 Vessels	Political relations between the two countries The success of the Alrey Al-Masry and Osama Dawood projects
					Nov. 1st 2019	May 1st 2020				
<b>Priority No. 2: Rehabilitation and Upgrading of existing infrastructure- (maritime transport) - Intermediate</b>										
2.1	Localization of the Maritime transport industry	Increasing of Staking/ Storage Capacities Modernizing communication systems Provision of floating docks	Modernizing the Port Increasing the number of specialized Ports  Conversion of Port Sudan port into a hub port	Trans-shipment Transit Increase the capacity of the Port to 1 Million TEUs	6 Months		Ministry of Infrastructure and Transport Ports Management Ministry of Finance	Self-Financing	\$ 50,000,000	qualified human resources
					Jan 1st 2020	July 1st 2020				
2.2	National shipping carrier	Purchase of Maritime transport Vessels	Implementing an urgent remedial programme	4 passengers unit	Months 6		Ministry of Infrastructure and Transport Carrier Company	Maintenance of existing vessels	\$20,000,00 for vessels	Immediate remedial plan as vessels are not new
					Jan 1st 2020	July 1st 2020				

**Action Plan for Water Transport**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and) (Funding)	Resources Needed (Technical and) (Funding)	Potential Implementation Challenges/ Issues
					Start	End				
2.3	Sudan Sea Ports Corporation	Rehabilitation of Berthes Increasing of Staking/ Storage Capacities  Upgrading handling Cranes and increase the efficiency Modernization of communication systems  Increasing and rehabilitation of Tug Boats	Modernization of the Port Increasing of the number of specialized Ports  Conversion of Port Sudan port into a hub port	Trans-shipment Increasing the port's capacity to 2 million containers	2 Years		Ministry of Infrastructure and Transport Ports Managment Ministry of Finanace and Economic Planning	Self-Financing	\$50,000,000	Human resources and qualification
					Nov. 1st 2019	Nov. 1st 2021				
2.4	National shipping carrier	Purchase of Maritime transport Vessels  Building of specialized Maritime transport Vessels Rehabilitation of Container Manufacturing Unit	Implementing urgent action plan	purchase of 2 rolling Vessels purchase of 2 grain transport vessels  purchase of one livestock vessel	Months 6		Ministry of Infrastructure and Transport Ministry of Finanace and Economic Planning Carrier Company	Maintenance of existing vessels	\$125,000,000 for vessels \$15,000,000 for rehabilitation of container's building unit	Immediate action plan vessels are not new
					Jan 1st 2020	July 1st 2020				
<b>Priority No. 2: Rehabilitating and Upgrading existing infrastructure (river transport) - Intermediate</b>										
2.5	Rehabilitation of River transport lines	Removing navigational obstacles Rehabilitation of the Kosti-Juba shipping line  improve Channel cleanliness	Improve Maritime navigation	Placing navigation signs along the navigation line (70% completion)	12 Months		Sudan and South Sudan Governments	available studies	\$60,000,000	political issues
					Jan. 1st 2020	Jan. 1st 2021				
2.6	Openning of Atbara-Kosti navigational line	Conduct a study for the effectiveness of the shipping line Development of designs for river beds Establishment of a Maritime port in Atbara and in Khartoum North	Cheap transport - Utilization of the Channel  Increasing the production of cement factoris, converting the cement market to North Bahri	Introduction of navigation signs along the navigation line (70% completion)  Activation of vessles through this line	18 Months		Maritime Transportatation Authority Private Sector	A completed study of the existing shiping lines	5000000 for navigation signs  for the two ports 15000000 and the handling within them	Suitability of manufactured vessels for the current shipping lines
					May 1st 2020	Nov. 1st 2021				
2.7	Establishment of a River Transport company in Khartoum	Recover old assets Rehabilitation and re-evaluation of river Vessels Providig 11 new river busses Establish new navigational signs Building 84 river docks in the capital	Participating in resolving the transportation crisis in the capital city Activating a new economic sector Encouraging tourism Achieving financial income Support the Sudanese economy	Construction of 13 berths as a first stage Maintenance of 4 Vessels and upgrade their engines Building new 11 vessel busses	Years 3		Ministry of Infrastructure and Transport Ministry of Finanace and Economic Planning	Maintenance of Maritime Buses Berthing/ docking facilities in the future plan	\$35,000,000	Reaching an agreement with Jiyad
					Nov. 1st 2019	Nov. 1st 2022				
<b>Priority No. 3 : Fighting Corruption - Urgent</b>										
3.1	Fighting corruption	Reviewing contracts for privatizing Maritime transport Performing audit on Nile Valley Authority returns, descent and employment  Review the sale of ships Gulf War compensations Illegal dismissal (700 pilots)	Recovering the plunderd state property	Identify the guilty ones, prosecute them, and return the stolen money	6 Months		Ministry of Infrastructure and Transport Judicial and legislative Ministry of Finanace and Economic Planning Audtion General	Auditor General's Report	Provides evidence, witnesses and documents	The lack of a transportation related section in the Ministry of Finance
					Nov. 1st 2019	May 1st 2020				
<b>Priority No. 4: Localization of Technology, Intermediate</b>										
4.1	Localizing the manufacturing of floating pontoons and establishing local firms to help with vessle maintainance.	Vessels building factories Training and qualification of technical staff  Determine the appropriate places for the factories (a factory in Sawakin for maritime transport) and (a factory in Al Shajra area for Maritime transportation)	Localization of technology Meet the local demand of marine Vessels and river banks  Raising the standards of living	Building both factories Staff Training	18 Months		Ministry of Infrastructure and Transport Ministry of Finance Ministry of Commerce Industry  Foreign Partner		\$80,000,000	Find the best international partner Finding fund
					Jan. 1st 2020	Jul 1st 2021				
4.2	Establishing a marine academy - preparing, approving and implementing extensive plans for training and rehabilitation	Establishment of a marine academy Training of marine staff Training technical staff Teaching shipbuilding engineering	Train staff to fill the shortage in the marine market	Curriculum and assets work completed	6 Months		Ministry of Infrastructure and Transport Ministry of Higher Education  Arab Academy for Maritime Transport	Prepared academic curricula  Buildings for Port Sudan Training Center	\$10,000,000	Providing qualified staff
					Nov. 1st 2019	May 1st 2020				



## 6. Water Utilities and Drainage



**Action Plan for Water Utilities and Drainage**

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and) (Funding)	Resources Needed (Technical and) (Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 1: Urgent Interventions</b>										
1.1	Completion of ongoing projects for drinking water utilities	Activating the completion of the current/ongoing projects for drinking water facilities, after reviewing their studies and providing the necessary funding for their completion within the Macro Plan project	Completion of drilling and operation of 350 water wells in the various states of Sudan  Completion of 6 Nile water stations Completion of 6 integrated water stations	The number of wells that have been completed in terms of construction, The number of stations that have been completed in terms of construction, operation and entry into service	6 months  Nov. 1st 2019   May 1st 2020		Ministry of Irrigation and Water Resources / Potable Water and Sanitation Unit  Khartoum State Sanitation Authority	60% to 80% completion rate in all projects, equivalent to about \$ 15 million spent in previous stages of construction	5 Million Dollars	re-evaluating and amending existing contracts in response to the high inflation rates
1.2	Carrying out a study to solve the problem of outbreaks in the existing sewage networks in Khartoum State	Evaluating and preparing a study to redesign the existing sewage networks in Khartoum State to develop the most appropriate solutions to address problems affecting the public health in the neighborhoods covered by the service.	Invitation to tender for the selection of a suitable consultant to conduct a study, evaluate and redesign the existing sewage networks in Khartoum State	Preparing the scope of work and preparing tender documents Approval and provision of the required financing The completion of the study according to technical and financial requirements	6 months  Nov. 1st 2019   May 1st 2020		Ministry of Irrigation and Water Resources / Potable Water and Sanitation Unit  Khartoum State Sanitation Corporation		100 Thousand Dollars	
1.3	Completion of ongoing projects for sanitation utilities in Khartoum State	Completion of current ongoing projects in the sanitation sector in Khartoum State	Bahri pumping station Soba treatment plant Welidat Mountain Station	Approval and provision of the required funding % Completion of work and entry of projects into service	12 months  Dec. 1st 2019   Dec. 1st 2020		Khartoum State Sanitation Authority	85%Of the work in the two projects has been completed, the remaining% is complete	5 Million Dollars	
1.4	Completion of water networks in the city's outer neighborhoods	Completion of the execution of the water networks, in the peripheral neighborhoods of cities not included in Goal No. 1, specifically the areas south of the Green Belt - Khartoum	Acute drinking water supply issues inventory at Sudan's cities level, including the areas south of the Green Belt - Khartoum  Implementing urgent solutions by completing the network projects under construction and wells	Prepare an inventory for the areas with acute water supply issues Urgent treatment plans development and approval % Implementation of proposed solutions and entering of projects into service efficiently and effectively	6 months  Nov. 1st 2019   May 1st 2020		Khartoum State Water Corporation Ministry of Irrigation and Water Resources /Potable Water and Sanitation Unit			
1.5	Setting studies for designing surface drainage networks for rain drains in Khartoum State	Detailed technical studies of the surface drainage network of rain drains in all localities to develop solutions for water flooding problems in the rainy season in the	Preparing detailed technical studies for rain water drainage networks at a total of 500 km in 7 localities in Khartoum State		12 months  Dec. 1st 2019   Dec. 1st 2020		Ministry of Infrastructure - Khartoum State	Less than 10% of the required budget can be provided from the Ministry's resources	250 Thousand Dollars	
1.6	Dams and water harvesting projects	Studying the design of preventive dams on the outskirts of the national capital working to protect the capital from flash floods and as receptacles for harvesting water and as	15 Dams; distributed according to technical study details		12 months  Dec. 1st 2019   Dec. 1st 2020		Ministry of Infrastructure - Khartoum State Ministry of Irrigation and Water Resources			
1.7	Execution of SDG 6 target in areas of displacement population	Providing healthy and sustainable drinking water and sanitation networks in pilot villages for the scientific and sustainable resettlement of the displaced people	Preparing detailed technical studies for drinking water and sewage networks systems in the settlement villages of the displaced	Preparing the scope of work and tender documents for the technical study Approval and availability of the necessary funding to prepare the study  Choosing the consultant, conducting studies and preparing bid files  % Implementation and completion of projects	3 years  Dec. 1st 2019   Dec. 1st 2022				200 Million Dollars	
<b>Priority No. 2: Raising Awareness</b>										
2.1	Raising environmental awareness and ensuring community participation in preparing and following up project implementation	Raising awareness of the goals and benefits of projects implemented for the community to reduce negative behaviors in dealing with surface drainage vessels and networks such as clogging of drains by domestic waste, or trying to prevent the establishment of some projects without realizing their importance to the local community	Create a working group of related units, the media, schools and universities, neighborhood committees, and imams of mosques to implement awareness campaigns  Contracting with a consulting office to manage and coordinate the awareness campaigns Provide funding and implement ongoing environmental awareness campaigns	Achievement of immediate goals Positive response of citizens to sector projects	3 years  Dec. 1st 2019   Dec. 1st 2022		Ministry of Irrigation and Water Resources / Potable Water and Sanitation Unit  Roads, bridges and Drains Corporation Khartoum State Water Corporation Khartoum State Sanitation Corporation		25 Thousand Dollars	

