

# **Harnessing Research, Development and Innovation for the environmental, social and governance landscape in mining**

**Charl Harding**

# What is the Impact Catalyst



- The Impact Catalyst is an initiative founded by Anglo American, Exxaro, CSIR and World Vision International, to **deliver socio economic change on a regional scale.**
- The vision and purpose of the Impact Catalyst is establish **inclusive, collaborative, cross-sectoral** platforms, initiatives and partnerships to achieve **systemic socio-economic impact** through **public private partnerships.**
- The initiatives are designed to **leverage collaboration for collective impact**, be **cross sectoral** and selected for impact **beyond the scale of individual participants.**



## The Impact Catalyst

POWERED BY:



# Impact Catalyst Already Delivering impact at a national and regional scales



Launch 21 November 2022





# Strategic focus areas



- **Economic development**



Economic development is the process whereby simple, low-income national economies are transformed into modern industrial economies.

- **Health promotion**



Health promotion is the process of enabling people to increase control over, and to improve, their health.

- **Education**



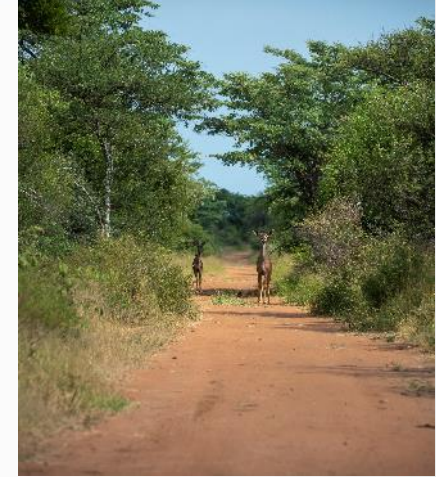
Education is an important means to improve personal endowments, build capabilities, overcome constraints and enlarge available set of opportunities and choices for a sustained improvement in well-being.

- **Social empowerment**



Social Empowerment is the process of developing a sense of autonomy and self-confidence and acting individually and collectively to change social relationships and the institutions and discourses that exclude poor people and keep them in poverty.

- **Environmental sustainability**



The goal of environmental sustainability is to conserve natural resources and to develop alternate sources of power while reducing pollution and harm to the environment.

# What is ESG



- **Environmental** criteria, includes the energy your company takes in and the waste it discharges, the resources it needs, and the consequences for living beings as a result. Not least, E encompasses carbon emissions and climate change. Every company uses energy and resources; every company affects, and is affected by, the environment.
- **Social** criteria, addresses the relationships your company has and the reputation it fosters with people and institutions in the communities where you do business. S includes labour relations and diversity and inclusion. Every company operates within a broader, diverse society.
- **Governance**, is the internal system of practices, controls, and procedures your company adopts in order to govern itself, make effective decisions, comply with the law, and meet the needs of external stakeholders. Every company, which is itself a legal creation, requires governance



# IMPACT CATALYST SUSTAINABLE DEVELOPMENT GOALS



## Environmental

6 CLEAN WATER AND SANITATION



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



15 LIFE ON LAND



## Social

2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



8 DECENT WORK AND ECONOMIC GROWTH



10 REDUCED INEQUALITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



## Governance

5 GENDER EQUALITY



8 DECENT WORK AND ECONOMIC GROWTH



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS





The background is a deep blue gradient with various geometric shapes, including triangles and hexagons, creating a complex, layered effect. On the left side, there are several interlocking gears of different sizes, some of which are semi-transparent, giving a sense of mechanical movement. The overall aesthetic is modern and technological.

