



**BARRICK**

**Land Compensation  
at Porgera Gold Mine  
and FlexiCadastre**



Cape Town, 9 February 2012

# Overview of Presentation



- **Porgera Gold Mine – the land & the people**
- **Events leading to the implementation of FlexiCadastre**
- **Compensation Requirements**
- **Solutions**
- **Lessons Learned**

# Porgera - Land & People



- **Porgera – located in Enga Province in Papua New Guinea**
- **211km west of nearest major airport and town, Mount Hagen**
- **681 kms from the nearest port**
- **Roads mainly unsealed and very unstable**

# Porgera - Land & People

BARRICK







- **Porgera is at an elevation between 2,200m and 2,700m**
- **Rugged, mountainous terrain**
- **Largely covered with rainforest interspersed with subsistence gardens below 2,400m elevation**

# Porgera - Land & People





# Porgera - Land & People



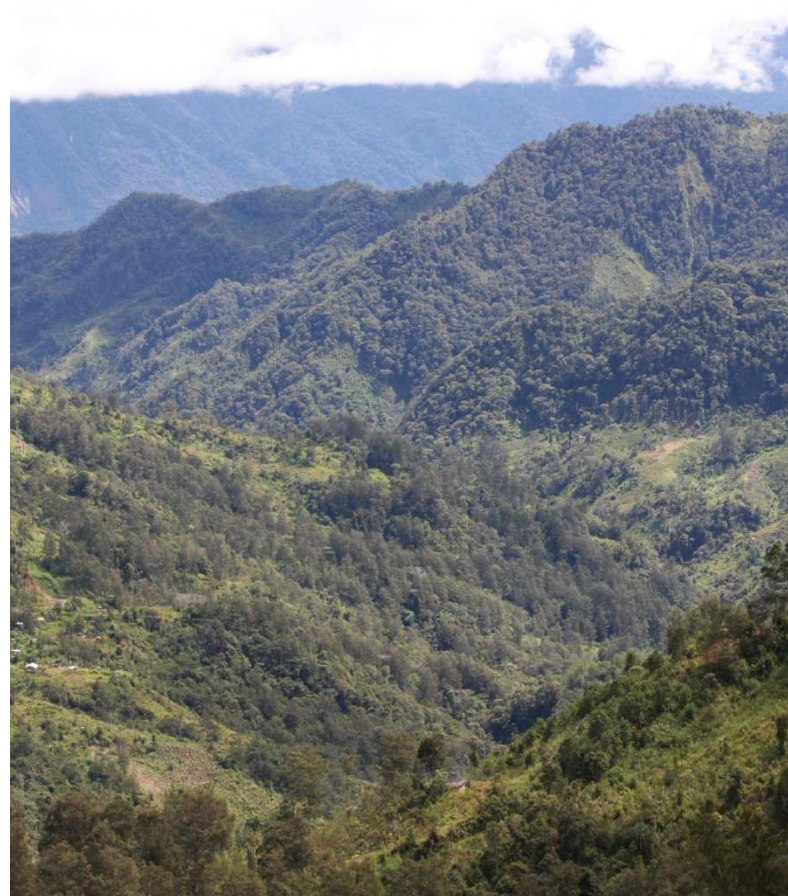


# Porgera - Land & People





# Porgera - Land & People



# Porgera - Land & People



- **First European contact in 1938**
- **Gold discovered in 1939**
- **Gold first poured at Porgera Gold Mine in 1990**
- **Has produced up to 1,000,000 oz per year**
- **Currently producing 600,000 oz**





- **Surface of the land is owned by the customary landowners whilst minerals underground are owned by the State**
- **The mine operates on a SML granted by the Govt in 1989**
- **The customary land will revert to the traditional landowners at the end of mining activity**



- **Leases are only granted by the Govt after:**
  - **Agreement between the company & traditional landowners for compensation to be paid to the landowners**





- **People of Enga Province grouped by Clans & Sub Clans**
- **Multiple Clan membership**
- **People may have a different name in each Clan**
- **Characteristics-Hostile, aggressive, confrontational, war-like people**

