

# Africa Wealth Cheque: Final Report

*Africa Investor Magazine and The Africa Group*

*June 11<sup>th</sup>, 2010*



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# The Unlocked Africa

***“At the highest level, Africa is similar to any other private investment – investors must take on risk to pursue an addressable market opportunity. What makes Africa unique is that incremental dollars invested into Africa will begin to unlock a previously inaccessible market of equal or greater size than Africa today. Potential returns in this type of environment are extraordinary.”***

- The Africa Group

***“Imagine, for a moment, you had the opportunity to buy stock in Ford just before it pioneered the first assembly line. From a market in perspective, this is similar to Africa today. Ford had significant pent up demand that existing infrastructure could not meet, making the potential opportunity for sales many times greater than actual sales in that day. As an investor, you would see this and realize they needed just a bit of capital to achieve outsized returns. This is Africa now, a pivotal market with potential many times greater than actual output today. A market like this needs just a bit of private investment to get the ball rolling.”***

-The Africa Group

***“The aim of the Africa Wealth Cheque Report was to identify and estimate how much natural, economic and human capital wealth is within the continent, in essence to quantify the beginnings of the asset side of Africa’s balance sheet, catalysing debate about how wealthy as a pose to poor the continent is, and signal tipping points for African government’s and global investors seeking growth opportunities.”***

-Hubert Danso, Vice Chairman and Managing Director, Africa investor

*Given the significant differences in valuing potential across the 7 expansive sectors, each analyst team developed a custom approach based on the available data and best practices for sector analysis, guided by the key principles established for the project.*

## Sample Methodology: Agriculture

- **Step 1:** Disaggregate the agricultural sector into different subsectors
- **Step 2:** Identify major assets within the subsector (cropland and livestock)
- **Step 3:** Estimate the value of assets within in each subsector as identified in step 2
  - Estimate the value of cropland and livestock
  - Estimate the physical stock of capital in cropland and livestock
- **Step 4:** Aggregate the dollar value of each subsector, and submit to team for integration in final report

