Grey Corp

2020

Communication On Progress Report

Agricultural Sector

Defying Limits, Surpassing Standards

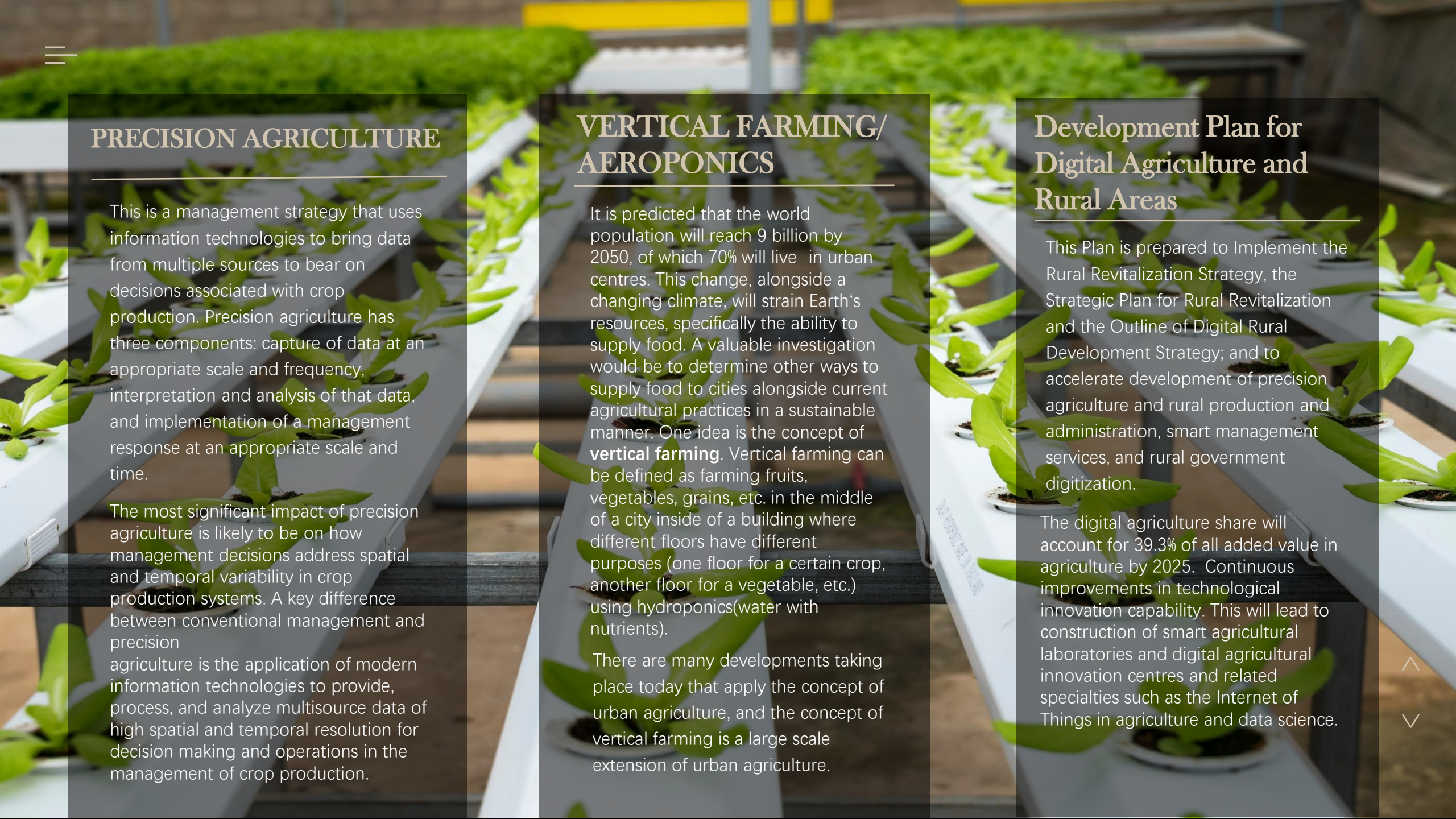
2020

Message From The Ceo

“ My Aim In Life Is To Surpass Limitations And Boundaries set by our Standards And Beliefs. This Can Only Be Done By Having Genuine Love For Humanity And A Drive That’s Almost Like A Burden For It’s Betterment.

Grey Corp’s Precision Agriculture Solutions helps Farmers Work Smarter, not harder, to optimize productivity and maximize crop yields. Myself together with the Grey Corp team we will continue to support the UN SDG’S, so that we can steer both Africa and the world as a whole towards a brighter future. ”

SHERIF KANGATI, CEO/FOUNDER



PRECISION AGRICULTURE

This is a management strategy that uses information technologies to bring data from multiple sources to bear on decisions associated with crop production. Precision agriculture has three components: capture of data at an appropriate scale and frequency, interpretation and analysis of that data, and implementation of a management response at an appropriate scale and time.