## **Creating Impact - Agriculture**

# Kellogg' Winter Wheat Pilot

Environmental

6 CLEAN WATER AND SANITATION

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

15 LIFE ON LAND

Social

2 ZERO HUNGER

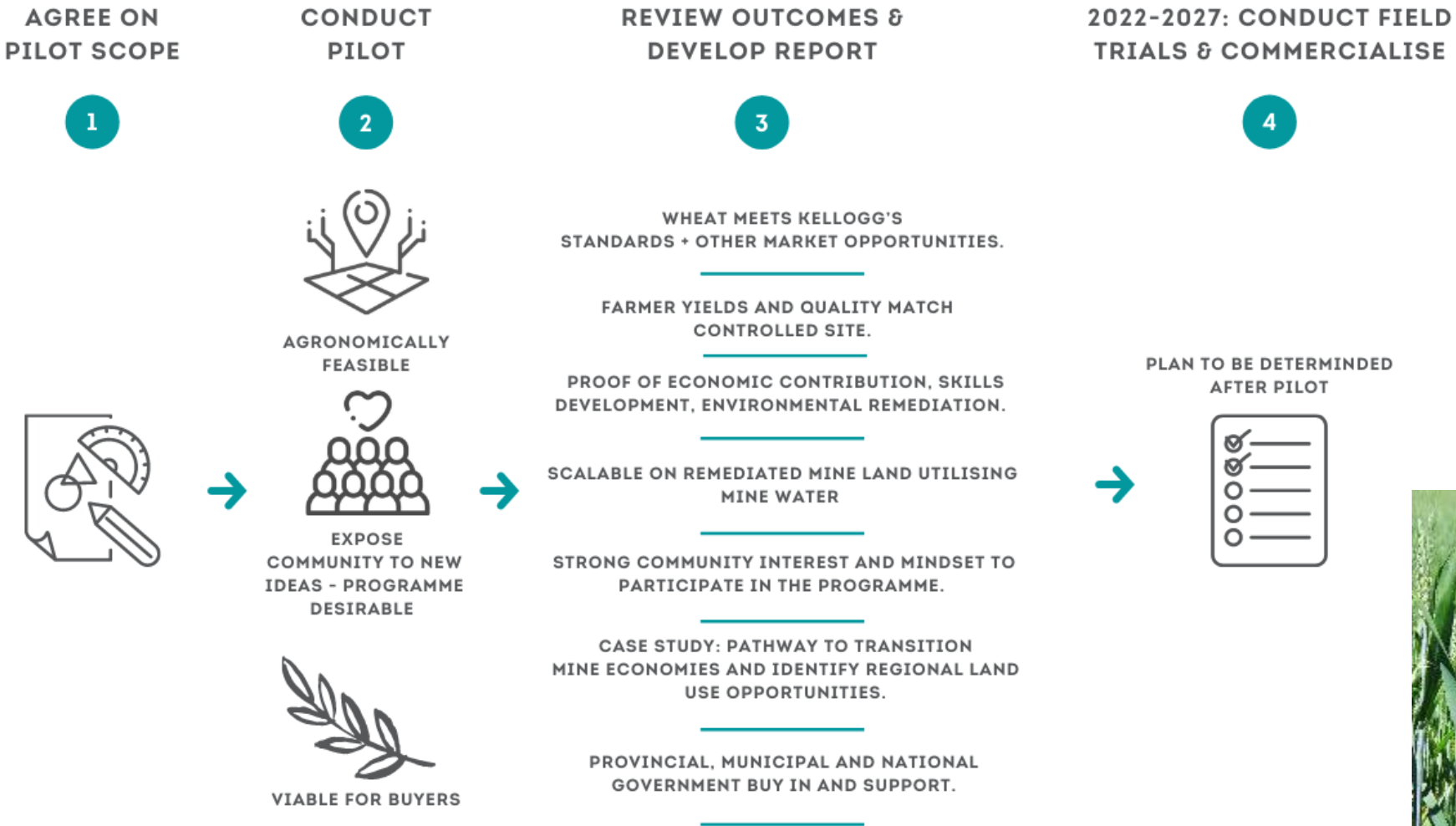
3 GOOD HEALTH AND WELL-BEING

8 DECENT WORK AND ECONOMIC GROWTH

Governance

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20- 30 jobs / 3000 ha, 10 000 tonnes of Zn fortified wheat are planned for commercialisation phase



# ZEBEDIELA FRUITS

Partners:



Environmental



Social



Governance



## Objectives:

Create a roadmap for re-capilisation of the Estate that could create multiple jobs and numerous up and down stream enterprise development opportunities.