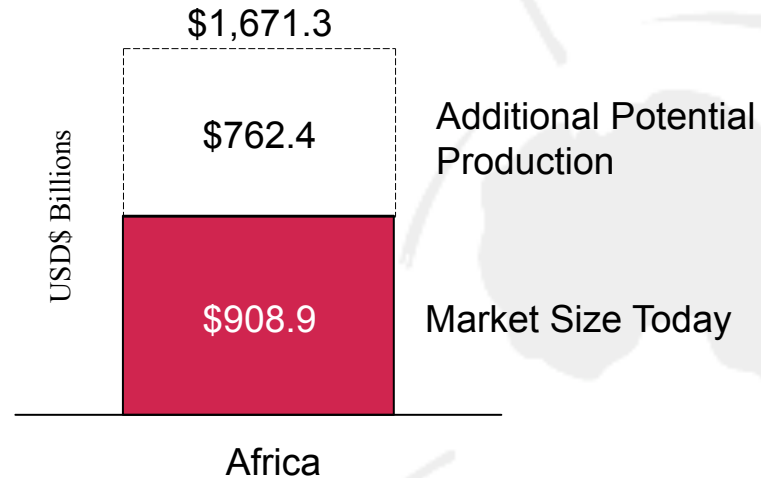
# Key Principles

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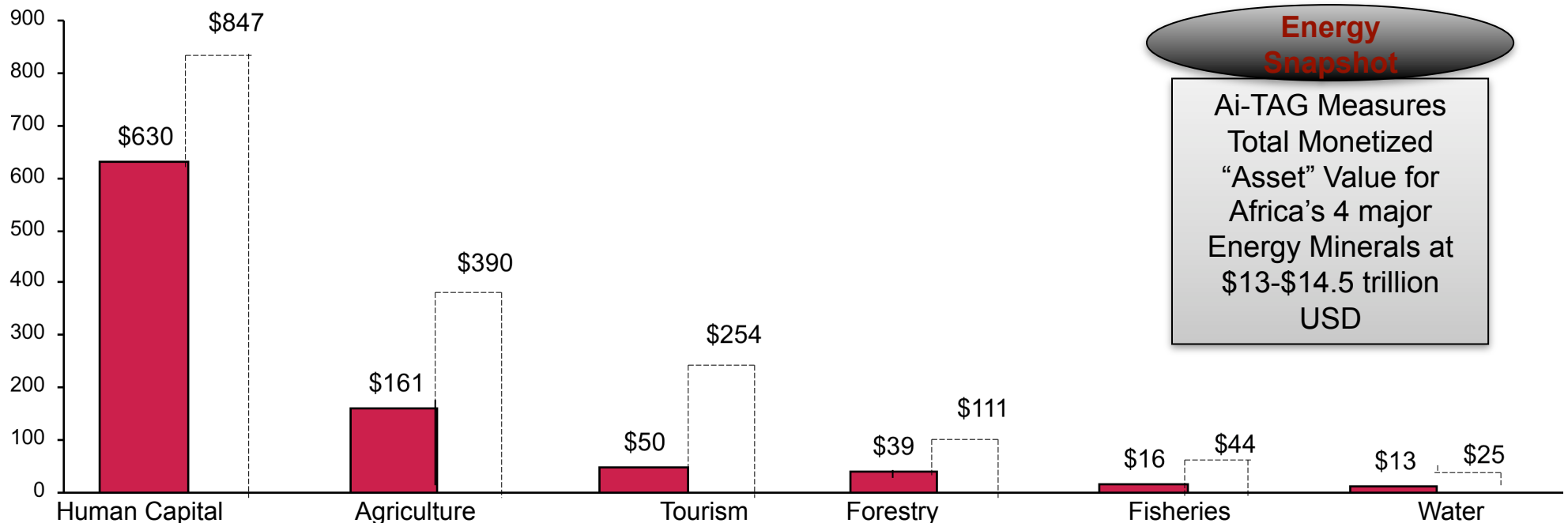
- **Wealth**: All financial and non-financial assets minus liabilities. (i.e., agricultural wealth is defined as the value of total productive assets in the agricultural sector excluding human capital)
- **Fixed Point Analysis**: Analysis assumes output or asset availability at a fixed point in time; calculates addressable market and potential market value of assets or output
- **General Principle in Valuation of Assets**: Asset value based on price of asset “freely” traded in the market. In instances in which free market prices are unavailable, estimates are made by computing present value of the future returns from the asset relative to comparable assets in the space
- **Time and Denomination of Valuation**: Assets are valued in 2010 U.S. Dollars
- **Comparables**: Where growth estimates are not readily available, comparables are used to derive a growth ‘multiple’ that is applied to current figures in the country of interest. (i.e., human capital examines wages for similar types of labor in Thailand and Brazil and applies trends in these countries to project growth from the current labor market in African nations)
- **Conservativeness**: Growth estimates are conservative and avoid unreasonably optimistic projections and assumptions
- **Direct Costs**: Approach analyzes direct, not indirect, production and output so as not to double count
- **Unit of Analysis**: The estimation of wealth in each sector is done at country level, unless only regional level data is available

# Market Size Today Dwarfs The Potential Future Market Size

## Across Six Key Sectors Africa Only Produces Half Of It's Potential Output Today



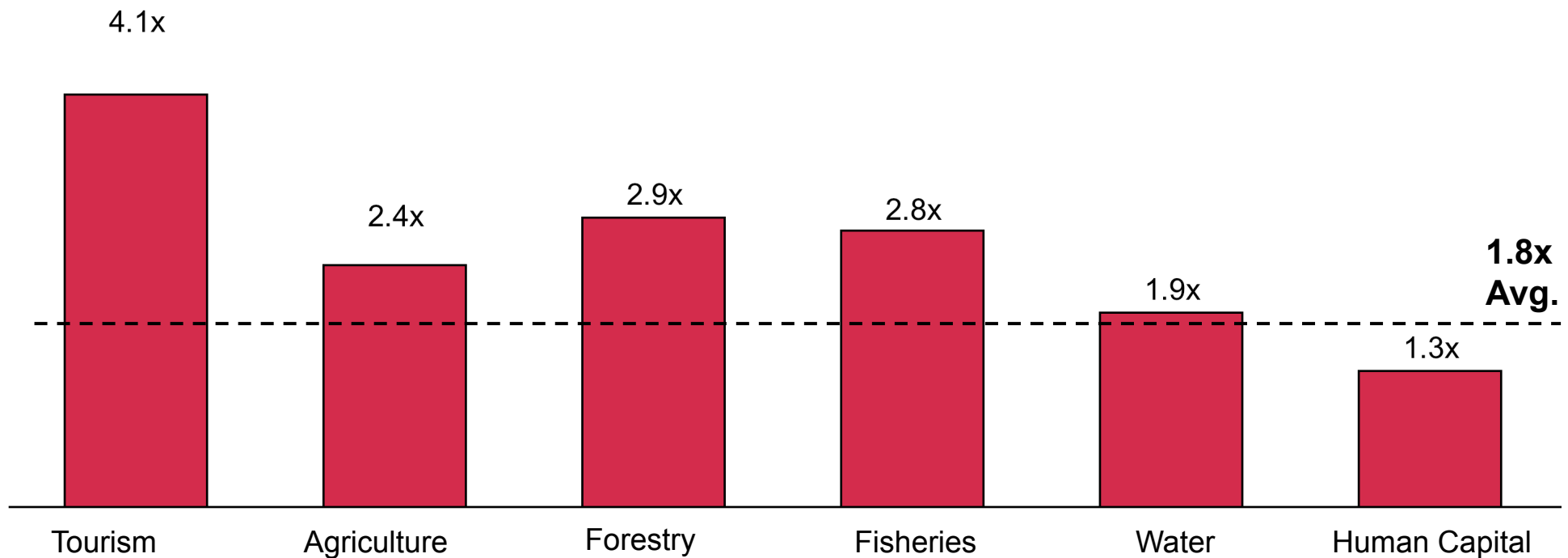
## Market Size Of Selected African Sectors Has Not Yet Reached Their Potential