**Action Plan for Water Utilities and Drainage**

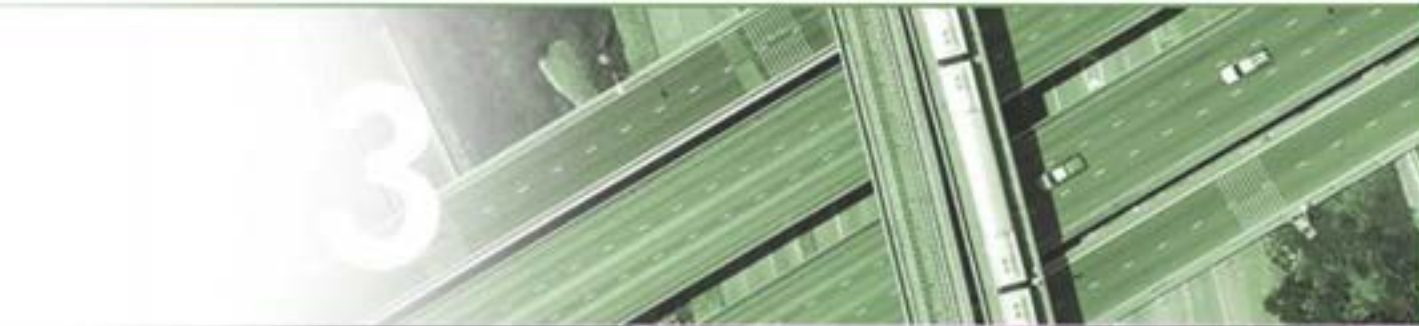
No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and) (Funding)	Resources Needed (Technical and) (Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority No. 3: Financing</b>										
3.1	Provision of the necessary funding for the implementation of projects and plans	Complete the implementation of the water networks, in the peripheral neighborhoods of cities not included in Goal No. 1, specifically the areas south of the Green Belt - Khartoum	Attract foreign and local funding and create smart partnerships with the community to implement sector projects Developing legislation and regulations that Benefiting from international grants in An international conference for the	% Provision of funding for the annual budget	12 months				25 Thousand Dollars	
					Dec. 1st 2019	Dec. 1st 2020				
<b>Priority No. 4: Studies, Planning and specifications</b>										
4.1	Develop comprehensive, sustainable and safe Master National Reference Plans at the national level for drinking water, sanitation and surface drainage facilities	Preparing comprehensive planning and design studies for all states of Sudan dealing with environmental studies and economic and social feasibility	Prepare comprehensive Master Plans for each state	The number of states for which the Master Plan is prepared	2 years		Ministry of Irrigation and Water Resources /Potable Water and Sanitation Unit Khartoum State Sanitation Consultancies			
					Nov. 1st 2019	Nov. 1st 2021				
4.2	Preparing the national guide for the design, construction, operation and maintenance of drinking water, sanitation and surface drainage facilities	Preparation of national specifications and code dealing with aspects of design, construction, operation and maintenance of the following: 1- Urban water 2- Rural water 3- Urban sanitation 4- Rural Sanitation 5- Nomadic adapted toilets	Preparing comprehensive guides for each facility	The guide is complete for each facility	1 year		Ministry of Irrigation and Water Resources / Potable Water and Sanitation Unit  Khartoum State Sanitation Authority Khartoum State Water Authority Consultancies			
					Nov. 1st 2019	Nov. 1st 2020				
4.3	Water harvesting	Review, update, approve and develop previous studies in water harvesting projects at the national level	Create teams of specialized units and consulting offices to carry out the required task		3 years		Khartoum State Water Corporation Ministry of Irrigation and Water Resources / Potable Water and Sanitation Unit			
					Dec. 1st 2019	Dec. 1st 2022				
4.4	Unify the terms of reference for contracts procurement and purchases	Study, review, revise and harmonize FIDIC and local contracts Create standard models for contract and purchase references Create standard models for contract and purchase references	Standardizing contracts reference for sector projects	Issuing reference copies of contracts in Arabic and English language  Reviewing, updating and developing procurement and contracting systems	6 months		Units of potable water, sanitation and drainage Consultancies and contracting companies Ministry of Justice Ministry of Finance			
					Dec. 1st 2019	Jun 1st 2020				

## 7. Roads, Bridges & Traffic Engineering



Action Plan for Roads, Bridges and Traffic Engineering

No.	Objectives	Actions Description	Performance Targets	Indicators	Expected Time Frame		Key Agency and Key Partners (Responsibility)	Available resources (Technical and Funding)	Resources Needed (Technical and Funding)	Potential Implementation Challenges/ Issues
					Start	End				
<b>Priority 1: Financing Issues</b>										
1.1	Efficiency and continuity of financing cash flows	Efficient use of the budget Attracting top investors' using Public-Private-Partnership (PPP) mechanism Issue a Law for Road Maintenance Fund	Provide services according to standards	Approved Budgets Promotion and adoption of PPP contracts		1-3 years	Ministry of Finance Ministry of Infrastructure Ministry of Justice State Ministries	Government Budget Observe PPP laws from countries with equal levels of growth  Funding Donors	Training in annual budget preparation Road Maintenance Fund Law Community Participation	Budget preparation  Ratification of national laws for partnership with the private sector and other sectors.
						01-Nov-19 02-Nov-22				
<b>Priority 2: Road Maintenance and Rehabilitation</b>										
2.1	Development of road and asset maintenance systems	Establishing a committee to prepare the Terms of Reference and to determine the laws and systems of maintenance management or rehabilitation	Road Maintenance Manual Develop effective administrative structures Developing viable work systems Bringing and using inspection and maintenance equipment	Road Maintenance Manual		4-6 Months	Ministry of Infrastructure State Ministries Consulting Firms	Sudanese Standard and Specifications Experiences of similar countries	Training funding	Owning the asset management system and user training
						01-Nov-19 02-May-20				
2.2	Restoring road network serviceability	Carrying out urgent maintenance	Improving traffic safety indicators (e.g. reducing the number of traffic accidents) Efficient and improved traffic flow	% of the serviced kilometre or kilometre restored %		6 Months	Ministry of Infrastructure State Ministries Consulting Firms	Ministry of Finance	Urgent Funding	Funding Determining / quantifying the
						01-Nov-19 02-May-20				
2.3	Conserving the road network and assets	Implementing advanced technologies such as recycling, rehabilitation and routine maintenance	Improving traffic safety indicators (e.g. reducing the number of traffic accidents) Efficient and improved traffic flow	No of Kilometres / year (maintained) out		0-3 years	Ministry of Infrastructure State Ministries Consulting Firms	Ministry of Finance	Urgent Funding	Funding Determining / quantifying the damage/ failure
						01-Nov-19 01-Nov-22				
<b>Priority 3: Institutional Structures between Different Levels</b>										
3.1	Establishing effective, advanced and feasible institutions	Forming a committee to study and modernize the structure of Road Management in Sudan	Proposal for new organisation structures and comprehensive job descriptions Develop a methodology to manage internal and external work intersections / interfaces	Performance evaluation by 'Quality Management' experts Employees questionnaire		3-6 Months	Ministry of Infrastructure State Ministries Consulting Firms	Old organisation structures Annual Performance Reports Past Projects Studies	Funding the Studies work	Disputes due to conflicting inter-ministerial authorities / powers Conflicting Laws
						01-Nov-19 02-May-20				
<b>Priority 4: Laws and Regulations</b>										
4.1	Updating and revising road (construction) industry systems	Forming a specialized stakeholders committee	Procurement and contracting laws and Right of way, property and land ownership, Regulations governing traffic laws, traffic safety, and axial loading check stations. Toll collection	Approved laws and regulations		4-6 months	Ministry of Justice Ministry of Finance Ministry of Infrastructure	Prevailing laws and proposed	Legal experts Road Engineers Financial experts  Financing	Complexities of passing (new and amended) laws
						01-Nov-19 02-May-20				
<b>Priority 5: Develop Strategies and Plans</b>										
5.1	Update Strategic Plans (at the State level)	Formation of a committee to review and update the Strategic Road Plan in Sudan, taking into account national transport sector.	TOR for Master Plan Update	Submit Planning Reports		6-12 months	Ministry of Infrastructure State Ministries Consulting Firms	Previous Plans Technical staff in ministries Government budgets	Attracting funds for studies from funding donors	Time Funding
						01-Nov-19 02-Nov-20				
5.2	Urgent Plan to support and sustain Peace (Peace and Justice Axis)	Establishment of a committee to determine routes and priorities for peace	Project grouping and lists and preliminary estimates for project completion	Final Report		2 Months	Ministry of Infrastructure State Ministries Civil Society Organizations International Organizations	Budget External Aid	International Aid Peace support funds	Time Funding Security and war risks
						01-Nov-19 02-Jan-20				
5.3	Completion of axial and continental roads sectors to support development. (Comprehensive Development Axis)	Form Procurement and Tendering Committee	Construction of two roads for the western axis Construction of two continental roads Tender Documents and Letter of Award	Signed Contracts (Construction + Consulting Supervision)		6-12 Months	National Roads and Bridges Authority Consultants Contractors	Prepared designs Local competencies and expertise	Financing	Funding Climate Land Ownership Inclination (towards certain areas and groups)
						01-Nov-19 02-Nov-20				
5.4	Rural Development (Rural Development Axis)	Establishment of committees to complete rural road networks	Quantifying rural roads (location and lengths) in the provinces and issue bidding docs	Signed Contracts (Construction + Consulting Supervision)		12-24 Months	National Roads and Bridges Authority Consultants Contractors	Prepared designs Local competencies and expertise	Financing	Funding Climate Land Ownership Inclination (towards certain areas and groups)
						01-Nov-19 02-Nov-21				
5.5	Ring roads and bridge crossing over the Nile	Formation of a committee to look into the ownership (and operational responsibility) of the ring roads and Nile bridges	Determine the responsibility of the Federal and State authority in this regard.	Issuing a ministerial decision to resolve the problem of ownership (and operational responsibility)		2 Months	Cabinet Council Ministry of Infrastructure State Ministries	Previous decisions and budgets	Technical staff Budgets	Funding
						01-Nov-19 02-Jan-20				



# Annex 1 Workshop Program



		اليوم الأول	السبت 28/09/2019
		8:00 - 8:30	تسجيل الحضور
		8:30 - 10:00	الجلسة الافتتاحية
رئيس الجلسة: م. عسجد فيصل، مبادرة التنمية العمرانية السودانية مقرر الجلسة: م. أبو بكر حمدي، مبادرة التنمية العمرانية السودانية م. هشام المفتي، اللجنة التنسيقية لبرنامج الاحتياجات والأولويات العاجلة السيد/ مدني عباس مدني م. عسجد فيصل، مبادرة التنمية العمرانية	الكلمة الافتتاحية		
	كلمة لجنة الاحتياجات والأولويات العاجلة كلمة وزير التجارة والصناعة كلمة تعريفية بأهداف وبرنامج الورشة		
		10:00 - 10:15	استراحة ومرطبات
		10:15 - 12:00	الجلسة 2
رئيس الجلسة: د. زحل الطيب عوض، معهد بحوث البناء والطرق مقرر الجلسة: م. عبد الحافظ عبد الباسط، مبادرة التنمية العمرانية السودانية د. أمجد عثمان، مبادرة أساتذة جامعة الخرطوم م. وليد الريح، تجمع المهندسين السودانيين	ورقة أولويات البنى التحتية والإسكان حديث حول "إضاءات على التحديات الإدارية والسياسية لعمل الوزير بوزارة البنى التحتية والطرق والجسور" خارطة الطريق للتنمية العمرانية السودانية تنوير عن طريقة عمل المجموعات المتخصصة، والمخرجات المتوقعة لليوم الأول		
		12:00 - 1:00	استراحة وغداء
		1:00 - 2:50	الجلسة 3
	تحديد القضايا والمشكلات: ماهي التحديات التي تواجه القطاع؟ كيف يمكننا مواجهة هذه التحديات؟ ماهي اولويات العمل الطارئة؟		
		2:50 - 3:00	استراحة وتجهيز للعرض
		3:00 - 4:00	تنوير، عرض ومناقشة
رئيس الجلسة: م. عسجد فيصل، مبادرة التنمية العمرانية مقرر الجلسة: م. ايناس محمد مختار، مبادرة التنمية العمرانية السودانية	تقارير من مجموعات العمل		
	مناقشة وتنوير عن برنامج الغد		



