NATIONAL PLANNING AUTHORITY

THIRD NATIONAL DEVELOPMENT PLAN
(NDPIII) 2020/21 – 2024/25

REPUBLIC OF UGANDA

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Uganda Vision 2040

The Nexus between NDP III and Skills Gaps in Data Science

Presented at the Pre-Launch Event- DSA Uganda

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National Planning Authority
Planning for Development

Uganda Vision 2040

OVERVIEW

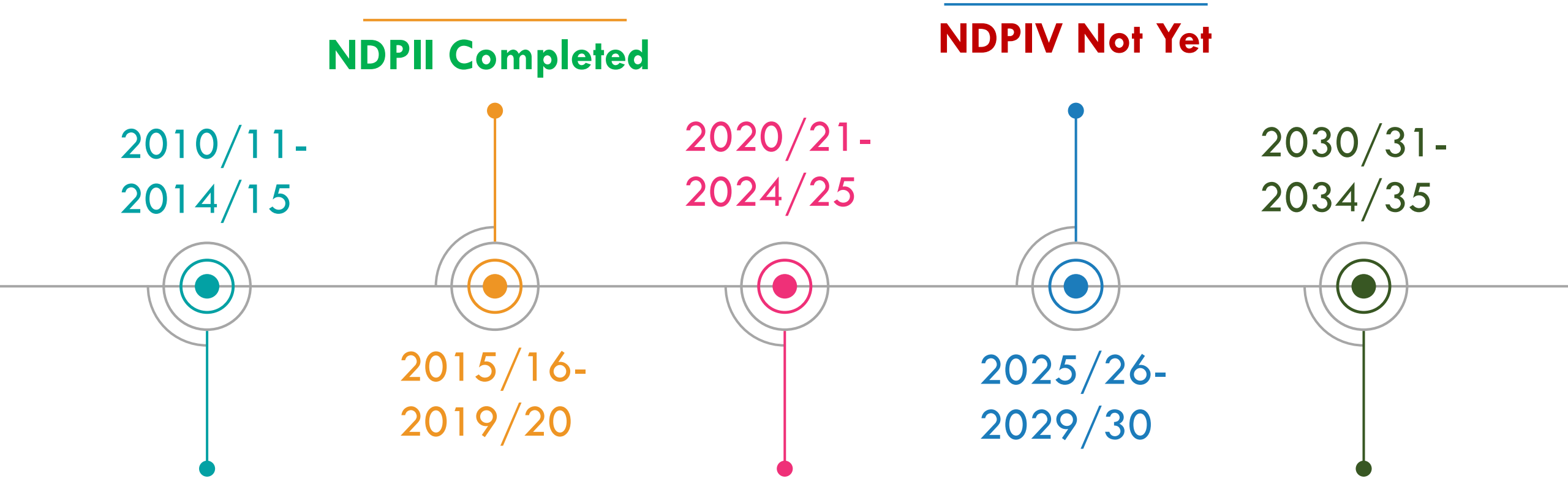
- INTRODUCTION
- THIRD NATIONAL DEVELOPMENT PLAN (NDPIII)
- PROGRAMME HUMAN RESOURCE NEEDS ARTICULATION

Introduction…

- Following the approval of the CNDPF in 2007, this provided for the development of a 30 year Vision to be implemented through:
  a. Three 10-year plans;
  b. Six 5-year National Development Plans (NDPs);
  c. Local Government Development Plans (LGDPs);
  d. Annual work plans and Budgets.
- In the same year, Cabinet approved the Uganda Vision 2040, leading to the preparation of the National Development Plans to achieve the aspirations of the Vision.