# The Africa Wealth Multiple

*Africa's average total potential wealth is approximately 2 times total output today across six major sectors*

## Future Market Size / Market Size Today



# Snapshot Major Energy Minerals – Total Stock



## Market Size: Current Proved Stock

*\$13 to 14.5 trillion*

### Assumptions and Methodology

#### **Four Major Energy Minerals**

- The analysis encompasses the four main energy minerals – hard coal, natural gas, crude oil, and uranium
- The methodology accounts for proved reserves, using the most up to date information from the Energy Information Agency

#### **Current Stock Analysis**

- This sector measures current stock of each mineral , rather than output potential
- Analysis provides a range, based on valuation using the most recent spot price for each mineral, and a 5 year average price

#### **Comparison with Other Sectors**

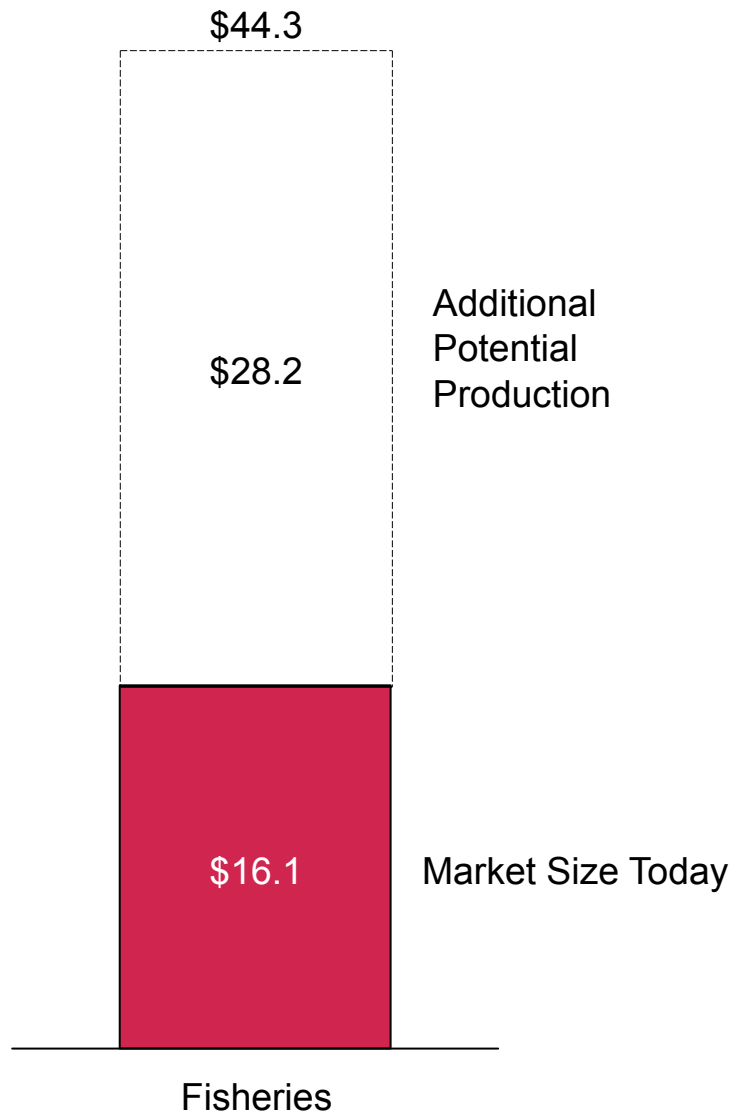
- Given that the other sectors analyze output potential, the energy minerals sector numbers cannot be used to cross compare with the primary six sectors analyzed. Rather, this sector, whose value is widely understood by most investors, is intended to serve as a measuring stick for the other, more forward-looking sectors.