## برنامج العمل

اليوم الثاني		الاحد 29/09/2019
8:00 - 10:00	الجلسة 4	مجموعات العمل وضع خطط العمل للفترة الانتقالية: ماهي الاعمال والخطوات الواجب القيام بها؟ ماهي أولويات التنفيذ؟ من هم المؤسسات المسؤولة والشركاء الرئيسيون؟ ماهي الموارد التقنية والمادية المتوفرة؟ ما هي الموارد التقنية والمادية المطلوبة؟ ما هو المدى الزمني المتوقع؟
10:00 - 10:15	استراحة ومرطبات	
10:15 - 12:00	الجلسة 5	مجموعات العمل وضع خطط العمل للفترة الانتقالية: ماهي الاعمال والخطوات الواجب القيام بها؟ ماهي أولويات التنفيذ؟ من هم المؤسسات المسؤولة والشركاء الرئيسيون؟ ماهي الموارد التقنية والمادية المتوفرة؟ ما هي الموارد التقنية والمادية المطلوبة؟ ما هو المدى الزمني المتوقع؟
12:00 - 1:00	استراحة وغداء	
1:00 - 2:00	الجلسة 6	مراجعة الخطة والتجهيز لعرضها
2:00 - 4:00	تنوير، عرض ومناقشة	رئيس الجلسة: م. عسجد فيصل، مبادرة التنمية العمرانية المقرر: م. ايناس محمد مختار عرض خطط العمل مناقشة
		اللجنة المنظمة كلمة شكر وعرفان
4:15 - 5:30	اجتماع التحرير والصيغة	كتابة الصيغة النهائية للخطة لجنة التحرير والصيغة





**Workshop Participatns Log**

	Name	Organization		Day	
<b>I Physical Planning</b>				<b>1</b>	<b>2</b>
1	Prof. Omer Sidiq Osman	University of Garden City		●	--
2	Arch. Akram Kamal	Ministry of Planning - Khartoum	Chair	●	●
3	Arch. Mayada Abdelraziq	Sudan Urban Development Initiative		●	●
4	Eng. Ashraf Izeldin	University of Khartoum Engineers Association		●	●
5	Arch. Tasneem Osman Mahjoub	Sudanese Architecs Forum SAF	Reporter	●	●
6	Arch. Shadin Alfadil Abdallah	Sudanese Research Group SRG		●	--
7	Dr. Khadija Mohammed Osman	Africa International University		--	●
8	Arch. Andera Faul	Ministry of Planning - Khartoum		--	●
9	Arch. Inas Mohammed Mokhtar	Sudan Urban Development Initiative	Facilitator	●	●
<b>II Housing and Constrcuton</b>				<b>1</b>	<b>2</b>
1	Dr. Alfadi Ali Adam	Univeristy of Khartoum - Faculty of Engineering		●	●
2	Dr. Ahmed Abdallah Mohammed Alhassan	Univeristy of Khartoum - Faculty of Architecture		●	●
3	Dr. Amjad Osman	Univeristy of Khartoum - Faculty of Engineering		●	●
4	Eng. Zeinalabdin Altayib	National Fund for Housing and Recontruction		●	●
5	Eng. Omer Abu-Obaida Karoum	KARPLEN Consultants		●	●
6	Dr. Zuhail Altayib Awad	Sudan Urban Development Initiative		●	●
7	Eng. Hisham Ali Hassan	University of Khartoum Engineers Association		●	--
8	Eng. Gamaledin Tajelesir	University of Khartoum Engineers Association		●	--
9	Eng. Yassir Shaikeldin Mohammed	Consultant - Construction		●	●
10	Arch. Yahia Abdalla Genawi	Genawi Engineering		●	●
11	Arch. Ahmed Hassan Alzabal	Sudan Urban Development Initiative		--	●
<b>III Transportation; Road Transport and Railways</b>				<b>1</b>	<b>2</b>
1	Arch. Asgad Faisal Abdallah	Sudan Urban Development Initiative	Facilitator	●	●
2	Eng. Abdelrahman Idris Ahmed	Sudan Railways Corporation		●	●
3	Eng. Moamer Altayib	Sudan Railways Corporation		●	●
4	Dr. Osman Babiker Mohammed Hamid	Nobles Group Co.	Reporter	●	●
5	Eng. Abdelrahim Mohammed Abdelrahim	Nobles Group Co.	Chair	●	●
6	Eng. Mohammed Abdelgadi Mohammed Kaddam	Sudan Urban Development Initiative		--	●
7	Eng. Rehab Mohammed Hassan	Land Transport Unit		●	●
8	Eng. Abdelhag Ibrahim Abuhasabo	Land Transport Unit		●	●
9	Eng. Abdelal Bushra Alshaikh Dafallah	Federal Ministry of Infrastucture and Transport		●	●
10	Eng. Hisham Ali Ahme Abuzaid	Federal Ministry of Infrastucture and Transport		--	●
<b>IV Air Transport</b>				<b>1</b>	<b>2</b>
1	Dr. Adil Ali Abdelaziz	Sudan Airports Holding Co.	Chair	●	●
2	Mr. Alsadiq Ibrahim Abulgasim	Civil Aviation Authority	Reporter	●	●
3	Dr. Omer Graham Omer	Sudan Airports Holding Co.		●	●
4	Mr. Gamal Ali Nouraldaim	Air Transport		●	●
5	Mr. Abdallah Nouralgail	Sudan Airports Holding Co.		●	●
6	Eng. Mohammed Gafar Alamin	Civil Aviation Authority		●	●
7	Mr. Amin Saad	Aviation Operations - FFC		--	●
8	Eng. Khalid Ragab	Sudan Urban Development Initiative	Facilitator	○	○

	Name	Organization		Day	
<b>V</b>	<b>Water Transport</b>			<b>1</b>	<b>2</b>
1	Dr. Moawia Ali Khalid	River Navigation Authority	Chair	●	●
2	Eng. Adam Muhakar Hamad	River Navigation Authority		●	--
3	Mr. Salaheldin Ibrahim Hassan	Sudanese Sailors Union		●	●
4	Eng. Abelmalik Mohammed Salih Wadidi	Sanjib Shipping		●	●
5	Captin Mohammed Abdelhafiz Abdelhalim	Sudanese Ports Authority		●	--
6	Arch. Nuha Azhari	Sudan Urban Development Initiative	Facilitator	●	●
7	Eng. Waleed Mobarak Babiker Alrayah	Sudanese Engineers Association		●	●
<b>VI</b>	<b>Potable Water, Sanitation and Surface Facilities</b>			<b>1</b>	<b>2</b>
1	Eng. Abubakr Hamdi Mohammed Elhassan	Sudan Urban Development Initiative	Facilitator	●	●
2	Eng. Salah Alsidig Mohamed Alhassan	Ministry of Infrastructure - Water and Sanitation Authority		●	--
3	Dr. Alfadil Abdelrahman Azraq	Univeristy of Khartoum - Faculty of Engineering		●	--
4	Eng. Waleed Hashim	Univeristy of Khartoum - Faculty of Engineering		●	--
5	Eng. Michael Magdi Mudir	Univeristy of Khartoum - Faculty of Engineering		●	--
6	Eng. Norildin Mahmoud Abdallah	Ministry of Infrastructure - Water and Sanitation Authority	Reporter	●	●
7	Eng. Mohammd Dafa-Allah Alhadi	Roads, Bridges and Water Drains Authority-Khartoum	Reporter	●	--
8	Arch. Abubaker Doki	Sudan Urban Development Initiative		●	●
9	Eng. Mohamme Alabid	Sudan Urban Development Initiative		●	●
10	Eng. Omer Alsadig	Roads, Bridges and Water Drains Authority-Khartoum		●	●
11	Eng. Ahmed Mohammed Tahir	Ministry of Infrastructure - Sanitation Authority	Chair	●	●
<b>VII</b>	<b>Roads, Bridges and Traffic Engineering</b>			<b>1</b>	<b>2</b>
1	Mr. Abdelatif Abdelwahab	National Highway Authority		●	●
2	Eng. Mohammed Alfatih Mahmoud	National Highway Authority		●	●
3	Eng. Nahla Hassan Mohammed	National Highway Authority	Reporter	●	●
4	Eng. Ahmed Alhaj	Roads, Bridges and Water Drains Authority-Khartoum		●	●
5	Eng. Khalife Khalil Gomaa	Roads, Bridges and Water Drains Authority-Khartoum		●	●
6	Eng. Mohammed Albdertahman Geli	Roads, Bridges and Water Drains Authority-Khartoum		●	--
7	Eng. Yassir Mohammed Osman Shandi	Techno Group Engineering	Chair	●	●
8	Eng. Mohammed Abderahman Dawi	Sudan Urban Development Initiative		●	●
9	Eng. Abdelhafiz Abdelbasit	Sudan Urban Development Initiative	Facilitator	●	●
10	Eng. Mohammed Shawqi Abdelrhaman	Ministry of Infrastructure - Khartoum		●	--
11	Eng. Saeed Mohammed Saeed	Newtech Consulting		--	●
12	Dr. Almamoun Abdalla Osman	Independent Consultant		●	●
13	Eng. Hassan Sulaiman Abdallah	Sudan Urban Development Initiative		--	●
	Eng. Ahmed Mohammed Haj Ahmed	Roads, Bridges and Water Drains Authority-Khartoum		●	--
	Dr. Ali Mohammed Hamdan Adam	Sudan University - Faculty of Engineering		●	●
	Eng. Osman Ismail	California University		--	●



# Annex 3 Pictures from the workshop









# Annex 4 Submitted Papers



مبادرة أساتذة جامعة الكويت  
لجنة الخطط والبرامج

ملخص توصيات  
ورشة البنى التحتية

أغسطس 2019

## 1. الفهرس

1. الفهرس ..... 2.
2. مقدمة ..... 3.
3. ملخص ..... 4.
4. محور التنمية البشرية والتدريب ..... 6.
5. محور صناعة التشييد والإسكان ..... 7.
6. محور الطرق والنقل ..... 10.
7. محور الري ..... 11.
8. محور مياه الشرب ..... 14.
9. محور الصرف الصحي ..... 15.
10. محور تقانة المعلومات والاتصالات ..... 16.