The most significant impact of precision agriculture is likely to be on how management decisions address spatial and temporal variability in crop production systems. A key difference between conventional management and precision
agriculture is the application of modern information technologies to provide, process, and analyze multisource data of high spatial and temporal resolution for decision making and operations in the management of crop production.

VERTICAL FARMING/ AEROPONICS

It is predicted that the world population will reach 9 billion by 2050, of which 70% will live in urban centres. This change, alongside a changing climate, will strain Earth's resources, specifically the ability to supply food. A valuable investigation would be to determine other ways to supply food to cities alongside current agricultural practices in a sustainable manner. One idea is the concept of **vertical farming**. Vertical farming can be defined as farming fruits, vegetables, grains, etc. in the middle of a city inside of a building where different floors have different purposes (one floor for a certain crop, another floor for a vegetable, etc.) using hydroponics(water with nutrients).

There are many developments taking place today that apply the concept of urban agriculture, and the concept of vertical farming is a large scale extension of urban agriculture.

Development Plan for Digital Agriculture and Rural Areas

This Plan is prepared to Implement the Rural Revitalization Strategy, the Strategic Plan for Rural Revitalization and the Outline of Digital Rural Development Strategy; and to accelerate development of precision agriculture and rural production and administration, smart management services, and rural government digitization.

The digital agriculture share will account for 39.3% of all added value in agriculture by 2025. Continuous improvements in technological innovation capability. This will lead to construction of smart agricultural laboratories and digital agricultural innovation centres and related specialties such as the Internet of Things in agriculture and data science.

Problem Statement

Kenya's agriculture continues to diminish, and supplies most of the country's food needs, though profitability in export sectors has declined sharply in recent years. Among the numerous problems the crop-growing sectors have contended with since the State was founded, water scarcity remains the principal and growing threat. Nevertheless the ongoing introduction of new water sources, coupled with altered irrigation methods and more water efficient crops, promises long-term security.

By the year 2030 Kenya's population is expected to grow by about a half, over 65.4 million and 85 million by 2050 (United Nations and Euro-monitor International). This will cause huge increases in demand for agricultural produce and products; but urban use of land and water will also increase enormously. The amount of fresh water allocated for agriculture will be reduced radically, by 50%, in 2040. By 2020 it is unlikely to exceed this amount, and may well be considerably less. At the same time, the amount of suitable land available for farming (58,264,600 hectares) will also be some 34% less than at present.

Part of the higher demand notably for field crops (such as cereals, vegetables and sugar) and for milk products, fish and beef will have to be met by increased imports. Nevertheless a substantial part of the additional requirements will have to come from increased domestic production. Sweeping changes like a 28 % increase in the labor force and a reduction in irrigated field crops, such as rice will be required to make water available for growing fruit and vegetables for the local market.

The above is based (with minor updates) on a study by the Government of Kenya ministries ("Agricultural Production Forecast for the year 2030").

SDG'S that will be achieved

1. No Poverty

Termination of thrilling poverty in all its forms. This includes:-
Child stunting, malnourishment, starvation, and food diffidence.
Goal 1.0. End aggregate income poverty ($1.25 or less per day) and hunger, including accomplishing food security and apt nutrition, and culminating child stunting.
Goal 1.1. Deliver enhanced support for exceedingly vulnerable and Least Developed Counties, to address the structural challenges facing those counties, including violence and conflict.

2. Zero Hunger

By the year 2030 Kenya's population is expected to grow by about a half, over 65.4 million . Using the strategy of Pecision Agriculture through early pest detection and crop monitoring systems, the countries production will increase with over 39% hereby giving the country capabilities of feeding its people.

3. Good Health And Well Being

Realize universal health exposure at every phase of life, with particular prominence on crucial health services, together with reproductive health, to guarantee that all individuals obtain quality health services without distress of financial hardship. All counties in Kenya promote strategies to help people make healthy and sustainable choices concerning physical, activity diet, and other individual or social scopes of health.
Goal 10.0 Guarantee complete access to crucial healthcare through healthy diets.
Goal 10.1 End preventable deaths by reducing child mortality to 20 or fewer deaths /1000 births, maternal mortality to 40 or fewer deaths /100,000 live births, and mortality under 70 years of age from non-communicable diseases by at least 30%.

4. Quality Education

All girls and boys complete affordable and high quality early childhood development programs, and primary and secondary education to prepare them for the challenges of modern life and decent livelihoods. All youth and adults have access to continuous lifelong learning to acquire functional literacy, numeracy, and skills to earn a living through decent employment or self-employment (Through Modern Agricultural farming).
Goal 4.0. All girls and boys have equal access to quality education development programs.
Goal 4.1. All girls and boys receive quality primary and secondary education that focuses on learning outcomes and on reducing the dropout rate to zero.
Goal 4.2. Youth unemployment rate is below 10%.