	<b>Value at 5yr Avg Price</b>	<b>Value at Recent Spot Price</b>
<b>Recoverable Hard Coal - Anthracite and Bituminous (Million Metric Tons)</b>	\$3,402,112,141,354	\$4,417,625,582,537
<b>Proved Natural Gas (Trillion Cubic Feet)</b>	\$1,717,861,470,564	\$1,576,028,127,060
<b>Proved Reserves of Crude Oil (Billion Barrels)</b>	\$7,899,927,605,841	\$8,439,156,736,200
<b>Uranium Recoverable Resources (Metric Tonnes)</b>	\$63,067,237,382	\$105,439,809,770
<b>Total Estimated Value</b>	<b>\$13,082,968,455,141</b>	<b>\$14,538,250,255,567</b>

# Fisheries

## Market Size: Today and Future

*2.75x times potential*



## Assumptions

### Today

- Actual 2008 production for Marine, Inland, and Aquaculture grown to 2010 production volume by using the average annual growth rate for worldwide fish production
  - FishSTAT Plus database figures used to determine country specific production for Capture (Marine and Inland) and Aquaculture production in 2008
  - Average annual growth rate for fish production used four growth comps (world wide annual, average world growth 2000-2007, Africa growth rate 2000-2007, Africa growth rate 1993-2007)
- Price per Kg assumed average sale price / Kg for most prevalent fish types produced in Africa

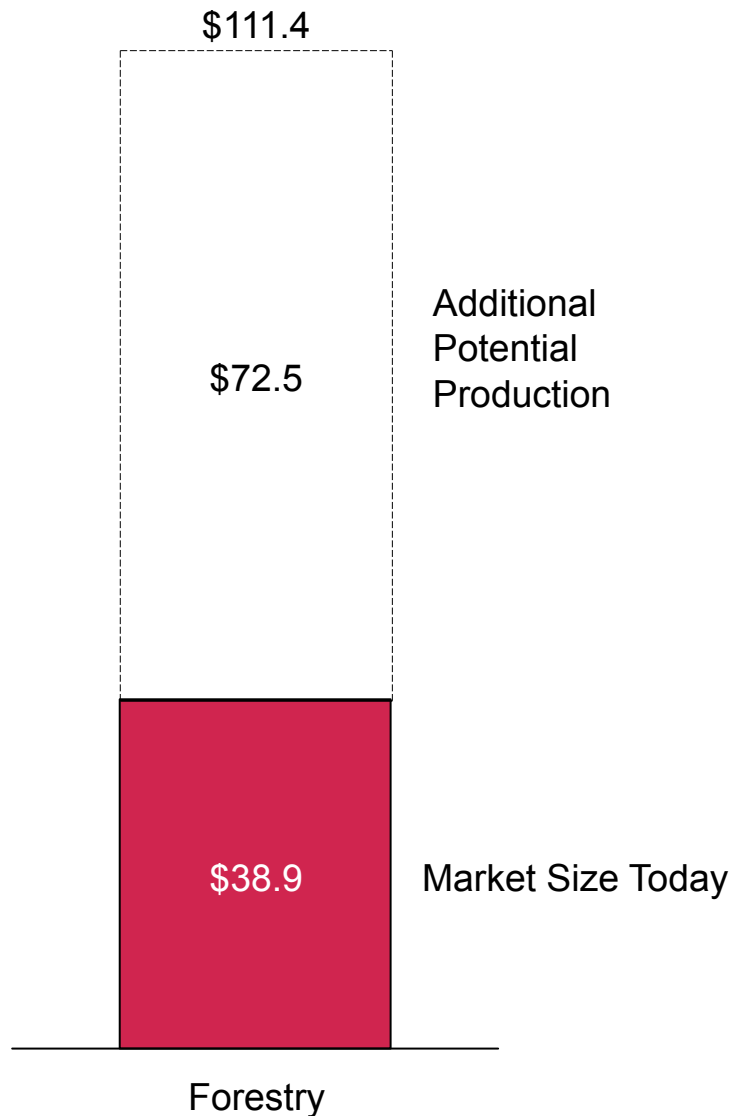
### Future Potential

- Potential future production is determined by assuming similar fish production levels for Africa relative to comparable regions across Capture (Marine and Inland) and Aquaculture production
  - Assumed average annual fish production (tons) per Km of coast line and renewable water for (Best 5 Africa nations, Brazil, Best Developing nations, and BRIC)
  - *Adjustments made to prevent overfishing*