## 2. مقدمة

في هذا الوقت الفاصل من تاريخ أمتنا المجيدة تحتاج البلاد إلى توحيد صف بنيتها كافة حول رؤية قومية موحدة، تهدف إلى بناء السلام في كل ربوع الوطن ومن ثم الانتقال إلى مرحلة التنمية والبناء الوطني والنهوض بالبلاد في المستقبل القريب، لتكون في مكانها الذي تستحق على المستوى الإقليمي والدولي، فقد حباها الله بكثرة الخيرات والموارد، وتنوع بشري مؤهل وذو خبرة، وثقافة راسخة وتاريخ ممتد في القيم والقدم مما يؤهلها لتكون من كبرى الدول.

استشعارًا للمسئولية وحرصًا على القيام بواجب الوطن، رأت جامعة الخرطوم، عبر مبادرة أساتذتها أن تبادر بصياغة مجموعة من الأوراق والبرامج الإصلاحية، في مختلف القطاعات التنموية والخدمية كالتعليم، والصحة، والاقتصاد، والاستثمار، والطاقة والتعددين، والبنى التحتية... إلخ. عكفت لجان متخصصة في هذه المجالات على صياغة الخطط والبرامج الإصلاحية، ثم نظمت عددًا من ورش العمل دعت لها أهل الشأن والمعنيين بالأمر وأصحاب الخبرة العملية فيه، إضافة إلى الأكاديميين المختصين. عقدت هذه الورش بهدف النظر في إمكانية خلق أرضية ورؤى مستقبلية قومية يساهم في صياغتها أكبر عدد ممكن من الخبراء السودانيين، ثم يتم وضعها بين يدي الحكومة التنفيذية التي ستتولى إدارة البلاد خلال الفترة الانتقالية.

بين يديك أيها القاريء الكريم ملخص التوصيات التي خلصت إليها لجنة خدمات البنى التحتية ضمن لجان المبادرة وذلك بعد تضمين التوصيات التي خلصت إليها ورشة العمل التي أقامتها المبادرة لمناقشة الأوراق الخاصة بمحاور البنى التحتية في يوم 27 أغسطس بدار الشرطة ببري، ونأمل أن نحظى بمناقشتكم حولها وتعليقاتكم عليها بهدف تطويرها وتجويدها.

### 3. ملخص

<p><b>عنوان الورشة:</b></p> <p><b>تاريخ الورشة:</b></p> <p><b>الجهة الممولة:</b></p> <p><b>الجهات المشاركة:</b></p> <p><b>عدد المحاور:</b></p> <p><b>أهداف الورشة:</b></p>	<p><b>البنى التحتية: التحديات والحلول</b></p> <p>27 أغسطس 2019</p> <p>مكان الورشة: دار الشرطة بري</p> <p>1- برنامج الأمم المتحدة الإنمائي (UNDP)</p> <p>2- مبادرة أساتذة جامعة الخرطوم</p> <p>1- مبادرة أساتذة جامعة الخرطوم</p> <p>2- مبادرة خارطة طريق التنمية العمرانية Think Tanks – تجمع مهندسي جامعة الخرطوم</p> <p>3- مبادرة المجموعة السودانية الاستشارية للاتصالات والمعلوماتية SICTA</p> <p>4- مشاركات شخصية وذلك بتقديم أوراق لمختصين من وزارة البنى التحتية -ولاية الخرطوم</p> <p>UNHabitat وشركة أكيد (وكيل شركة نوكيا للشبكات بالسودان)</p> <p>6 محاور</p> <p>هدفت الورشة إلى عرض الأوراق التي أعدتها لجنة البنى التحتية ضمن لجنة الورش والبرامج بمبادرة أساتذة جامعة الخرطوم للمهتمين والمتخصصين في مجالات البنى التحتية المتعددة بغرض بلورة رؤية موحدة تكون سندًا ودعمًا للحكومة الانتقالية في التعااطي مع قضايا القطاع. ولتوسيع قاعدة المشاركة، دعت المبادرة كل الجهات التي قامت بمجهودات مماثلة لعرض مساعيها ومجهوداتها وذلك بهدف توحيد الجهود الرامية لمجابهة تحدياتها وبلورة رؤى موحدة لتطوير قطاعات البنى التحتية المختلفة وحل مشكلاتها في المدى القصير والطويل من خلال مقترحات لخطط عاجلة وآجلة.</p> <p>تم تنظيم الورشة بحيث قدمت الأوراق في جلستين عقبتهما حلقات نقاش. تناولت الأوراق المقدمة في الجلسة الأولى (ساعة واحدة) الإطار التنظيمي للبنى التحتية وسرد القضايا المحورية في صورتها المتكاملة والتركيز على القضايا المشتركة ومقترحات الحل بينما خصصت الجلسة الثانية (ساعتين ونصف) لتناول القضايا الخاصة بكل محور من المحاور التي ركزت عليها الورشة والتي شملت:</p> <p>(1) محور صناعة التشييد والإسكان.</p> <p>(2) محور الطرق والنقل.</p> <p>(3) محور الري ومياه الشرب والصرف الصحي والسطحي.</p> <p>(4) محور خدمات الكهرباء (توصيات هذا المحور ضمن أوراق الطاقة والتعدين)</p> <p>(5) محور تقانة المعلومات والاتصالات.</p>
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مبادرة اساتذة جامعة الخرطوم  
لجنة الورش والبرامج  
لجنة البنى التحتية والخدمات  
**البنى التحتية التحديات والحلول**  
الثلاثاء 27 أغسطس 2019 - دار الشرطة بري  
مقترح البرنامج



رئيس الجلسة	الفقرة	الزمن	
		البداية	النهاية
	الاستقبال والتسجيل	8:00	9:00
ب. عابدين محمد علي صالح	الجلسة الأولى: الإطار التنظيمي لتناول قضايا البنى التحتية	9:00	10:20
	مبادرة أساتذة جامعة الخرطوم ب. إنتصار صغيرون الزين صغيرون	9:00	9:10
	تجمع مهندسي جامعة الخرطوم - مبادرة خارطة طريق التنمية العمرانية Think Tanks م. عسجد فيصل عبدالله	9:10	9:25
	المخطط الهيكلي لولاية الخرطوم م. صلاح الدين يوسف حسن	9:25	9:45
	تصور لآطار عمل تطوير البنى التحتية م. ياسر صبير مستشار CEO-Qrail ومستشار وزير البلدية والبيئة بقطر	9:45	10:05
	الموجهات العامة للفترة القادمة في قطاع البنية التحتية تقديم: ب. كمال الدين الطيب - مبادرة أساتذة جامعة الخرطوم	10:05	10:20
	<b>استراحة الفطور</b>	<b>10:20</b>	<b>11:20</b>
د.مدثر سليمان	الجلسة الثانية: محاور قضايا البنى التحتية	11:20	13:00
	محور صناعة التشييد والإسكان د. أكرم أحمد الخليفة - مبادرة أساتذة جامعة الخرطوم م. عبدالرحمن مصطفى - UNHabitat	11:20	11:40
	محور الطرق والنقل ب. حسين العربي - مبادرة أساتذة جامعة الخرطوم	11:40	11:55
	محور الري ومياه الشرب والصرف الصحي والسطحي د. إشراقه سرالختم - مبادرة أساتذة جامعة الخرطوم د. الفاضل أزرق - مبادرة أساتذة جامعة الخرطوم د. محمد أحمد خدام - مبادرة أساتذة جامعة الخرطوم	11:55	12:15
	محور خدمات الكهرباء د. هبة حسن - مبادرة أساتذة جامعة الخرطوم	12:15	12:25
	محور تقانة المعلومات والاتصالات م. خالد محمد علي - مبادرة المجموعة السودانية الاستشارية للاتصالات والمعلوماتية SICTA م. محمد عيسى عبدالله - شركة أكيد (وكيل شركة نوكيا)	12:25	12:45
	تمويل مشاريع البنى التحتية: الشراكة بين القطاع العام والخاص د. محمد عبدالرحمن مضوي - تجمع مهندسي جامعة الخرطوم	12:45	13:00
	<b>استراحة وصلاة الظهر</b>	<b>13:00</b>	<b>13:20</b>
اللجنة المنظمة	حلقات نقاش	13:20	15:30
	ترتيب وتنظيم مجموعات العمل	13:20	13:30
	النقاش على مستوى المجموعات	13:30	15:00
	تلخيص النقاش وكتابة التوصيات	15:00	15:30
د.مدثر سليمان	الجلسة الختامية: تلاوة التوصيات وختام الجلسة	15:30	16:00

## 4. محور التنمية البشرية والتدريب

### التحديات

- 1- عدم وجود تشريعات وقوانين للاستفادة من المورد البشري كواحد من ركائز البنى التحتية الأساسية لتحقيق التنمية المستدامة والنمو الاقتصادي.
- 2- ضعف استراتيجية الدولة فيما يتعلق بالمورد البشري وعدم وجود مشروعات وخطط للتحكم في النمو السكاني النوعي بما يفضي إلى ازدهار القطاع الإنتاجي.
- 3- عدم وجود سياسات لخلق فرص عمل تتناسب مع أعداد الخريجين والمهنيين والعمال المهرة.
- 4- انتشار النمط الاستهلاكي للموارد الطبيعية وسط المجتمع السوداني.
- 5- ارتفاع نسبة الأمية وانخفاض المكون المهاري في المجتمع السوداني، فهناك أكثر من ثلاثة ملايين طفل سوداني خارج المدرسة بسبب الحرب والفقر.
- 6- على الرغم من أن نسبة فئة الشباب في السودان تفوق ال (60%) إلا أن هناك انخفاض شديد في الفئات الفتية القادرة على العمل والإنتاج.
- 7- ارتفاع معدلات البطالة، ومعدل الخمول.
- 8- فقر التعليم التقني كما ونوعاً وعدم مناسبه لما تتطلبه مشاريع التنمية المستدامة والنمو الاقتصادي.
- 9- انخفاض مستوى المهارة، وارتفاع معدلات عدم تطابق المهارات مع المتطلبات الوظيفية بصورة عامة، بالإضافة لعدم وجود خطط وبرامج لبناء القدرات، أو مؤسسات خاصة للمقبلين على إعداد المشاريع.
- 10- ضعف الاستثمار الحكومي والخاص في صناعة المهارات الجديدة.
- 11- انخفاض نسبة العمالة الماهرة والمؤهلة إلى عدد السكان، وانخفاض نسبة هذه العمالة المتعلمة والمدرّبة في قطاعي الخدمات والزراعة بصفة خاصة.

### الحلول العاجلة

- 1- تطوير استراتيجية شاملة ومتكاملة وواضحة المعالم لتنمية الموارد البشرية كواحدة من أهم محاور البنى التحتية، ولكي تنسجم مع قطاعات البنى التحتية الأخرى.
- 2- التركيز على الاستثمار في التعليم العام والتقني والصحة، وتطوير مهارات الناس، وذلك تلبيةً للاحتياجات المجتمعية والتي تقود إلى الكفاية والرضا بالنسبة للأفراد والمجموعات ومن ثم إلى التنمية المستدامة.
- 3- سن تشريعات وقوانين ملزمة للقطاع الإنتاجي بتوظيف أعداد معينة من العمالة، وملزمة لهذا القطاع بتطوير مشروعات في بناء القدرات والمهارات، بالإضافة لخدمة المجتمع تحت الإشراف الحكومي.
- 4- عمل دراسة إحصائية متخصصة شاملة في قدرات المورد البشري السوداني لتحديد نقاط الضعف والقوة، ومن ثم الاستفادة من الميزات التفضيلية في تحقيق التنمية المستدامة.
- 5- التوزيع العادل للدخل والأصول الاستثمارية وسط العاملين والمجتمعات الإنتاجية.
- 6- تعزيز السياسات التي تشجع على ريادة الأعمال وخلق فرص عمل أفضل بشكل مستمر.