## Introduction:

Through its partnership with the Limpopo OTP, the Impact Catalyst was approached by the Limpopo Department of Agriculture and Rural Development (LDARD) to assist in the commercial development and scaling up of a number of flagship agricultural projects in the province. Zebediela Citrus Estate is the largest of these projects. Zebediela is owned by the Bjatladi CPA with 1,574 members and in its heyday in the late 1970's it used to be the largest citrus estate in the world. Unfortunately, though, due to a combination of poor management and a lack of capital investment since it was transferred into communal ownership, the estate today is but a shadow of its previous self.

## Value / Impact:

Re-imagine the Zebediela Estate by developing an integrated Master Plan for optimal development

Recapitalisation of 5,973ha Zebediela Citrus Estate over 10years

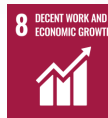
By accessing more investment capital and investing in boosting the estate's excellent water resources, the project can be scaled, thereby creating many more jobs – 2,000+

# Social Employment Fund

Environmental

Social

Governance



## Partners:



## Objectives:

A grant to support socio-economic activities in communities.  
Increase employment and SMMEs for the communities and alleviate unemployment, by diversification of the economy.

## Introduction:

**Phase 1** of the programme aims to employ over 4,000 community members in Mpumalanga, Limpopo, Northern Cape, Free State, North West and Gauteng, for purposes of environmental and agricultural management. **Phase 2** of the programme will include the beneficiation by unlocking the opportunities of an invasive and alien biomass economy. **Phase 3** of the programme includes the rehabilitation and management of the land in order to sustainably feed the beneficiation model. Optimize the agricultural land for commercial agricultural development, by unlocking water and arable land for planting or grazing. In Zebediela agricultural management through deployment of an active, large-scale agricultural operation will be deployed to promote sustainability.

## Value / Impact:

- |                       |                           |                                    |
|-----------------------|---------------------------|------------------------------------|
| Over 4,000 jobs       | SMME development          | True collaboration and partnership |
| R48m towards wages    | Sustainability            | Phase 1: 9-month catalytic phase   |
| Impact in 6 provinces | Training of beneficiaries | Diversification of the economy     |



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# **Creating Impact - Enterprise and Supplier Development (ESD)**



# On demand manufacturing



Environmental



Social



Governance



Additive manufacturing (aka 3D printing) and other on-demand technologies are rapidly providing cost-effective local production opportunities as production robotics get faster, better, and cheaper. This in turn presents an opportunity to re-shore (localize) spare parts and generate new industrial and service jobs for host communities and surrounding regions while simultaneously cutting carbon emissions. This approach is also very expandable to other sectors.

Following on-site interviews and analysis of data from Anglo American Platinum's Eastern and Western Limb distribution centres, as well as Mogalakwena office operations, and discussions with the CSIR, multiple (>400) spare parts were identified as good candidates for on-demand manufacturing. It is likely that many more exist. This concept note outlines a proof of concept pilot project focused on the local on-demand manufacture of impellers using 3D printing and associated technologies.

Laser based refurbishment or additive manufacturing technologies have progressed significantly in recent years and are now able to create original plastic and metal components or refurbish worn parts. This presents a circular economy opportunity while improving operational efficiency through improved maintenance practices, more efficient management of degraded parts and spare parts inventory. It also presents an opportunity to create industrial and services jobs in our host communities and surrounding regions and could be expanded to other sectors.