# Forestry

## Market Size: Today and Future

*2.9x times potential*



## Assumptions

### **Today**

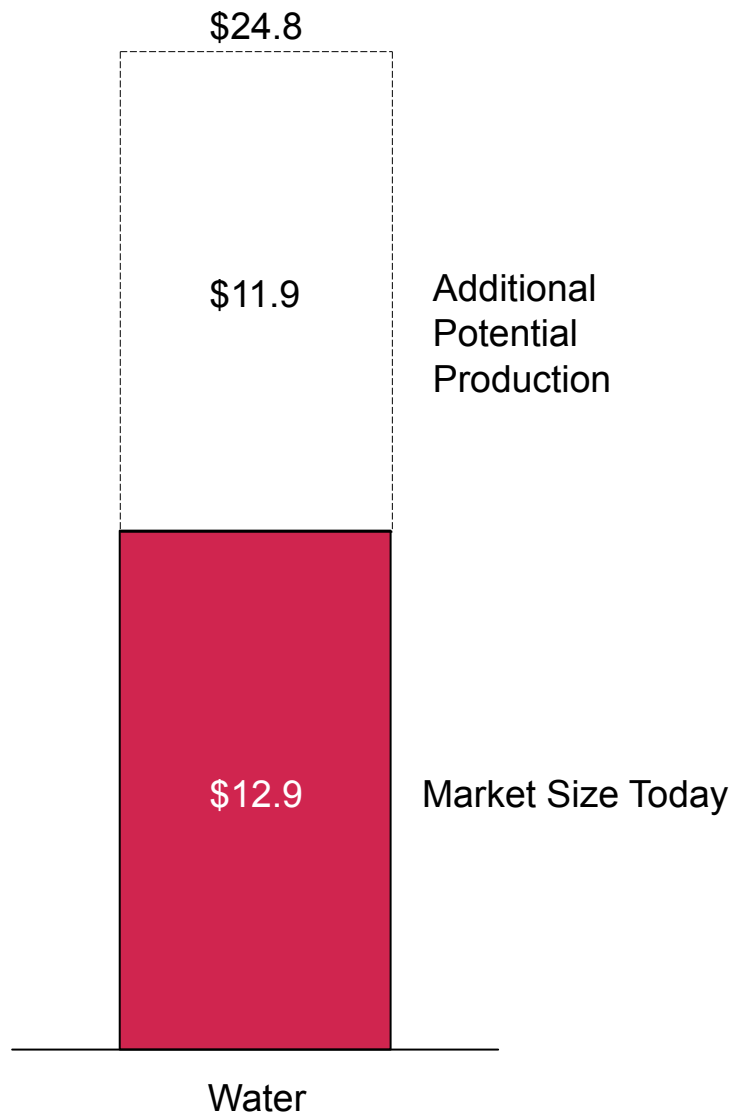
- The actual value of Forestry in Africa is the sum of the value of Timber production (round wood and fuel wood)
  - Round wood production is calculated as the factor of available timber wood and the average price of round wood by country
  - The value of export fuel wood is the total fuel wood production times an market index of fuel wood prices

### **Future Potential**

- With greater efficiencies in the harvesting, processing, replanting, and production of wood products as well as increased value of nearby land for grazing
  - Because African timber and forestry products are similar in made and composition to some other, more developed nations, substitute production efficiencies and prices drive potential value of timber

## Market Size: Today and Future

*1.9x times potential*



## Assumptions

### **Today**

- Value of water determined as the value of water from sector specific uses, agriculture, domestic, and industrial water use
  - Agriculture value is determined as the estimated water requirement for irrigated land from FAO Aquastat; price for agriculture is the average price water by country per cubic meter
  - Domestic water is calculated as percent of population with access to piped water into dwelling, Piped water to yard/plot, Public tap or standpipe, Tubewell or borehole, Protected dug well, and Protected spring multiplied by average price across utility networks in Africa
  - Industrial water consumption is determined as the total industrial water produced, minus water loss from piping water, and assume cost of water to industrial sources is equal to the breakeven point for operation and maintenance of industrial water sources