- 7- وضع سياسات وخطط تعمل على تشجيع ونقل الأفراد والأسر إلى المشاريع الجماعية: "نهج الأنظمة المتكاملة والعمل الجماعي".
- 8- تبني سياسات لتعزيز التعاون الفعال مع منظمات المجتمع المدني والقطاع الخاص لتقديم الخدمات المجتمعية والوصول للجميع.
- 9- وضع سياسات وخطط تعمل على تعزيز دور المرأة في العمل وفي التنمية الاجتماعية وتمكينها لتلعب الدور الإنتاجي.
- 10- تعزيز التعاون من أجل تبادل الخبرات والقوى العاملة وتعزيز نقل المعرفة، والخبرات والممارسات المثلى والفضلى بين الافراد والمجموعات والمؤسسات الإنتاجية.
- 11- سن قوانين وسياسات لتعزيز الإقبال على العمل الإنتاجي الفردي والجماعي، وتعزيز سلامة العمال ورفاهيتهم والحد من البطالة.

## الحلول الآجلة

- 1- تبني سياسة للإنفاق الاجتماعي، تتضمن قيام الحكومة بتأمين الخدمات الاجتماعية الأساسية، وإنشاء ودعم شبكات متكاملة الأدوار للمؤسسات والمنظمات المجتمعية، لتمكين الناس وتعزيز قدراتهم.
- 2- إنشاء منظمات ومؤسسات لبناء القدرات تدعم الأسر بصورة عامة، والأسر الريفية بصفة خاصة، لكفالتها اقتصاديًا، وجعلها أسراً منتجة، ودمجها في سوق العمل عن طريق التدريب والتأهيل والتشغيل والتمويل المالي والعيني لمشاريعها الخاصة.
- 3- وضع وإعداد الاستراتيجية الوطنية للطفولة، لتعكس أهمية الاستثمار في مرحلة الطفولة كحجر أساس لتحقيق التنمية الشاملة والمستدامة، ومن ثم تصميم المشروعات وإعداد الخطط والبرامج لتطبيق هذه الاستراتيجية على أرض الواقع.
- 4- إنشاء مؤسسات تقوم بتمويل الأفراد والمجموعات والمؤسسات، لتشجيعهم على دخول سوق العمل (بنوك متخصصة وصناديق).
- 5- العمل على بناء مجتمعات تقنية قادرة على التعامل مع تقانة المعلومات والاتصالات في كل نواحي الحياة اليومية بصورة عامة، والحياة العملية على وجه الخصوص، وذلك من خلال سن قوانين وسياسات وخطط وبرامج خاصة.
- 6- العمل على بناء مجتمعات حضرية وريفية قادرة على مواجهة الأزمات والصمود أمامها من خلال البحوث والخطط والبرامج.

## 5. محور صناعة التشييد والإسكان

### التحديات

- 1- الافتقار للرؤيا الاستراتيجية المتعمقة لتطوير القطاع (مثلاً: الاستراتيجية القومية الشاملة).
- 2- ضعف تنظيم القطاع وغياب الأجسام والهيئات المنظمة له وعدم وجود آليات فاعلة لتطبيق القوانين والمتابعة.
- 3- عدم وجود جهة قومية وكيانات تهتم بالمواصفات والمقاييس والجودة لمنتجات ومواد وآليات البناء بصورة منفصلة ومتكاملة.

- 4- عدم إشراك كل أصحاب المصلحة في إصدار التشريعات الخاصة بالقطاع.
- 5- ضعف اهتمام الدولة بصناعة التشييد وقطاع الإسكان.
- 6- عدم تطبيق العقود النموذجية مثل (FIDIC) وعدم تعديل الأسعار في عقود التشييد كعقود متوازنة.
- 7- انعدام التنسيق بين الجهات الحيوية المشاركة وعدم وجود جسم جامع.
- 8- ضعف اهتمام الدولة بالمشاركة المجتمعية في مشروعات الإسكان.
- 9- عدم كفاية أو فاعلية البني التحتية اللازمة.
- 10- نقص المعلومات الدقيقة الموثوق بها.
- 11- عدم توفر التمويل أو صعوبة الحصول عليه.
- 12- عدم فاعلية قطاع المقاولات وذلك لانعدام برامج التدريب والتأهيل لكل الهرم الهندسي في القطاع.
- 13- المشاكل الخاصة بقطاع مواد البناء متمثلة في ارتفاع أسعارها وارتفاع تكلفة الإنتاج وتكلفة الترحيل والاعتماد الكبير علي الاستيراد.
- 14- ارتفاع نسبة المخاطر في استثمارات ومشاريع التشييد ومنها:
  - عدم الثبات في الأداء الاقتصادي (التضخم/ أسعار الصرف).
  - تأخير الدفعيات (خاصة دفعيات المقاولين).
  - بيئة العمل العامة: البيروقراطية، الفساد، عدم التحفيز، إلخ.
  - ارتفاع أسعار مواد البناء وعدم ثباتها.
  - الفساد بكل أنواعه (مالي، فني، إشراف، منح التصديق، الاستثناءات).
- 15- نقص العمالة الماهرة وضعف أدائها.
- 16- ضعف التعليم وعدم توفر برامج التدريب.
- 17- عدم الاهتمام ببرامج البحث والتطوير وغياب التكامل بين التطبيق والبحث.
- 18- عدم الاهتمام بتطبيق قوانين وإجراءات الأمن والسلامة علي مستوى التعليم والتدريب والتطبيق.
- 19- عدم وجود قوانين خاصة بالأثر البيئي لمشاريع التشييد بمختلف أحجامها وأنواعها.
- 20- هيمنة الشركات الحكومية على سوق المقاولات مع كامل تمتعها بالأصول والتسهيلات الحكومية مما يعدم المنافسة العادلة.
- 21- عدم الالتزام بالمخططات التنظيمية structure Plans بسبب تدخلات سياسية غير مدروسة أو غير مدعومة بالرأي الفني السليم مما يترتب عنه إرهاب للميزانية وهدم هيكلية المدنية الصحية المبنية على عدد السكان وأعمالهم.
- 22- التركيز على ولاية الخرطوم (وبعض المدن الكبرى) فقط دون غيرها من ولايات السودان المختلفة.

## الحلول العاجلة

- 1- تفعيل القوانين واللوائح المنظمة للقطاع وإزالة التضاربات بينها.



- 2- مراجعة تقنين تسجيل الشركات الهندسية في قطاعي الاستشارات والمقاولات والتأكد من أهليتها وامتلاكها الامكانيات الفنية والمادية التي تؤهلها للمشاركة في مشاريع التشييد.
- 3- إيقاف كل المشاريع التي فيها تعدٍ على الحق العام وتصحيح مسارها والحفاظ على النسيج العمراني ومنع التعدي على المساحات المفتوحة.
- 4- خروج الدولة وشركاتها من الأعمال الاستشارية والمقاولات والخدمات في قطاع التشييد بشكل خاص والبنى التحتية بشكل عام لإكمال مثلث التشييد المثالي (المالك - الاستشاري - المقاول).
- 5- تحديد الفجوة في طلبات الإسكان بكل ولايات السودان، وتولي الحكومة لواجبها كاملاً في توفير السكن خاصةً لمحدودي الدخل.
- 6- إيقاف بيع الأراضي بواسطة الحكومة وتشجيع مشاريع الإسكان القومية وتوفير التمويل المصرفي بأقساط مريحة لكل الفئات المستهدفة.
- 7- إيقاف مشاريع الإسكان في ولاية الخرطوم لحين توفيق أوضاع القطاع وتقنينها.
- 8- عدم تدخل الجهات السياسية في العمل التنفيذي وضرورة الالتزام بالقرار الفني السليم.
- 9- ابتكار طرق ووسائل فعالة لإدارة العطاءات والعمل على شفافية الطرح والفرز.
- 10- محاربة الفساد في القطاع بكل أشكاله وتصحيح الأمور الخاصة بالمشاريع غير المقننة أو المخالفة للنظم واللوائح.
- 11- منع استغلال الأطفال في كافة الأنشطة الخاصة بصناعة التشييد وحفظ حقوقهم.

## الحلول الآجلة

- 1- النظرة الشاملة للتخطيط الاستراتيجي لصناعة التشييد بكل مكوناتها (تفعيل دور الدولة).
- 2- تفعيل دور الجمعيات والمجالس والاتحادات المهنية والربط بينها وضمن استقلاليتها.
- 3- إنشاء جسم جامع ومستقل لكل المشاركين بالقطاع بجميع أطرافهم.
- 4- الاستثمار في الموارد البشرية.
- 5- تطوير برامج التعليم والتدريب والتأهيل.
- 6- السعي لاستغلال الموارد المحلية لرفع كفاءة القطاع (المواد، العمالة،...).
- 7- استحداث وتشجيع برامج البحث والتطوير (المتكاملة).
- 8- استحداث أنظمة تدريب وضبط لتقييم الأثر البيئي لأنشطة صناعة التشييد والمشاريع كافة بمختلف أنواعها وأحجامها وتضمينه في سياسات وقوانين ولوائح البناء.
- 9- استحداث سياسات وقوانين وإجراءات للأمن والسلامة في مختلف أنشطة صناعة التشييد ووضع آلية للتنفيذ والمتابعة.
- 10- الاهتمام بالجودة وتحديد المواصفات الخاصة بكل مواد البناء والآليات المستخدمة في صناعة التشييد والسعي الجاد لاستحداث مواصفات سودانية.
- 11- استحداث أنظمة لقياس الأداء والجودة وتحديد المؤشرات المناسبة وفقاً لمعطيات البلاد.
- 12- تحديد نطاق عمراني للمدن عند عمل مخطط تنظيمي لها.

13- احترام النطاق العمراني للمدينة وعدم البناء خارجه.

## 6. محور الطرق والنقل

### التحديات

- 1- انهيار كامل لقطاع النقل في البلاد وعدم كفاءة وفاعلية قطاعات هامة كالسكة حديد والنقل النهري.
- 2- الزيادة الكبيرة في تكلفة النقل والاعتماد الكامل علي النقل البري عبر الشاحنات.
- 3- انهيار الناقل الوطني الجوي والبحري مما أفقد البلاد موارد مالية ضخمة.
- 4- ضعف البنى التحتية للنقل الجوي وعدم مواكبتها للتطورات العالمية مما قد يعزل البلاد عن العالم.
- 5- عدم توفر موارد تمويلية لتطوير البنى التحتية .
- 6- يعاني القطاع من ضيق سعة الطرق خاصة الطرق المؤدية لبورتسودان والرابطة للمدن الكبيرة مما يؤدي إلى زيادة تكلفة النقل وطول مدته والحوادث المرورية.