SDG'S that will be achieved

5. Gender Equality

Guarantee gender egalitarianism, human rights, rule of law, and complete access to public services. Diminish relative poverty and other inequalities that cause social omission. Inhibit and eradicate violence and exploitation, especially for women and children.
Goal 5.0. Decrease by half the fraction of households with incomes less than half of the national median income (relative poverty).
Goal 5.1. Avert and eradicate violence against individuals, especially women and
Children (women and child labor).

6. Clean Water And Sanitation

Biodiversity, marine and terrestrial ecosystems of local, regional, and global significance are inventoried, coped, and observed to ensure the prolongation of resilient and adaptive life support systems and to maintain sustainable development. Water and other natural resources are managed sustainably and transparently to sustain inclusive economic and human development.
Goal 8.0. Guarantee resilient and prolific ecosystems by adopting policies and legislation that address drivers of ecosystem deprivation.
Goal 8.1. Partake in and support regional and global engagements to inventory, observe, and protect biomes and environmental commons of regional and global significance and curb trans-boundary environmental destructions, with strong systems in place no later than 2020.

7. Affordable And Clean Energy

CURB HUMAN INDUCED CLIMATE CHANGE AND SAFEGUARD SUSTAINABLE ENERGY THROUGH AGRICULTURE

Curb greenhouse gas emissions from energy, industry, agriculture, the built environment, and land use change to ensure a peak of global CO2 emissions by 2020 and to head off the rapidly growing dangers of climate change. Promote sustainable energy for all.
Goal 7.0. Decarbonize the energy system, ensure clean energy for all, and improve energy efficiency, with targets for 2020, 2030, and 2050.
Goal 7.1. Cut off non energy associated emissions of greenhouse gases through enriched practices in forestry, agriculture, industry and waste management. Goal 7.2. Adopt incentives, as well as pricing greenhouse gas emissions, to curb climate change and promote technology in Kenya.

8. Sustainabe Cities And Communities

Through Vertical farming farming fruits, vegetables, grains, etc. can be grown in the middle of a city inside of a building where different floors have different purposes (one floor for a certain crop, another floor for a vegetable, etc.) using hydroponics(water with nutrients). This concept will help supplying food in cities therefore promoting urban agriculture and sustainable cities.

SDG'S that will be achieved

9. Responsible Consuption And Production

DEVELOP AGRICULTURAL SYSTEMS AND ELEVATE RURAL PROSPERITY

Develop farming practices, rural infrastructure, and access to resources for food production to upsurge the efficiency of agriculture, livestock, and fisheries, elevate smallholder incomes, reduce environmental effects, stimulate rural opulence, and guarantee resilience to climate change.

Goal 3.0. Guarantee sustainable food production systems with high yields and high efficiency of water, soil nutrients, and energy, supporting nutritious diets with low food losses and waste.

Goal 3.1. Halt forest and wetland conversion to agriculture, protect soil land resources, and ensure that farming systems are resilient to climate change and disasters.

Goal 3.2. Ensure complete access in rural regions to rudimentary resources and infrastructure services (land, water, sanitation, modern energy, transport, mobile and broadband communication, agricultural inputs, and advisory services).

Conclusion

This Project will be able to meets most of our food requirements through domestic production to produce over 5 million tons of field crops, 1.15 billion liters of milk, 1.6 billion eggs and 1.2 billion flowers for export. The total area of arable land is 99,050 km2 with 78% under cultivation (FAO). Water scarcity is the main limiting factor in Kenya agriculture; the total area under irrigation in Kenya is estimated at 476,000 acres about 0.033 % of the land is irrigated (Ministry of water and irrigation, 2017). Of the 1,129 million cubic meters (MCM) of water used by agriculture per year (FAO). The Ministry of Agriculture, County governments and Rural Developments are key driver of plans supporting sustainable development and reducing environmental hazards stemming from agriculture.

Along with other government bodies, the Ministry of Agriculture is dedicated to increasing the efficient use of water. However, continued research is required to ensure the success of recycled water in agricultural production. The Ministry is also dedicated to upgrading existing branches of agriculture, such as dairy and poultry farms to make to them more sustainable and less polluting. Early pest Detection using drones is being encouraged to increase food production through eradication of pests. Despite the fact that Kenya strengthened its efforts to address sustainable development processes, the risk of soil degradation and desertification is persistent here is a continuous and there is a need to promote soil conservation through programs. At the heart of the agricultural sector is the ability to wisely balance financial incentives, government regulation and free-market forces to improve the agricultural sector and make it more sustainable. In addition the unique climate of Kenya will necessitate close collaboration between government institutions, scientists, farmers, and localized agricultural concerns in order to maximize the growth and sustainability of agricultural output in an area with limited natural resources.

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