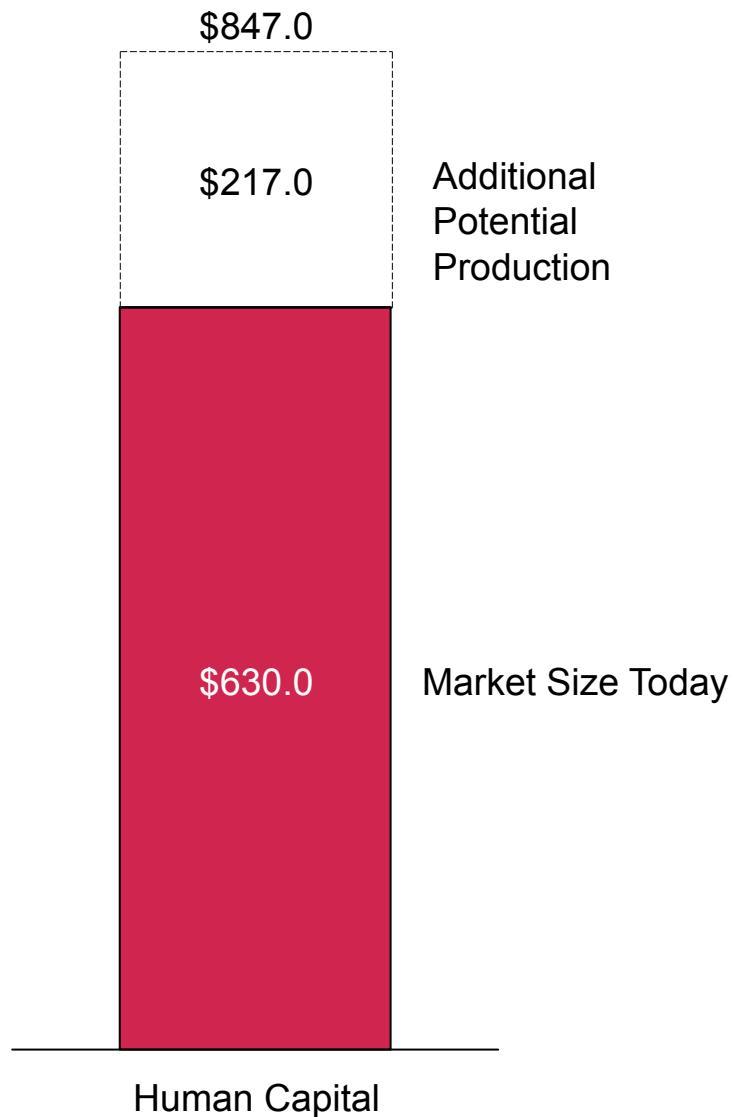
### **Future Potential**

- As Africa improves water harvesting and transportation efficiency as well as consumption increases as agriculture, domestic and industrial production reach capacity
  - The potential of agriculture is determined as the value of non irrigated farmland consuming water at the same rate as irrigated farmland
  - Domestic water consumption assumes improved access to water, raising piped water access to levels equal to other developing nations
  - Industrial water consumption assumes water lost in production improves to be equal to other developing nations and water utilities charge a price equal to South Africa's average price per cubic meter

# Human Capital

## Market Size: Today and Future

*1.3x times potential*



## Assumptions

### Today

- Value of wages in Africa determined as the sum of the estimated total wages from three sectors (agriculture, industry and service). The Africa Group views wage potential as an effective representation of the continent's Human Capital weight.
  - Wages calculated from wage survey data compiled by the International Labor Organization across 9 African countries, by sector, normalized by time period and exchange rate
  - Wage rates stratified income by low income, lower middle income, and middle income
  - Total wage income today determined by multiplying wage rates by average employment by sector by income class for each country