### الحلول العاجلة

- 1- تحقيقاً للبند الأول في برنامج الحكومة الانتقالية، وهو بناء السلام، يجب تنفيذ مشروعات للبنية التحتية تربط المناطق المتأثرة بالحرب وتساهم في إحلال السلام.
- 2- مراجعة هياكل ومؤسسات قطاع النقل.
- 3- إعادة تأهيل وهيكل وزارة النقل والقطاعات المختلفة المكونة له.
- 4- وضع خطة استراتيجية لقطاع النقل في البلاد مع التركيز على تكامل وسائل النقل المختلفة لنقل منتجات البلاد من مناطق الإنتاج الى مناطق الاستهلاك والموانئ.
- 5- دراسة الوضع الراهن و خاصة التصميم الهندسي للمشروعات الجارية ومعالجة الأخطاء قبل التنفيذ وزيادة السعات التشغيلية.
- 6- ترتيب أولوية اختيار المشروعات للتأهيل أو التنفيذ حسب الأهمية الاقتصادية للمشروع وذلك باستخدام برامج التخطيط التي ترتب الأولوية بناءً على عوامل مختلفة.
- 7- اختيار وتنفيذ بعض المشروعات التي ستسهم إسهاماً فاعلاً في تشجيع النمو الاقتصادي القومي وأيضاً تربط القطر بدول الجوار.
- 8- إعادة تأهيل مشروعات البنى التحتية إلى كفاءتها التصميمية واستخدام التقنيات الحديثة في الآليات والمواد.
- 9- تكملة المشروعات التي بدأ فيها التنفيذ وتوقفت مع مراعاة المواصفات العالمية في التصميم والتنفيذ.
- 10- إكمال مشاريع الطرق القومية تحت التشييد ومشاريع توسعة الطرق الرئيسية.
- 11- وضع خطة عاجلة لرفع كفاءة وسائل النقل العامة في البلاد (السكك الحديدية والطرق البرية).
- 12- تأهيل خطوط السكة حديد من الموانئ لأطراف البلاد.
- 13- صيانة وتأهيل الطرق القومية التي انهارت ورفع كفاءتها.

- 14- صيانة الطرق القومية والداخلية والمحافظه على مستوى أدائها.
- 15- تكثيف برامج التوعية المرورية وتفعيل قوانين الأمن والسلامة (للطرق البرية بصفة أخص).
- 16- تأهيل مطار الخرطوم الدولي القائم وذلك بصيانة أو إضافة صالات وصول ومغادرة وتأهيل المهابط ومواقف الطائرات.
- 17- البدء في تأهيل وتطوير الخطوط الجوية السودانية.
- 18- الاستفادة من ارتفاع مناسيب المياه في النيل الأزرق ونهر النيل والنتاج عن تدفق المياه من سد النهضة في تأهيل وتطوير النقل النهري.
- 19- تطبيق وضبط الحمولات (Axle Loads) على الطرق القومية بوضع التشريعات الملزمة وتطبيقها.
- 20- دراسة وضع التمويل والديون لمشاريع النقل تحت الإنشاء.
- 21- استخدام طرق تمويل بديلة لتنفيذ مشروعات قطاع النقل.
- 22- استحداث طرق تمويل ذاتي (Bot, Boot) لتطوير قطاع النقل.
- 23- تصميم وتنفيذ برنامج رفع قدرات العاملين في قطاعات الطرق والنقل المختلفة.

## الحلول الآجلة

- 1- إنشاء مطار الخرطوم الجديد.
- 2- مد طرق وسكك حديد مع الدول المجاورة وطرق قارية تربط السودان مع الدول الإفريقية حسب الخطط الدولية والإقليمية.
- 3- توسعة ميناء بورتسودان وسواكن وإنشاء موانئ جديدة لزيادة سعة السفن والبضائع حتى يستوعب السودان من حاجة الدول القارية المجاورة كجنوب السودان وأفريقيا الوسطى وتشاد وأثيوبيا.
- 4- استقطاب تمويل دولي لإنشاء طرق قومية جديدة.
- 5- المرجعية إلى مبادرة التنمية العمرانية والبنى التحتية وإلى مبادرات من ذوي الاختصاص في الطرق والطيران والسكة حديد والنقل النهري والبحري والجوي.

## 7. محور الري

### التحديات

- 1- انخفاض كفاءة الري بسبب سوء الإدارة.
- 2- مشاكل الطمي والحشائش التي تعاني منها معظم قنوات الري خصوصاً المشاريع التي تروى من النيل الأزرق (نسبة تركيز الطمي عالية فيه).
- 3- تردي حالة شبكات الري وانعدام الصيانة الدورية للقنوات والبوابات التي تنظم انسياب المياه وضرورة تأهيلها وتطويرها.
- 4- تفادي الآثار السالبة للفيضانات والسيول في المناطق السكنية في الحضر والريف والاستفادة من مياه السيول

## الحلول العاجلة

- 1- إنشاء مصارف حماية لكل القرى في السودان الواقعة في المناطق المنخفضة والتي تتعرض لاجتياح السيول والاستفادة من مياه السيول بإنشاء مشاريع حصاد المياه.
- 2- إعطاء أولوية قصوى لمشروعات حصاد المياه ذات الأهداف المتعددة وذلك لسهولة دراستها وتصميمها وتنفيذها وسرعة مردودها الاقتصادي والاجتماعي بما يمكن من الاستفادة من موارد المياه المتوفرة (السطحية والجوفية) بصورة مثلى. ويمكن تنفيذها في كل الولايات، مع إعطاء أولوية خاصة للمناطق المتأثرة بالحروب والنزاعات في دارفور وكردفان والنيل الأزرق.
- 3- إقامة مشاريع حصاد المياه لكل الخيران والاستفادة منها في نظام نثر المياه للزراعة Spread irrigation
- 4- إدخال تقنيات حصاد المياه لمناطق الزراعة الآلية.
- 5- الاهتمام بتصميم مشاريع حصاد المياه حسب المواصفات (دمك التربة - تصميم البوابات spillways حسب السعة المطلوبة...).
- 6- كل المصارف يجب أن تسبق بدراسة هايدرولوجية مكثفة لتحديد القيمة التصميمية للتصريف لتصميم المنشآت الهيدرولوجية.
- 7- عمل خطة استراتيجية لإدارة وتقييم المياه الجوفية ومراجعة وتفعيل القوانين التي تحكم استخدام المياه الجوفية لتفادي الاستخدام الجائر في المشاريع الاستثمارية للمياه الجوفية غير المتجددة.
- 8- عمل دراسات لحركة المياه الجوفية المشتركة (السودان - مصر - ليبيا - تشاد) لرصد عمليات السحب من الدول المختلفة ووضع الأسس التي يتم بناء أي اتفاق عليها في المستقبل.
- 9- تحديث علاقات الإنتاج في المشاريع المروية لتحقيق مصلحة جميع الأطراف (مزارعين - حكومة - شركات الخاصة).
- 10- توجيه أي منح لدعم المشاريع الزراعية.
- 11- التركيز على المشاريع الزراعية الموجودة وخصوصاً الأربعة مشاريع الرئيسية (الجزيرة والمناقل - مشروع الرهد الزراعي - السوكي - حلفا الزراعي) بالإضافة إلى بقية المشاريع الزراعية الموجودة حالياً وذلك بالعمل على الآتي:
  - تأهيل وإعادة تصميم القنوات الرئيسية والفرعية وإعادتها لحالتها الأصلية.
  - تغيير وتحديث وصيانة المنشآت الهيدروليكية (البوابات والمنظمات) لشبكات الري المختلفة الرئيسية والفرعية.
  - مد المشاريع الزراعية بالكهرباء وذلك عن طريق توليد الكهرباء من الطاقة الشمسية.
  - إدارة المياه بصورة جيدة خصوصاً في فترة الخريف من منتصف يوليو حتى مطلع سبتمبر وهي فترة التركيز العالي للطي وت تشغيل القنوات وفقاً للاحتياجات الفعلية للنبات لتقليل تراكم الطمي في القنوات بالإضافة الي إيجاد وسائل وتدابير للتحكم في الإطماء.
  - إعادة المؤسسة العامة للحفريات للقيام بعمليات الصيانة لشبكات الري بصورة دورية.

- استخدام طلبات حديثة لتطوير النظام الحالي في محطات الرفع الخاصة بالمشاريع الزراعية على طول النيل.
- تأهيل وإنشاء شبكات الطرق داخل المشاريع الزراعية .
- 12- إنتاج صيغة متكاملة تراعي تكامل كل الأدوار للشركاء (مؤسسات حكومية، مزارعون، وقطاع خاص) ابتداءً من مرحلة الإنتاج الزراعي ومرورًا بمرحلة التصنيع والتسويق وانتهاءً بالمستهلك في السوق المحلية والخارجية. ولتحقيق ذلك يقترح الآتي:
- ضرورة العمل على تبني سياسة تنموية شاملة ومتكاملة تتم في إطار من التنسيق القومي بهدف تقليص التفاوت الواضح بين الريف والحضر على أن يتم التركيز على استغلال الموارد المتاحة، وتشجيع صغار المنتجين، والاعتماد على أساليب الزراعة الحديثة، وتطوير الصناعات الغذائية، وتطوير نظم التسويق الداخلي والخارجي، وربط الزراعة بالصناعة والتجارة.
- اتباع منهج الشركات في إطار متكامل (سلسلة القيمة المضافة) وفقا لقانون الشركات، بحيث تساهم حكومة السودان بالري ويساهم اتحاد المزارعين بالمحاصيل (بساتين، وخضر، إنتاج حيواني، ...) وتساهم الشركات الخاصة بالتمويل والخدمات الزراعية إلى جانب اتحاد أصحاب الصناعات. مع العمل على الاستفادة من الدروس السابقة ومعالجة سلبيات تجربة تحويل المؤسسات العامة إلى شركات خاصة غير مؤهلة إداريًا ولا ماليًا ولا فنيًا.
- تعزيز دور المؤسسات الحكومية فيما يتعلق بالتشريعات المالية والاقتصادية والتنظيمية لضمان المنافسة والرقابة الزراعية في أسواق المدخلات والمنتجات وتوفير المناخ الاستثماري المناسب وتشجيع القطاع الخاص للاستثمار في قطاع الزراعة.
- الارتقاء بأدوار الكوادر المهنية والإدارية والمزارعين من النمط التقليدي إلى النمط التجاري.
- الالتزام بتطبيق المقاييس و المواصفات و الجودة للمدخلات و المنتجات.
- 13- زيادة رأسمال البنك الزراعي و الصناعي و مصرف المزارع التجاري و مؤسسات التمويل الأصغر بالولايات المعنية.
- 14- الاستفادة من القروض الأجنبية لتوفير التمويل التنموي وفق منهجية سلسلة القيمة المضافة للمشاريع المرورية.
- 15- تشجيع المؤسسات التمويلية التجارية الخاصة لتمويل الأنشطة الاقتصادية الزراعية و صادراتها وربط التمويل بالتأمين (زراعة وصناعة وتسويق و صادر).

## الحلول الآجلة

- 1- وضع خطة استراتيجية للاستفادة من تنظيم المياه بناءً على تشغيل سد النهضة في مجالي الري والكهرباء.
- 2- تطوير وتحديث نظام الري باستخدام نظام التشغيل الآلي Automation system بصورة تدريجية في القنوات الرئيسية أولاً ثم يعمم على القنوات الفرعية في مرحلة لاحقة.
- 3- التوسع في المساحات المزروعة في المشاريع الزراعية الموجودة.

- 4- إقامة مشاريع زراعية جديدة وتطبيق طرق الري الحديثة (الري بالرشاشات والتنقيط وغيرها) بالإضافة إلى استخدام نظام التشغيل الآلي لرفع كفاءة الري.