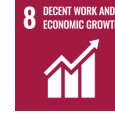


# Waste Pickers Solution

Environmental



Social



Governance



## CORE SOLUTIONS



**Recycling:**

**PET**

**Glass**

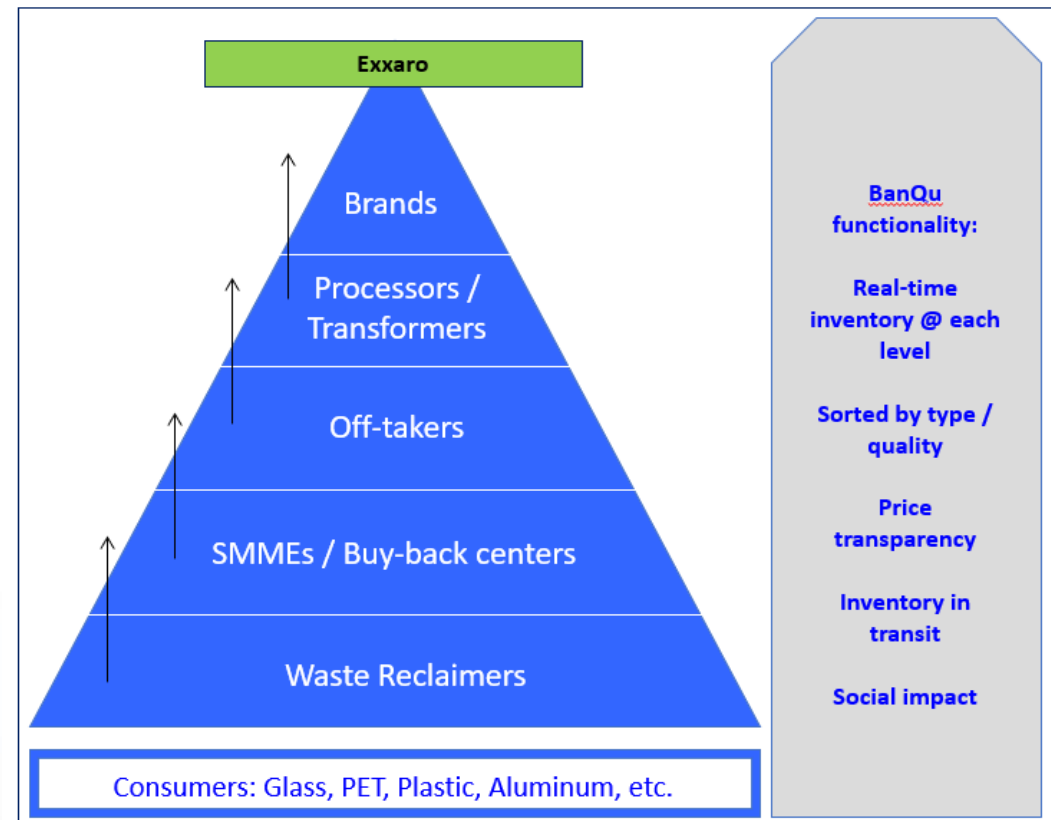
**LDPE**

**HDPE**

**Aluminum**

**Paper**

**Cardboard**



## SUSTAINABILITY

- + Climate Action
- + EPR & Scope 3 Compli.
- + CO2 Credits
- + Water
- + Conservation
- + Deforestation
- + Poverty Alleviation
- + Local Sourcing
- + Banking the Unbanked
- + Gender Equity
- + Access to WASH
- + Human Rights
- + Fair Wages
- + End Child Labor
- + End Forced Labor
- + DEI Metrics

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## **Creating Impact – Capable State**



# Limpopo Road Safety Programme (LRSP)

Partners: 

Environmental

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Social

4 QUALITY EDUCATION



5 GENDER EQUALITY



8 DECENT WORK AND ECONOMIC GROWTH



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Governance

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17 PARTNERSHIPS FOR THE GOALS





## Objectives:

- Improve the road safety management capacity at key public institutions with road safety-related mandates at the provincial level.
- Improve the post-crash response system.
- Improve livelihoods and employment opportunities linked to safe behaviours and road safety enhancement initiatives.

