

Mining – Watering Down Its Impact with WASH

Arthur Layton - presenter

Steve Layton

Jonathan Hardy

Jan Kubat

Newcrest; ATprojects, Resolve Engineering Services

Papua New Guinea, Australia



WASH
FUTURES



Water, Sanitation & Hygiene Conference 2018

Collaboration for Universal WASH

#WASHFutures18

Mining – Watering Down Its Impact with WASH

Contents

1. Public/Private Partnership
2. What were the outcomes the program was looking for?
3. The programs implementation model
4. The real outcomes



Public/Private Partnership – Tax Credit Scheme

- Initiated by PNG National Government in 1992 to effectively plan, engineer and construct infrastructure developments in isolated regions.
- Seeks to mobilise the capability and capacity within resource companies removing infrastructure projects delivery burden from Government
- Improves relationship between resource companies and host communities.
- The scheme allows resource companies to expend up to 0.75 percent of their annual assessable income. The expenditure is then offset as a credit against the annual tax on profits payable by the company to the National Government.



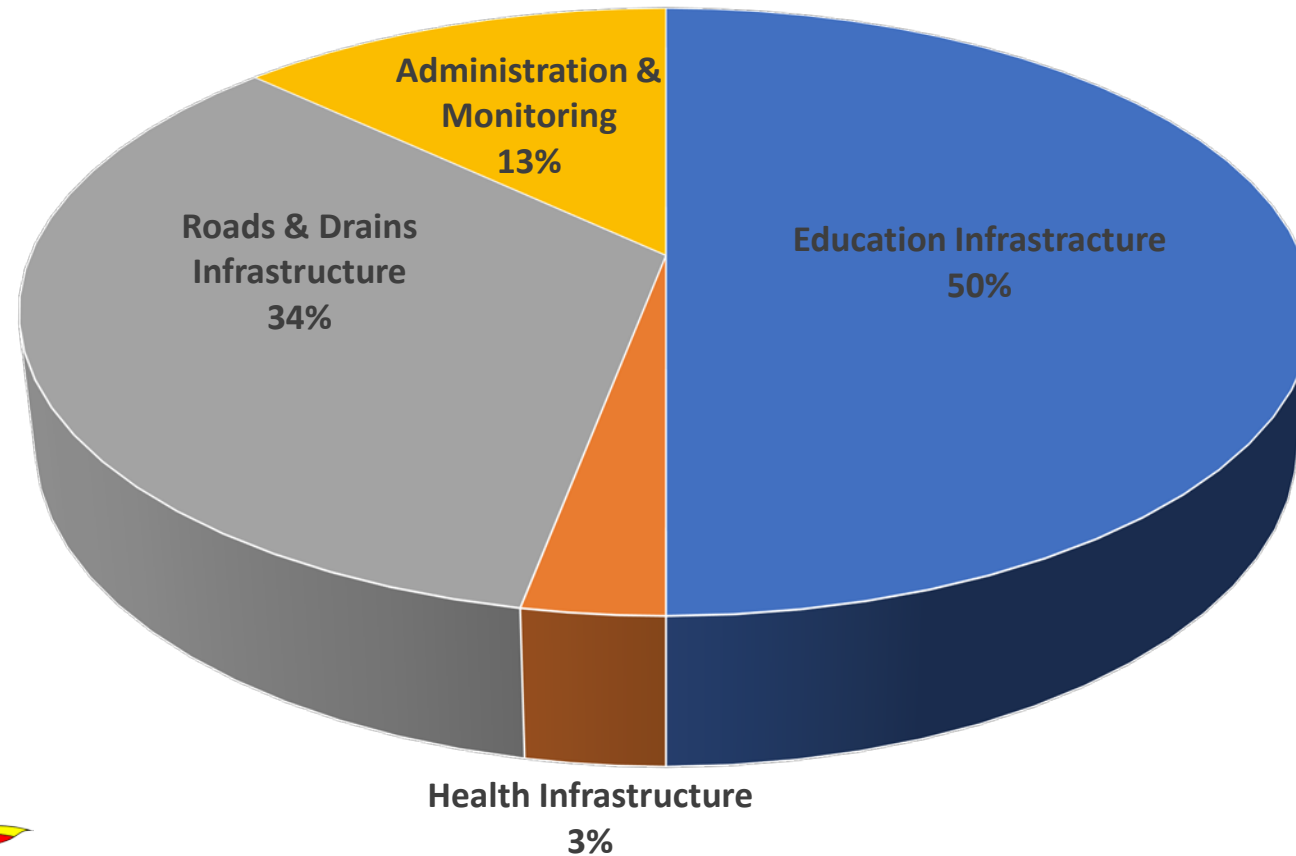
Newcrest Mining – Tax Credit Scheme participation

- Newcrest Mining operates the Lihir Gold Mine in New Ireland Province of PNG.
- In partnership with the New Ireland Provincial Government, Newcrest has delivered K93 million (USD 34 million) in education, health and road infrastructure projects across New Ireland, under the PNG Government's Tax Credit Scheme (TCS) from 2011 to December 2017.
- Newcrest's dedicated TCS team closely plan, manage, monitor and acquit all projects, ensuring projects are conducted in accordance with Newcrest's high safety and accountability standards; and the Tax Credit Scheme Guidelines.