# Porgera - Land & People



- Land is the most important asset of the Highlanders
- Land acquired by marriage, tribal war – purchase of land a Western introduced concept
- Compensation driven culture



# Porgera - Land & People





# Porgera - Land & People





# Porgera - Land & People



# Porgera - Land & People





# Porgera - Land & People



# Porgera - Land & People







- **Financial Review of the Compensation Payment Process**
  - Fraud
  - Calculation errors in payments
  - Double payments
  - Lost documents, no history
  - No written procedures
  - Payments not made on time





## ■ **Underlying causes:**

- All payments made in cash
- Local officers - wantok system
- Low educational level of land officers
- Lack of supervision/supervisory skills
- Culture of 'keep the community happy by paying out more cash'
- No consistent processes
- All calculations prepared manually

# Events Leading to FlexiCadaastre



- **Meanwhile roll out of Flexicadaastre worldwide as the Tenement Management system of choice for Barrick**
- **Papua New Guinea/Australia were the last countries for the roll out**
- **Margie Winsel Boorda arrived at Porgera for what was expected to be the easiest FlexiCadaastre roll out**



- **Could FlexiCadaastre be adapted to solve the problems with the Compensation System at Porgera?**





## ■ **Types of Compensation:**

### **Damage off tenement**

- By mining activity, blast
- Roadworks - maintenance, new roads
- Compensation by count at Valuer General's Rates
- Bush/Forest-rate per ha



## ■ **Types of Compensation:**

### **Periodic Payments**

- Annual statutory payments for each tenement-calculation increased each year by CPI
- Land Use – repeater stations, gauging stations – calculation increased each year by specified CPI
- Incentive Agreements – to encourage landowners to prevent damage and carry out basic maintenance - calculation with/without CPI, deductions for non compliance



## ■ **Types of Compensation:**

### **Relocation**

- Three options for each eligible landowner – construction of a relocation house, purchase of real estate, managed fund
- Additional cash payments – temporary assistance allowance, moving allowance, key money, garden establishment payments, ration payments
- Cash payments are lump sum or a number of payments
- Certain criteria before benefits paid, e.g. identified suitable garden plot
- Each Relocation Agreement has some/all benefits & different amounts





## ■ **Types of Compensation:**

### **Improvements on tenement**

- Similar to Damage – occurs on tenement area geotechnically assessed as future possible damage from mining activity, i.e. before damage has occurred
- Will be in relocation area



## ■ **Types of Compensation:**

### **Land allowance**

- Paid in a relocation area
- Paid to allow owner of land to purchase new land
- Standard rate per hectare – rate included in Relocation Agreement

# Compensation Requirements



- **Payments must be accurate**
  - Numerous different calculations
  - CPI issues
  - Standard rates to be used for improvements
  - Same payment type but different rates for relocation areas
- **Payments must be timely**
  - In accordance with Agreements
- **Payments made to correct people**
  - Prevent payments to non beneficiaries
- **Roster system**
  - Continuity of payment processing

**Prevent User Error & Minimise Risk for Fraud**



## Payment = Agreement

- **Damage:** One agreement for each complaint
- **Relocation:** One agreement for each eligible Relocatee – set up when Agreement executed to avoid false names
- **Periodic Payments:** One agreement for each payment to Clans/Sub Clans with following years payment automatically scheduled when current year is paid
- **Land Allowance:** One agreement each land owner
- **Improvements:** One agreement for each block owner

## Accurate Payments

- Approximately 26 different compensation calculations
- Amounts are calculated automatically to prevent User error/fraud
- Use Workflows within Workflows for different payment calculations in one Payment Type – use Conditions
- CPI input into PV: all payments calculated using this CPI value updated when input
- Annual Sediment tonnage for Riverine payments input to PV
- Input to PV restricted to Systems Administrator
- Worksheet incorporates Valuer-Generals rates for User input of Counts generated from appropriate Action



## Accurate Payments

Admin Tools > Parameter Values > Search

There are 40 Parameter Values in the list. Tools:

Del.	Parameter Value	Description	Output Type
	<a href="#">Accounting Codes: Relocation</a>		Text
	<a href="#">Accounting Codes: Tenements - ELs</a>		Text
	<a href="#">CPI - SEP (for pmts due 31 July following yr tp Jan 31 year after that)</a>	This will be used for the PMT: Quarry Feed payments only. Example: Sep 2008 CPI will be used for payments due 31 July 2009 and 31 Jan 2010.	Decimal
	<a href="#">CPI - XXXX (Spare2)</a>	This is a spare CPI parameter value table. Please do not delete	Decimal
	<a href="#">CPI: Dec (for pmts 1 Feb following yr -31 Jan yr after that)</a>		Decimal
	<a href="#">CPI: December (for pmts 1 Jan-31 Dec following yr)</a>		Decimal
	<a href="#">CPI: December (for pmts due 31 July only following yr)</a>	Used for Gauging Station Incentive payments. Only payments due 31 July should be CPI adjusted.	Decimal
	<a href="#">CPI: June (for pmts 1 Jul this year - 30 Jun following yr)</a>	Note that the values for June CPI 2009 and 2010 are those values actually used in the calculations by PJV. This was before the implementation of Flexi. They are not the correct PNG CPI values.	Decimal
	<a href="#">CPI: March (for pmts due 1 Jan-31 Dec same year)</a>	This will be used for Riverine Tailings payments where payment is made in year following the discharge; rate adjusted by March CPI	Decimal
	<a href="#">CPI: Sep (For pmts 1 Jan-31 Dec following yr)</a>	Sep 2007 CPI is negative, therefore value remains as 1.000.	Decimal
	<a href="#">Gravel Pit Agmts: Minimum Annual Payment</a>		Decimal
	<a href="#">Gravel Pit Agmts: Monthly Rate (per cubic metre)</a>		Decimal





## Timely Payments

- Periodic payments now scheduled in accordance with the statutory agreement using Due Dates
- Series of payments automatically scheduled, e.g. Ration payments up to 20 payments scheduled fortnightly after first payment closed
- Reports overdue Actions: Payments with no statutory due date, e.g. payments for damage, reviewed for excessive delay in payment
- Comments section on individual PMT: Actions used to indicate reasons for delay
- Daily report for changes in Due Dates by Users

# Solution



## Payments Made to Correct People — System generated Cash Distribution Sheet

**BARRICK** Cash Distribution Sheet

Agreement Name: Sijon Tovero (LMP 1) Compensation (Tepon Sub Clas) <small>(O&amp;M Agreement)</small>				Agreement Code: PNG0007			
Related Tenement: Sijon Tovero (LMP 1)				Agreement Area (Ha): 21.39			
Project: Porgera Mine		Area: Sijon LMP		Locality:			
Class: Pevan Clas				Sub Class: Tepon Sub Clas			
Payee: Tepon Sub Clas				CPA No: 44935			
Payment Details							
PAYMENT TYPE	PAYMENT PERIOD START DATE	PAYMENT PERIOD END DATE	PREVIOUS PAYMENT RATE (Kia)	CP	TICK: PAYMENT RATE (Kia)	AREA (Ha)	AMOUNT (Kia)
Bank & Advances							
Payment Amount	27/04/2011	28/04/2011	40.41	7.00%	50.94	21.15	1,008.80
Correct Lead							
Payment Amount	27/04/2011	28/04/2011	28.12	0.00%	28.12	0.00	8.90
Damaged Lead							
Payment Amount	27/04/2011	28/04/2011	182.86	7.00%	199.39	7.00	971.80
Leak Lead							
Payment Amount	27/04/2011	28/04/2011	189.40	0.00%	189.40	0.00	8.90
Outstanding Fee							
Payment Amount	27/04/2011	28/04/2011	5.99	0.00%	5.99	21.15	107.80
<b>TOTAL AMOUNT: K</b>							<b>2,098.00</b>
We the undersigned Payee or its designated Agent(s) or Representative(s) hereby acknowledge receipt of K2,098.00 for the payment(s) shown above.							
NAME		SIGNATURE		AMOUNT			
Riba Kati				690.00			
Pondu Lal				690.00			
Tom Pukulu				698.00			
Sadi Kati (Deceased & replaced by Riba Kati)							
DATE PAID: 14/April/2011		TOTAL CASH PAID: K		2,065.00			
		TOTAL CASH RECEIVED FOR CLAIM: K		2,098.00			
DATE CASH RETURNED:		CASH RETURNED RECEIPT NO:		CASH RETURNED TO CASHIER: K			
				-			