Overview of the Vision 2040 – NDPs' Timeline…

- These targets are to be achieved through the NDPs



Overview of the NDPIII – Strategic Direction

A firm foundation for "Take-Off" has been laid over the last 20 years

01	02	03	04	05
Political Stability & favourable macro-economic policy	Growth of the economy from UGX 64.235bn in 2010/2011 to 128.499bn in 2019/20	Moderate but sustained average economic growth rates, above 5% for last decade;	Significant expansion of Economic and Social Infrastructure (Energy, Roads, Schools, hospitals)	Export revenue growth: from USD 3.83 billion in FY2010/11 to USD 5.3 billion in FY2017/18

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Overview of the NDPIII – Strategic Direction…

A firm foundation for "Take-Off" has been laid over the last 20 years…

06	07	08	09
Increase in manufacturing activity: Agro-processing, Processing of Limestone, Light manufacturing.	Increased market share and consumption of locally manufactured goods in the domestic and regional market.	Expansion of modern commercial agriculture: Vegetable Oil, Beef and Diary products, Tea, Coffee and others.	An Increase in domestic savings and re-investment into manufacturing: Expansion of Cement, Iron & Steel factories, agro-processing

Overview of the NDPIII – Strategic Direction…

However, significant challenges still exist that need affirmative action.

01	02	03	04	05
Inadequate creation of jobs. Current youth unemployment is 13.3% (UBOS). Some estimates put it higher.	Growth largely dependent on rain fed agriculture: (Weather has huge impact on growth).	Inadequate investment in productive sectors of economy (Agric., Manufacturing, Tourism).	Reduction in share of manufactured goods to total exports: from 14.5% in 2012/13 to 12.3% in 2017/18.	Inconsistent and insufficient production volumes to guarantee adequate supply to export markets.

Overview of the NDPIII – Strategic Direction…

However, significant challenges still exist that need affirmative action...

06	07	08	09	10
Inadequate numbers of appropriately skilled labor force.	Mixed poverty reduction results, with some negative spikes; 19.7 % in 2012/13 to 21.4% in 2017/18.	Limited growth in labor productivity: particularly in agriculture (USD708) where 60.7% were employed.	Widening Income inequality: from 0.364 (Gini coefficient) in 1986/7 to 0.410 in 2017/18.	Increasing burden of non-communicable diseases: currently standing at 40 percent of the total disease burden.

Overview of the NDPIII – Strategic Direction…

Lessons learned.

A quasi market approach is required, increasing the role of government

Identify alternative revenue sources to complement domestic revenue collection

Implement a Program Approach to Planning, Budgeting and Implementation to reduce the Silo approach

Adopt an integrated Human Resource Development Planning approach

Incorporate risk planning and mitigation into the plans and budgets

Goal: Increased household incomes and improved Quality of life

Theme: Sustainable Industrialization for inclusive growth, employment and wealth creation

Objectives	Strategies	Programs
1. Enhance value addition in Key Growth Opportunities	1. Promote agro-industrialization 2. Increase local manufacturing activity 3. Promote mineral-based industrialization 4. Harness the tourism potential 5. Promote export-oriented growth	1. Agro-Industrialization 2. Mineral-based Industrialization 3. Petroleum Development 4. Tourism Development 5. Water, Climate Change and ENR Management
2. Strengthen private sector capacity to drive growth and create jobs	6. Provide a suitable fiscal, monetary and regulatory environment for the private sector to invest 7. Increase local content participation	1. Private Sector Development 2. Manufacturing 3. Digital Transformation
3. Consolidate & increase stock and quality of Productive Infrastructure	8. Institutionalise infrastructure maintenance 9. Develop intermodal transport infrastructure 10. Increase access to reliable & affordable energy 11. Leverage urbanization for socio-economic transformation	1. Transport Interconnectivity 2. Sustainable Energy Development 3. Sustainable Urban Development
4. Increase productivity, inclusiveness and wellbeing of Popn.	12. Improve access and quality of social services 13. Institutionalise HR planning 14. Enhance skills and vocational Development 15. Increase access to social protection Promote STEI 16. Promote devt. oriented mind-set	1. Human Capital Development 2. Community Mobilization and Mindset Change 3. Innovation, Technology Devt. & Transfer 4. Regional Development
5. Strengthen the role of the State in development	17. Increase govt. participation in strategic sectors 18. Enhance partnerships with non-state actors for effective service delivery 19. Re-engineer Public service to promote invest. 20. Increase Resource Mobilization	1. Governance and Security Strengthening 2. Public Sector Transformation 3. Development Plan Implementation