## 8. محور مياه الشرب

### التحديات

- 1- شح المصادر المأمونة لتوفير الكميات المطلوبة لمياه الشرب
- 2- عدم مطابقة نوعية مياه الشرب للمعايير المحلية والعالمية
- 3- مواصفات معدات المياه المستخدمة ضعيفة ولا تطابق لمعايير الجودة العالمية وكذلك عدم توفر قطع الغيار لاستدامة التشغيل بالكفاءة المطلوبة.
- 4- قلة الكوادر المؤهلة لإدارة مرافق مياه الشرب في الريف والحضر
- 5- غياب الهيكلية الادارية المناسبة لقطاع مياه الشرب في البلاد
- 6- عم تنفيذ الخطط الاستراتيجية للتنمية المستدامة وضعف قاعدة المعلومات لقطاع المياه
- 7- شح الميزانية المخصصة لقطاع المياه في البلاد
- 8- الخلل في توزيع أولوية استغلال موارد المياه بين القطاعات المختلفة

### الحلول العاجلة

- 1- تأسيس جسم مركزي لادارة المياه والصرف الصحي ووضع التشريعات المناسبة
- 2- مراجعة الدراسات السابقة والمشاريع التي تم تنفيذها ومطابقتها للمواصفات
- 3- وضع خطة مدروسة لمشاريع إمداد المياه للمناطق الحضرية والريفية واستغلال مصادر المياه السطحية والجوفية لرفع معدل استهلاك الفرد.
- 4- توفير الدعم المالي لمشاريع المياه .
- 5- تأهيل وتوسعة المنشآت الحالية لإمداد المياه وتنفيذ المشاريع الجديدة بالأسس الهندسية المطلوبة.
- 6- العمل على جلب الكوادر الفنية المؤهلة للعمل في قطاع المياه وتدريبها وتحسين شروط الخدمة.
- 7- الاهتمام بجودة مواصفات معدات المياه المستخدمة.

### الحلول الاجلة

- 1- التوسع في إقامة مشاريع حصاد المياه والتحلية للاستغلال الأمثل لمصادر المياه.
- 2- إقامة مراكز تدريب قومية وولائية للكوادر العاملة في مجال المياه وتأهيل الموجود.
- 3- وضع خطة متكاملة لإدارة مرافق المياه ووضع قوانين ولوائح لتحسين الجودة فنيا وإداريا.
- 4- إقامة محطات معالجة بأحدث التقنيات والتوسع في شبكات الإمداد.
- 5- إقامة مصانع لتصنيع معدات المياه ذات الجودة العالية كالأنابيب والمضخات وغيرها.

## 9. محور الصرف الصحي

### التحديات

- 1- عدم الاهتمام بنظم الصرف الصحي المتحضرة والاكتفاء بنظم المعالجة الموقعية القائمة
- 2- المشاكل الإدارية الناتجة عن عدم التنسيق بين الجهات المختلفة التي لها علاقة بالصرف الصحي وعدم تأهيل العاملين بالمجال حالياً.
- 3- التمويل: جميع مشاريع الصرف الصحي لإنشاء أو صيانة محطات أو شبكات تكلفتها عالية جداً لذا تتطلب تمويلاً ودعماً خارجياً (يعتمد ذلك في المقام الأول على الحل السياسي كما سبق ذكره).

### الخطط العاجلة

- 1- إقامة ورش عمل تجمع المختصين بمجال الصرف الصحي للتفكير والتنسيق فيما بينهم.
- 2- الاستفادة من مخرجات الورشة العلمية المهنية بعنوان الصرف الصحي (التحديات والحلول) التي أقامتها وزارة البنى التحتية والمواصلات في عام 2018.
- 3- السعي إلى إنشاء وزارة تعنى بالمياه والصرف الصحي أسوة ببقية الدول
- 4- دعم وتمويل قيام محطات لا مركزية لمعالجة الصرف الصحي.
- 5- إضافة وحدة في المحليات لاستغلال المياه العادمة المعالجة لري المساحات الخضراء في الأحياء.
- 6- الإسراع في تصميم وإنشاء محطات مركزية في العواصم الثلاث لاستقبال مياه الصرف الصحي المنقولة بشاحنات الشفط. وفي المستقبل تعالج هذه المحطات مياه الصرف الصحي المناسبة في الشبكات حديثة الإنشاء (مثل لهذه المحطات محطة جبل وليدات بأمدردمان).
- 7- إكمال إعادة تأهيل محطة البيولاك بالخرطوم لاستقبال 40,000 متر مكعب يوميا والتي بدأ العمل فيها منذ نوفمبر 2018.
- 8- إكمال توصيل شبكة الخرطوم بحري لخدمة الأحياء والأسواق والمجمعات السكنية.
- 9- الإسراع في التعاقد لصيانة شبكات الصرف الصحي القائمة ومحطات الضخ بها.
- 10- العمل على تقليل تكلفة شفط المياه العادمة بواسطة الشاحنات للمواطن من المنازل لأن ذلك نتج عن إهمال الدولة الإداري.
- 11- سن قانون يلزم معالجة المياه معالجة تامة في حال حفر آبار للصرف الصحي في الأحياء والقرى والمدن التي تستخدم المياه الجوفية.
- 12- إلزام ومساعدة المصانع بتصميم وحدات معالجة لمياه الصرف الصحي التابعة لهم.

### الخطط الآجلة

- 1- العمل على إقامة مشاريع زراعية تستوعب الكمية الهائلة من المياه التي تمت معالجتها مثل الغابات الموجودة في الحزام الأخضر سابقاً.
- 2- تشجيع ودعم وتمويل مشاريع الشبكات المحدودة في الأحياء المتضررة وهي كثيرة ويمكن وضع جدول أولوية لها.

- 3- دعم وتشجيع القطاع الخاص في هذا المجال.
- 4- تصميم وإنشاء شبكة (طوارئ) رئيسية لتجميع المياه العادمة التي لا يمكن استغلالها محليا في الأحياء أو لم تتم معالجتها بصورة جيدة ، وإنشاء هيئة رقابية لضبط محطات المعالجة اللامركزية.
- 5- تشجيع القطاع الخاص والسكني على إنشاء مراكز صغيرة وموزعة لمعالجة لمياه الصرف الصحي ( Decentralized waste water treatment plants ) تخدم مناطق سكنية محددة بنظام البوت.

## 10. محور تقانة المعلومات والاتصالات

### التحديات

#### أولاً: التحديات العامة

- 1- غياب استراتيجية قومية فاعلة تقود للنمو الاقتصادي وبناء منظومة تقنية مستدامة للابتكار.
- 2- الفصل التام بين المعلوماتية والاتصالات.
- 3- افتقار القطاع العام للكوادر البشرية المؤهلة القادرة على الإدارة والتشغيل وعدم وجود شراكة بين الصناعة والتعليم في هذا القطاع.
- 4- غياب جسم مختص بتنظيم وتطوير المعلوماتية وصناعة البرمجيات.
- 5- ضعف الأطر التشريعية والقوانين والإجراءات التي تؤسس لتقانة المعلومات والاتصالات، وعدم وجود فنانة سياسية حقيقية مدركة لأهمية تقانة المعلومات بوصفها إحدى أهم عوامل النمو الاقتصادي والتنمية المستدامة، إضافة إلى انعدام القوانين والتشريعات الخاصة بحماية المستهلك وعدم انتهاك خصوصيته.
- 6- ضعف الرؤية الوطنية المتعلقة بتقديم الخدمات الإلكترونية واستخدامها في الأعمال الإدارية، وعدم وجود استراتيجية تقود للنمو الاقتصادي والتنمية من خلال محور تقانة المعلومات والاتصالات.
- 7- هيمنة الأجهزة الأمنية على هياكل وإدارات جهاز الاتصالات والبريد "الهيئة القومية للاتصالات"
- 8- تغلغل الأجهزة الأمنية وتحكمها شبه الكامل في مفاصل القطاع.
- 9- سيطرة حزب المؤتمر الوطني على مجالس إدارات شركات الاتصالات وبالتالي على كل أنشطة القطاع.
- 10- عدم وجود أي شراكة أو اتفاقية قوية بين الحكومة وشركات تقانة المعلومات والاتصالات العالمية الكبيرة لتكون جهة مستشارة، وتساهم في بناء رؤية استراتيجية للسودان في تقانة المعلومات والاتصالات تسعى نحو الريادة والتنمية المستدامة .
- 11- ضعف البنية الأساسية المادية الكافية للتحويل الرقمي لأنظمة تقانة المعلومات والاتصالات في القطاع العام الحكومي والخاص.
- 12- عدم وجود علاقات تبادلية مترابطة أو شراكة بين المؤسسات المعلوماتية وشركات الاتصالات ومؤسسات القطاعين العام والخاص للاستفادة من قواعد البيانات والخدمات الإلكترونية والتطبيقات واستغلال قنوات التوزيع العالمية.
- 13- عدم وجود شراكة أو اتفاقيات بين الحكومة والمؤسسات العالمية والإقليمية في مجال تقانة المعلومات والاتصالات لنقل التقنيات الحديثة للسودان والاستفادة من الخبرات الخارجية.



### ثانياً: التحديات الخاصة بقطاع تقانة المعلومات

- 1- عدم وجود مراكز معلومات بالمواصفات العالمية الحديثة في ولايات السودان المختلفة لتقديم الخدمات المطلوبة وتلبية احتياجات للمستفيدين. وكذلك عدم ربط النمو الاقتصادي السريع والتنمية ببوابة تقانة المعلومات والاتصالات، وعدم وجود قاعدة معلوماتية خاصة بالأنظمة والأجهزة والإجراءات الحكومية وربط خدماتها ببعضها.
- 2- افتقار القطاع العام للكوادر البشرية المؤهلة في تقانة المعلومات والقادرة على التطوير والإدارة والتشغيل بسبب عدم وجود خطة واضحة لدعم الابتكار والإبداع بين الشباب وعدم وجود خطة لتأهيل الخريجين في مجال تقانة المعلومات والاتصالات للدخول إلى سوق العمل.
- 3- ضعف التمويل وبالتالي النقص الحاد في الموارد المالية لمشروعات تقانة المعلومات.
- 4- عدم الاستخدام السليم للموارد المالية في تطوير مشروعات تقانة المعلومات بسبب الضعف الإداري.
- 5- عدم النشر المعرفي وضعف ثقافة المستفيدين في مجال خدمات تكنولوجيا المعلومات.
- 6- عدم ثقة كثير من الأفراد والمجموعات والمؤسسات في خدمات تكنولوجيا المعلومات.
- 7- عدم وجود آلية معيارية شفافة ونزيهة لاختيار المشروعات الممولة من الحكومة (علي وجه الخصوص صندوق دعم المعلوماتية) إضافة لعدم وجود آلية لتقييم المشروعات بعد التمويل لضمان استدامة الخدمات الناتجة عنها.
- 8- غياب الشفافية والمنهجية في عملية اختيار الشركات المنفذة للمشاريع الحكومية.
- 9- استحواذ الشركات الحكومية على أغلب عطاءات المشاريع الحكومية في مختلف المجالات.
- 10- عجز المؤسسات البرمجية المكلفة بتطوير تطبيقات الحكومة الإلكترونية عن تقديم منتجات برمجية شاملة ومتكاملة وبمواصفات عالمية وذات اعتمادية عالية.
- 11- عدم وجود مؤسسة مركزية لتطوير باقات، بالإضافة إلى عجز المؤسسات البرمجية الموجودة والمسؤولة عن تطوير تطبيقات الحكومة الإلكترونية عن أن تفي بالاحتياجات الحقيقية والواقعية للمواطن السوداني.
- 12- نقص الإحصاءات والبيانات والمعلومات الرسمية والموثوقة عن السودان والمطلوبة للتنمية والتطوير في كافة قطاعات الدولة.
- 13- ضعف ورداءة المحتوى الرقمي على الإنترنت وعدم وجود خطة واضحة وآلية لتطويره ومراقبته وحمايته من الانتهاكات.
- 14- عدم وجود ضوابط واتفاقيات محكمة للعلاقات التبادلية أو التشاركية بين شركات تقانة المعلومات وشركات الاتصالات، أو بين مؤسسات القطاع العام ومؤسسات القطاع الخاص لتطوير/تشغيل الخدمات الإلكترونية والتطبيقات.
- 15- عدم توفر عدد كاف من الخبراء/ الاستشاريين لتقديم الاستشارات الضرورية لضمان نجاح المشاريع التقنية.
- 16- عجز مستخدمي ومطوري النظم عن الحصول على كثير من التقنيات الحديثة نتيجة العزلة التي يعيشها السودان مما أدى إلى فجوة رقمية بين السودان ودول العالم الأخرى في استخدام وتطوير تقانة المعلومات.
- 17- عدم وجود شراكات بين الصناعة والتعليم تدعم مخرجات التعليم العالي بحيث تفي باحتياجات سوق العمل وتدعم احتياجات الاقتصاد السوداني.
- 18- ضعف الوعي وعدم الثقة عند كثير من متخذي القرار والأفراد والمؤسسات في خدمات تقانة المعلومات والاتصالات مع وجود الفساد الإداري وضعف ثقافة المستفيدين بأهمية خدمات تقانة المعلومات.