## Introduction:

- The LRSP is a 3-year programme which will focus on road safety in the Limpopo Province
- The programme has been conceptualised by following the Safe Systems Approach (SSA) - an intervention methodology to facilitate a change in thinking and action
- The programme is designed around the five priority pillars of the SSA:

Pillar 1 Road safety management	Pillar 2 Safer roads and mobility	Pillar 3 Safer vehicles	Pillar 4 Safer road users	Pillar 5 Post-crash response
This pillar highlights the need to strengthen institutional capacity to further road safety efforts. It includes activities such as putting into practice major United Nations road safety conventions	This pillar highlights the need to improve the safety of road networks for the benefit of all road users, especially the most vulnerable: pedestrians, bicyclists, and motorcyclists.	This pillar addresses the need for improved vehicle safety by encouraging harmonization of relevant global standards and mechanisms to accelerate the uptake of new technologies which impact on safety.	Pillar 4 focuses on developing comprehensive programmes to improve road user behaviour. Activities include encouraging the development and adoption of model road safety legislation and sustained or increased enforcement of road safety laws and standards.	Pillar 5 aims to increase responsiveness to post-crash emergencies and improve the ability of health, fire and rescue, and other systems to provide appropriate first response, emergency treatment and longer-term rehabilitation for crash victims.

## Value / Impact:

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# **Creating Impact – Community Development**



# COMMUNITY ORIENTATED PRIMARY CARE PROGRAMME

Environmental

Social

Governance



Partners:



Objectives:

- through upskilling of the community health workers of DoH, to implement a model of holistic hi-tech, hi-touch primary care in mine communities;
- address the technical and leadership skills gaps required to speed up service delivery; and
- improve care coordination through strengthening the multi-disciplinary teams in the clinic health catchment areas.

## Introduction:

The University of Pretoria's Health Faculty has been supporting the Anglo American and Exxaro mine companies since 2019 with strengthening the primary healthcare service by providing up-front and weekly in-service training to the foot soldiers of primary healthcare, the community health workers. The COPC Research Unit has been instrumental in supporting in the Emakhazeni area's peer educator programme during 2019, and has been working in 133 clinics in Anglo American communities since 2020, following an initial pilot in Mogalakwena in 3 clinics in 2019.

## Value / Impact:

Community benefits include:

- Improved patient adherence
- Convenience and ease of access

- R10.6 mill poverty reduction
- R11.7 mill contribution to GDP

- R6.4 mill savings on pharmaceuticals (TB & HIV)



# COMMUNITY AND SCHOOLS ICT

Environmental

11 SUSTAINABLE CITIES AND COMMUNITIES

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### Partners:



**Objectives:** To implement community Wi-Fi Hotspots across host rural communities in the various Northern Cape, Mpumalanga, Limpopo and North West

### Introduction:

The community WiFi solution is to impact on the upliftment of the socio-economic status of the communities. This will provide them with access to information and digital technologies and access to the global information via the Internet. As stated by the World Economic Forum: “An ICT connected society is a major step towards economic upliftment.” It provides access to the global information and connects people from all walks of life without any physical interaction.

### Value / Impact:

Area	# of Villages
Mogalakwena (LP)	49
De Brochen (NW)	4
Amandebult (LP)	49
Rustenburg (NW)	34

Area	# of Villages
Polokwane (LP)	20
Emakhazeni (MP)	13
EMalaheni (MP)	5
Lephalale (LP)	4

**Total of 174 communities in NW, LP, MP**

**Total of 403 Schools in NW, LP, MP, NC**

# CONCLUSION



- *“Insanity is doing the same thing over and over and expecting different results.”* Einstein
  - ❑ Innovation allows us to deliver impact differently than the failed methods of the past.
  - ❑ The Impact Catalyst itself is business model innovation. Disruptive models forces a change management process and moves organisations and people from their comfort zone.
  - ❑ Using Innovation allows communities to leapfrog into new sustainable communities. Innovation allows for more effective governance and improves environmental sustainability.
- Achieving the Sustainable Development(SGD) goals and ESG targets can be achieved through proper designed programmes that can leverage all ESG targets and multiple SDG goals though a single implementation
- A collective Impact model is much more effective in delivering large scale impact across multiple organisations and allows for SGD and ESG targets to be achieved more effectively.



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**END**

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