PROGRAMME HUMAN RESOURCE NEEDS ARTICULATION

- ✓ Major skills and competency gaps for a Program
- ✓ HRD Objectives of the Program
- ✓ Interventions to address competency gaps at Program level

Qualifications and Skills Gaps for Innovation, Technological Development and Transfer Programme

Qualifications and Skills	Status	Estimated 5-Year Gap
Nanotechnologists		598
Optical Assembly Technicians		1,494
Parenteral process technology experts		1,255
Planetary science specialists		998
Space archaeology specialists		598
Application Support Specialists		2,259
Applications developers		3,173
Big data analysts		1,912
Business intelligence (BI) analysts		1,434
Geologists and Geophysicists		2,342
Intellectual Property specialists		1,751
Machine learning and Artificial Intelligence (AI) specialists		1,368
Manufacturing Engineers		1,309
Scientific researchers		1,948
Software Developers		2,928
Systems Analysts		1,572
Financial investment management specialists		717
Licensing professionals		(2,581)
Mechanical Engineers		(1,751)
Network analysts		(1,285)

Fields marked in **Red** show education and skills areas for which the country faces critical shortages and no training is available in the country; fields in **Amber** represents education and skills for which training is available in the country but supply is less than the current and projected Human Resource needs of the country, while fields in **Green** represent education and skills which are relevant to national development, but supply exceeds the current and projected demand.

Qualifications and Skills Gaps for Digital Transformation Programme

Qualifications and Skills	Status	Estimated 5-Year Gap
Applications developers		920
Computer and Information Systems Managers		489
Computer Science Programmers		556
Computer Systems Analysts		456
Data Communication and Software Engineering specialists		380
DevOps specialists		1,241
Graphic Designing specialists		1,093
Information Science specialists		402
Multimedia Artists and Animation specialists		277
Software Engineering specialists		1,936
Software Developers		2,928
Web Programming specialists		2,056
System auditors		2,342
Application Support Specialist		(435)
Cloud engineers/cloud specialists		(747)
Computer Support Specialists		(728)
Database Administration (DBA) specialists		(901)
Database Analysts		(1,074)
Digital Marketing (Digital Technology Platforms) specialists		(487)
Information Security Analysts		(364)
Information Systems specialists		(298)
Library and Information Science specialists		(901)
Network analysts		(1,285)
Records and Archives Management specialists		(1,912)
Website Developers		(3,711)

Key Interventions for Closing the Skills Gaps

1. Establish a Program Skills Council (PSC) for the respective NDP III 18 programs. The Council shall determine skills needs and skills standards the program.

2. Each institution (MDAs) under the NDP III 18 Programs should develop a 5-year Human Resource Development Plan in line with its strategic plan to identify and prioritize critical skills and education needs as well as soft skills requirements to meet the present and the future manpower needs within the Program.

3. Establish a scholarship programme in scarce and prioritized strategic areas with no training available in the country such as Nano technology, space exploration, nuclear technology, bio sciences, ICT and engineering.

4. Establish an internship, apprenticeship and exchange programme in the prioritized strategic areas within both within and between countries. These include among others: Nano technology, space exploration, nuclear technology, bio sciences, ICT and engineering.

5. Build capacity of small scale and informal workers in the areas of applications development; Nano technology, space exploration, nuclear technology, bio sciences, ICT engineering, as well as satellite imagery through GIS and real-time disaster modelling.

6. Review and implement ICT training curriculum at all levels of the education system in collaboration with the industry players.

7. Undertake training and re-training of all personnel in all MDAs in applying and using ICT to improve the delivery of services to the public

Conclusion

- NPA is cognizant of the fact that new data collection and monitoring technologies are becoming rapidly available and this has the potential to rapidly improve service delivery, public administration and accountability of governments and businesses.

- Making good use of big data will require the right skill set and collaboration of various actors including data scientists and practitioners, leveraging their strengths to understand the technical possibilities as well as the context within which insights can be practically implemented.

- The Data Science network is a welcome initiative as it is well aligned to the national development priorities for the next five years as we build a stock of knowledgeable, skilled and productive human resources.

THANK YOU!