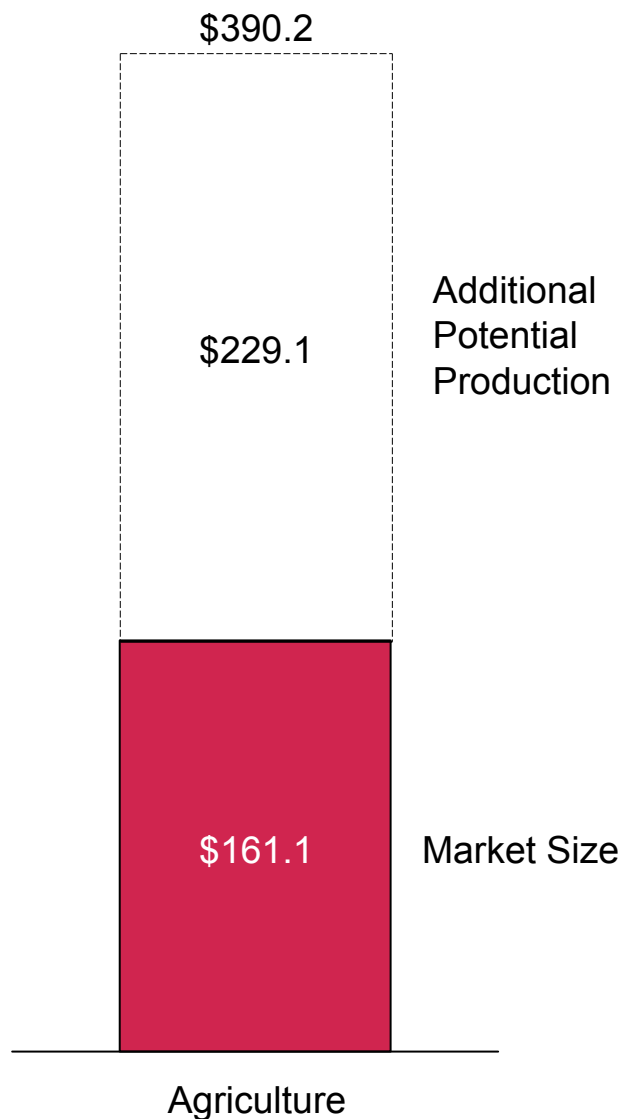
### Future Potential

- In the future, African employment rate, employment mix and wage rates will adjust and increase and begin to look more like more developed nations (i.e., Brazil and Thailand)
  - Future potential wages calculated by assuming sector mix, employment rate and wage rate for Thailand or Brazil
  - Comparable country chosen based on current GDP per capita levels

# Agriculture

## Market Size: Today and Future

*2.4x times potential*



## Assumptions

### **Today**

- Value of the agriculture sector is the sum of the value of the Crop and Livestock sector (segmented into Produced and Non-Produced assets) in Africa
  - Value of Cropland based annual output of the land for major crops as local market prices
  - Crops include wheat, maize, apples, bananas, oranges, grapes, coffee and soybeans and remaining crops in a non-disaggregated figure
  - Value of physical capital stock estimated as estimated annual investment in property, plant and equipment with limited assumed depreciation
  - Value of livestock estimated as the annual output for animal products at local market prices