19- ضعف انتشار خدمات الدفع الالكتروني خصوصاً في القطاع الحكومي.

### ثالثاً: التحديات الخاصة بقطاع الاتصالات والانترنت

- 1- ضعف انتشار خدمات الاتصالات في المناطق الريفية والنائية والمناطق غير المستقرة (وجود فجوة رقمية) بسبب ارتفاع تكلفة ربط المناطق الريفية بمرافق الاتصالات الثابتة أو لعدم وجود بنى تحتية أساسية لتقديم الخدمة مثل الطاقة الكهربائي.
- 2- افتقار السودان للبنية التحتية الجيدة للهواتف الثابتة مع ضعف خدمات النطاق العريض Broad Band بالتقنيات السلكية وانحصارها على قطاعات معينة.
- 3- عدم وجود خطط أو موجهات من منظم الاتصالات في السودان لضمان التعاون بين الشركات الكبيرة المالكة للربط الشبكي الرئيسي بحيث يتم تصميم الشبكة القومية لدعم استدامة الخدمة وضمان عدم انقطاعها، إضافة لعدم وجود خطط تدعم التجوال القومي national roaming بين شركات الاتصالات في السودان.
- 4- خصخصة شركات الاتصالات الحكومية، على رأسها سوداتل، وضعف هيكلها وفساد استثماراتها الخارجية
- 5- ضعف استخدام شبكة الانترنت لأغراض الأعمال التجارية والتعليمية والإدارية التي تؤثر بشكل مباشر على التنمية الاقتصادية، وضعف سرعاتها مقارنة بالدول الأخرى مع ارتفاع تعريفتها للمواطن وعدم معرفته لحقوقه.
- 6- سوء الإدارة والمحسوبية داخل بعض شركات الاتصالات مع هيمنة بعض رجال الدولة على قطاع الاتصالات مما يمثل عائقاً كبيراً يحول دون تطوير بنيتها التحتية وعمل إصلاحات حقيقية لصالح المواطن.
- 7- عدم وجود خطط واضحة أو سياسات للعناية بالبنية التحتية والتي تلوث البيئة في معظم المدن والريف.

### الحلول العاجلة

- 1- إنشاء وزارة لتقنية المعلومات والاتصالات والابتكار تتبع لمجلس الوزراء باعتباره الجهة الحكومية الوحيدة المسؤولة عن قطاع تقنية المعلومات والاتصالات والمخولة لإصدار التشريعات والإشراف على تحقيق الأهداف الاستراتيجية.
- 2- إعادة هيكلة القطاع بالتنام المعلوماتية والاتصالات ومراجعة كل السياسات ذات الصلة بالقطاع والعمل على وضع استراتيجية قومية تسمح بالمساهمة الفاعلة في تهيئة الأمة السودانية.
- 3- إعادة توجيه الموارد المالية الناتجة عن عمليات القطاع في تشجيع الاستثمار الأجنبي ودعم الابتكار.
- 4- تخليص القطاع من السيطرة الأمنية وإعادة هيكلة جهاز الاتصالات والبريد "الهيئة القومية للاتصالات" ومراجعة قانون الاتصالات وضمان استقلالية القطاع
- 5- مراجعة مجالس إدارات شركات الاتصالات وتخليصها من سيطرة المؤتمر الوطني وتفعيلها للقيام بدورها المنشود
- 6- مراجعة الضرائب المفروضة على الشركات ومراتب الوظائف القيادية فيها
- 7- وضع آلية وسياسات لاختيار المشروعات التي تمول حكومياً (صندوق دعم المعلوماتية) ووضع آليات معيارية لتقييم المشروعات المنفذة.
- 8- الاستفادة من البنية التحتية للاتصالات المملوكة لبعض القطاعات في إطار الرخص الممنوحة

- 9- وضع سياسات وآليات لضمان تكامل العمل بين شركات الاتصالات لتصميم الربط الشبكي القومي حتى تفي باحتياجات البلاد وتغطي الريف والمناطق النائية ومع تطبيق خدمة التجوال القومي.
- 10- وضع آليات وسياسات محكمة تساعد في نشر خدمات الدفع الإلكتروني.
- 11- وضع الآليات اللازمة لضمان تأمين الدعم السياسي والالتزام الحكومي وإشراك جميع المعنيين (القطاع العام، والخاص، والمنظمات غير الحكومية، والمواطنين) في تنفيذ الخطط والاستراتيجيات ومتابعتها.
- 12- وضع قوانين رادعة للمحاسبة على تدني الخدمة
- 13- إعداد خطط وسياسات للمؤسسات والشركات الصغيرة والمتوسطة، لإشراكها في المشاريع الحكومية وتأهيلها لبلوغ الأسواق الإقليمية والعالمية.
- 14- سن قوانين وتشريعات وإجراءات لدفع المستفيدين من قطاع المعلومات من الأفراد والمؤسسات الحكومية والخاصة والمؤسسات الخدمية تهدف إلى استغلال التقنيات الحديثة بصورة مثلى.
- 15- إعداد استراتيجية قومية شاملة للتحويل الرقمي تهدف إلى تنفيذ مشروعات الحكومة الإلكترونية بمعايير عالمية مع ضمان تكاملها مع الاستراتيجيات الأخرى ذات العلاقة بتقنية المعلومات. تتضمن هذه الاستراتيجية تدريب وتأهيل الكوادر التقنية.
- 16- إكمال القوانين والتشريعات اللازمة لضمان جودة استخدام التقنية ولحماية المستخدم وحماية المعلومات.
- 17- إعداد وتصميم آليات وأدوات عملية لقياس جودة استخدام الخدمات الإلكترونية و تطويرها بصورة مستمرة مع أخذ المعايير والمؤشرات العالمية في الاعتبار، ومراجعة جميع المشروعات الممولة الحالية وتقييمها ووضع خطة لضمان اكتمالها واستمراريتها.
- 18- وضع أسس التعاون والتكامل والتشارك وتبادل الخبرات عالميًا وإقليميًا لفك العزلة المفروضة على السودان بهدف دعم تطوير خدمات الحكومة الإلكترونية.
- 19- وضع خطط ومشروعات وتصميم برامج قومية لنشر التوعية حول أهمية الخدمات الإلكترونية وكيفية ضمان أمنها وحمايتها لزيادة الثقة في استخدامها ودعم متخذي القرار.
- 20- تنفيذ برامج تدريبية عاجلة في إعادة هندسة الإجراءات الإدارية وإدارة المشاريع وإدارة المخاطر وإدارة التغيير لتطوير تطبيقات شاملة تتلاءم مع متطلبات واحتياجات كل المستفيدين.
- 21- إعداد خطط وسياسات لتشجيع وتحفيز مؤسسات القطاع العام والشركات والمؤسسات الخاصة على العمل مع بعضها البعض لخلق بيئة معلوماتية شاملة تضم كل المحتوى المعلوماتي.
- 22- تشجيع العمل البحثي والتنسيق بين الباحثين والجهات الحكومية.

## الحلول الآجلة

- 1- إنشاء البنى التحتية المادية والهيكل الضرورية لدعم تنفيذ برامج ومشاريع الحكومة الإلكترونية والدفع الإلكتروني.
- 2- تأسيس وتأهيل بنية بشرية متخصصة في جميع علوم الاتصالات والحوسيب والمعلومات بتطوير البرامج التعليمية في التعليم العام والتقني والعالي، لكونها صمام الحراك الاقتصادي في كل المشروعات الحالية والمشروعات المزمع إنشاؤها.

- 3- وضع أسس لتوفير أفضل حلول الاتصالات الذكية والمتوافقة مع الأجيال القادمة، واستمرار تشجيع الدولة للقطاع الخاص ليستثمر فيها وفي البنية التحتية لتقنية المعلومات والاتصالات.
- 4- تأسيس قواعد معلومات قومية تشمل الإحصاءات والبيانات والوسائط المتعددة في كل القطاعات الحكومية، وإيجاد آليات عمل موحدة للمركز والولايات فيما يتعلق بالفائدة والخبرة ونقل المعرفة.
- 5- وضع أسس لدعم خريجي مجال تقانة المعلومات بالتدريب والتأهيل المستمر وتجهيزهم لسوق العمل.
- 6- تطوير برامج التعليم العام والتعليم العالي في مجال تقانة المعلومات والاتصالات لربطها بالصناعة واحتياجات سوق العمل ومتطلبات تطوير الاقتصاد السوداني حسب خطته الاستراتيجية.
- 7- استحداث الوظائف الجديدة، وبناء منظومة تقنية مستدامة للابتكار وخلق فرص العمل وزيادة القوة تنافسية.
- 8- وضع خطط وسياسات لمساعدة شركات الاتصالات للاستثمار في المناطق الريفية.
- 9- وضع خطط وسياسات لتطوير شبكات الاتصالات بحيث تتوافق تقنيات الاتصالات والمعايير الدولية وجودة التصميم وتكامل الربط بين الشبكات المتنافسة.
- 10- بناء تحالفات إقليمية وعالمية لتدعيم القطاع في السودان.
- 11- تهيئة بيئة استثمارية جاذبة لشركات المعلوماتية العالمية.
- 12- بناء قدرات موظفي الدولة فيما يخص استخدامات التقنية .
- 13- تأسيس قواعد معلومات قومية تشمل الإحصاءات والبيانات والوسائط المتعددة في كل القطاعات الحكومية ، وإيجاد آليات عمل موحدة للمركز والولايات فيما يتعلق بالفائدة والخبرة ونقل المعرفة.
- 14- تطوير برامج التعليم العام والتعليم العالي في مجال تقانة المعلومات والاتصالات لربطها بالصناعة واحتياجات سوق العمل ومتطلبات تطوير الاقتصاد السوداني حسب خطته الاستراتيجية.