Public/Private Partnership – Tax Credit Scheme

Total Newcrest investment of PGK93 Million (USD34 Mil) in TCS infrastructure from January 2011 to December 2017



Project Implementer – AT Projects

- Social enterprise operating in Papua New Guinea since 1998
- Provision of technology and infrastructure aimed at assisting development
- Vast experience working in WASH Projects nation-wide, most recent WASH projects in Manus (DFAT) and New Ireland Province (Nautilus Minerals)



What Outcomes was the TCS WASH Programme Looking for?

- Significant WASH cover of rural population in the New Ireland Province (NIP) PNG
 - Education on basic health and hygiene including safer sanitary practices
 - Waste management topic discussed
- Infrastructure transfer to rural population to promote long-term sustainability.
 - Sustainable infrastructure - ventilation-improved pit latrines and rainwater catchments
- Maximize participation and the involvement of young unemployed youths
 - Sense of “Ownership” over newly built infrastructure
 - Work experience



Significant WASH Cover of the Rural Populace

- Provision of basic health and hygiene educational sessions
- Awareness on impact of open defecation on health and the environment
- Waste management topic covered
- Questionnaire for baseline survey before project



Sustainable Infrastructure

- All infrastructure designed in such a way that users and the general public are able to maintain or replicate
- All materials sourced locally
- Fibre glass moulds used for the concrete toilet floor and pedestal are provided to the community for later use



Ventilation Improved Latrines

Rainwater catchments

Maximise Participation & Involvement of Local Youth (Male and Female)

- Emphasise the involvement of the local community – create a sense of ‘ownership’ over the tangible outcomes of the projects
- Typically a total of 16 community volunteers are engaged at any one time
- Maximise participation by providing weekly allowance
- Develop new skills and gain work experience - certificate of participation and a reference letter



Program Implementation Model

- Consulting local village leaders -including female leaders:
 - ✓ Community meetings with village leaders and key members of the communities. Emphasis given to fair representation of the female population to ensure and promote **gender equality**.
 - ✓ Whilst New Ireland is a matrilineal society some negotiations were heavily influenced and dominated by male population making the decision and negotiation process complicated.



Program Implementation Model (cont.)

- Community Participation in developing a work plan that focused on local knowledge. Reinforcing the need for female participation
 - ✓ Open dialogue with community leaders for AT Staff to understand the social structures, cultures, traditions etc. and how to conduct themselves within the community -develop mutual understanding and respect between locals and AT staff
 - ✓ Emphasis on full participation of female community volunteers throughout construction phase



Program Implementation Model (cont.)

- Getting the structural standards right.
 - ✓ All structural designs are certified prior to implementation
 - ✓ Any alterations proposed during the implementation phase are reviewed and approved by structural engineer
- Safety first - using the Newcrest safety model
 - ✓ Newcrest's strong safety culture is emphasized and implemented during the construction of all projects and long term performance is monitored. This is beneficial not only during the implementation of TCS projects, but the transferring of knowledge and standards benefits future local projects within the community



Program Implementation Model (cont.)

- Ensuring that the environmental issues are addressed:
 - ✓ Initial community meetings regarding the importance of appropriate location for latrines
 - ✓ Suitable location for rain catchment structures minimising vegetation clearing requirements
 - ✓ Waste management topic discussed in educational sessions



The Real Outcomes

Infrastructure Outcomes

	Nokon community	Kabil community	Huris community
Toilets	96	128	60
Rain catchments	15	15 (x 2 Tanks)	12

Nokon Baseline Statistics: Health Outcomes

Activity	% Before Project	% After Project	Result
Open Defecation	74	0	Decrease
Washing Hands After Toilet	26	55	Increase
Washing Hands Before Eating	4	85	Increase
Washing Food Before Cooking or Direct Consumption	13	90	Increase
Diarrhoea Cases	61	25	Decrease



The Real Outcomes (cont.)

- The environmental outcomes.
 - Disposing litter into the sea as a common practice decreases from 26% to 0%
 - Other common practices polluting the sea e.g. open defecation; and disposal of menstrual pads and nappies have also completely stopped.
 - No waste management scheme in New Ireland – landfill-incineration alternative



The Real Outcomes (cont.)

- Community/Developer relationship
 - Improved community morale - gaining sense of dignity and self-confidence. (No need to hide somewhere to defecate)
 - Developer's endorsement and trust from the community for current and any future projects
 - Fulfilment of developers obligation associated with their social license to operate, converting development projects benefits to substantial improvement of local communities health and wellbeing



Arthur Layton

AT projects

P.O Box 660

Goroka, Eastern Highlands Province

Papua New Guinea

Ph: (+675) 7224 4690

E: steve@atprojects-png.org



Collaboration for Universal WASH

[#WASHFutures18](https://twitter.com/WASHFutures18)