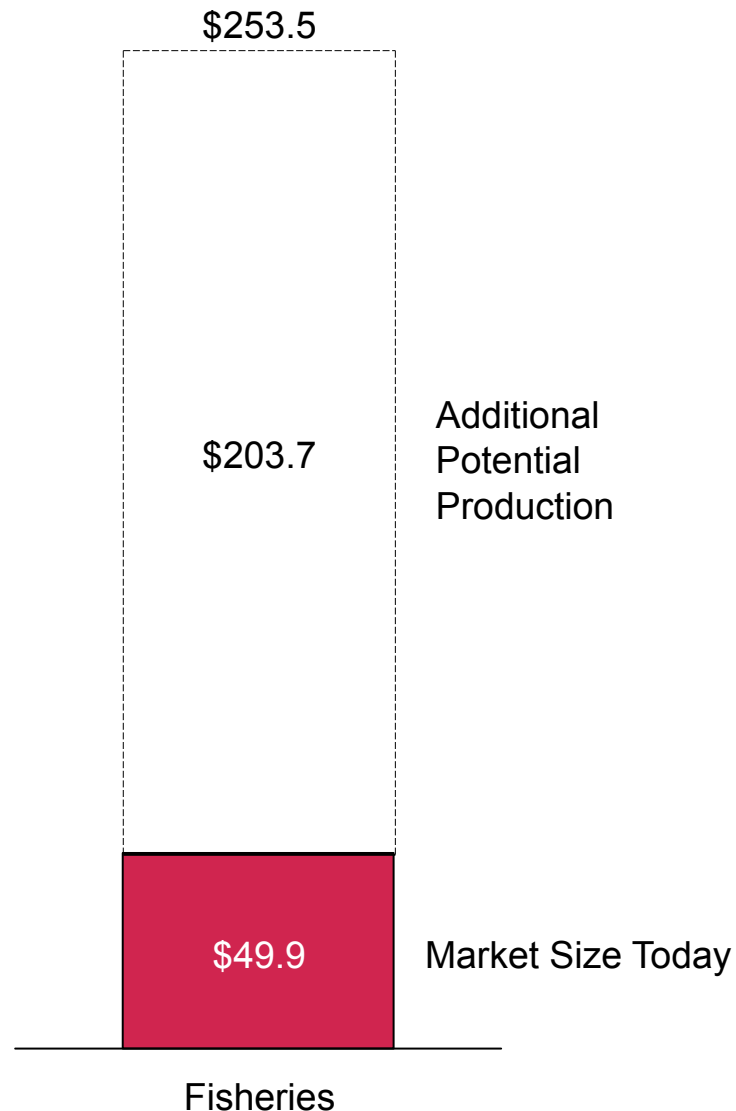
### **Future Potential**

- As Africa's agricultural and transportation infrastructure improves, output will continue to increase based on efficiency gains from technology as well as volume from farming other arable land
  - Potential value of agriculture based on annual incremental increase in output across Crop and Livestock sectors
  - Potential output calculated by country, for both Crop and Livestock and segmented into Produced and Non-Produced assets

# Tourism

## Market Size: Today and Future

*4.1x times potential*



## Assumptions

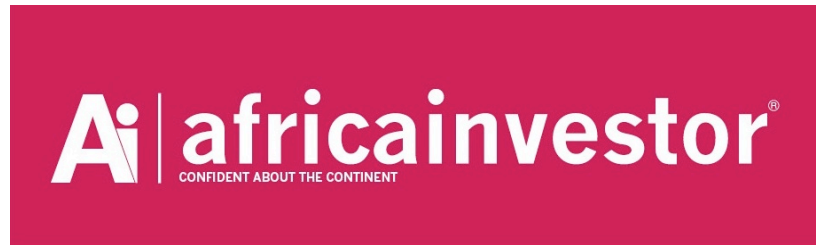
### Today

- Current value of the Continent's tourism was derived from data given by the World Travel and Tourism Council.

### Future Potential

- Potential of tourism assesses current available coastal, cultural, and environmental tourist destinations
  - Coastal tourism revenue was estimated using earnings per km of coast leveraging Tourism value / km for Mauritius (Mauritius derives the bulk of its tourism earnings from coastal tourism) with substantial discounts incorporated for other nations (e.g., Eritrea, Madagascar, etc.)
  - Environmental tourism revenue calculated as average revenue per sq. km per biodiversity concentration for Botswana (Botswana derives the bulk of its tourism revenue from Environmental tourism) with discounts to other nations given accessibility and other physical constraints
  - Cultural tourism revenue potential earnings were estimated using revenue per visitor values from OECD data on cultural tourism trips. The potential was
- The Future value of African tourism assumes greater utilization of available land tourism infrastructure
  - Cultural, environmental and coastal tourism upper limits are subject to accessibility and access constraints which bound available revenue
  - Tourism figures may be conservative given methodology assumes future tourist trip purpose is mutually exclusive (i.e., a coastal tourist does not spend any money on cultural activities)
  - All figures were subject to a political and social risk discount.

# About The Partners



## **African Investor** – [www.africa-investor.com](http://www.africa-investor.com)

Africa investor (“Ai”) is a specialist investment communications firm advising governments, international organisations and businesses on communication strategies for capital market and foreign direct investments in Africa. Africa investor publishes Africa investor, the leading international newsstand magazine for Africa’s investment decision makers; maintains the Africa investor 40 Investors” Index, hosts the Ai Index Series Summit & Awards and the Africa investor Infrastructure Projects Summit & Awards, amongst other events.

## **The Africa Group LLC** – [www.theafricagroup.com](http://www.theafricagroup.com)

The Africa Group (“TAG”) is a consulting, research, and advisory firm focused on economic growth and investment across the continent of Africa. The Africa Group is defined by its people, and brings together a customized team to meet the needs of each client. We unite the efforts of individuals across the globe to bring together international best practices with local expertise, focusing on service offerings including market entry and growth consulting for business and governments across the Continent.

## Appendix – Key Sources



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Thomas Hecht – Rhodes University

+27 46 6751010/082 8011 363

[t.hecht@ru.ac.za](mailto:t.hecht@ru.ac.za)

Klaus Knopf

Department of Inland Fisheries

Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)

Tel.: +49 30 64181637

[Klaus.knopf@igb-berlin.de](mailto:Klaus.knopf@igb-berlin.de)

John Moehl

Regional Aquaculture Officer

Tel.: (233) 21 678 000

[john.moehl@fao.org](mailto:john.moehl@fao.org)

# Fisheries

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Matthias Halwart

FAO Fisheries Department

Tel.: (39) 06 570 55080

Fax: (39) 06 570 53020

[Matthias.halwart@fao.org](mailto:Matthias.halwart@fao.org)



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