## Payments Made to Correct People

- Names can be checked for similar spellings
- Comments placed on names to indicate other names used by this person
- Photographs of people uploaded against their name in 'People'
- Addition of new names restricted to authorised people



## Payments Made to Correct People

- Photographs of recipients receiving payment uploaded to PMT: Action



## Roster System

- Land officers allocated to a Team – Team is responsible for a Tenement/Area
- User Group [New Functionality] allows all Team members to update and close Actions – no delay whilst a person is on field break
- User Group provides transparency about each payment
- Added bonus – changes to authorisations can be made for the User Group rather than individually

## Roster System

- Out of Office [New Functionality] allows Approvers to delegate authorisation whilst on field break

Admin Tools > Users > Detail SAVE CANCEL

User:  Alfred Talania

General Roles Region User Groups Audit

User Name:

Surname:

First names:

Job Title:

Language:

Authentication:

Domain Name:

Mobile Number:

E-Mail Address:

Report Schema:  

Account Active:

Currently responsible for the following user's work:

**Out Of Office**

User is currently out of office:

Responsible for user's work while away:

User should continue to receive emails and sms's:



## Other Functionality

- Default Close Date of Today's date removed
- Reduction in User error when specific dates must be used, e.g. Scheduled date for first rations payment

Include Tax Information:

General | Items

**Budgeted:** [Show Currency Conversion](#)  
Amount: 1,616.04




Currency: Kina


**Actual:** [Copy from budget](#)

Total Amount: PGK  
Currency: Kina

Receipt No.: \*

Comments:

Action Status   

Close Date:  

Today's Date  
Action Due Date  
Other Date



## **Minimize Risk – Cash Payments**

System produced reports:

- List of payments provide total cash figure to be included in approved Form for Cashier
- Cash Distribution Sheet for each payment with payment amount automatically entered
- Report displaying figures to enter in the Acquittal Form, i.e. a list of those payments in the total cash figure showing those payments paid out and those returned to the Cashier



## **Minimize Risk – Cash Payments**

- Budget and Actual fields on Payment Actions used to show cash returned to Cashier
- Payment Action specifically for cash returned to the Cashier which stays open until cash is paid – reports outstanding payments





## Other Functionality

### **Instructions on Actions** [New Functionality]

- Previously Porgera used Checklists extensively for required activities, instructions and reminders - lengthy Checklists
- Will now be able to reduce the number of Checklist items by using Instructions, e.g. Correct date to use for close Date.



## ■ **Business Process**

- Have an established documented business process
- Don't try to establish a process and implement Flexi as one project

### @ Porgera:

- No written procedures, Each land officer developed his own system, sometimes more than one, Many workshops held to develop a standard process
- Still refining the Business Process with changes to Flexi



## ■ **Training**

- Training, Training .... And more training

@ Porgera:

- Under estimation of Land Officer training requirements
- Compensation systems in Flexi can be complicated





## ■ **Consistency**

- Standardise processes

@ Porgera:

- First set up different payment workflows for each type of compensation – damage, relocation benefits, periodic payments, etc
- On review, only slight differences which confused Users



## ■ **At the beginning**

If more than one workflow:

- Implement one by one
- Start with the least complex and/or
- Users will see immediate benefits

@ Porgera:

- Started with most complex workflow which has least benefits for Users
- Difficult to obtain acceptance
- Training more complex because no prior knowledge



- **Keep it simple**

- Use less rather than more Actions
- Concentrate on activities which are milestones or where delays can occur

@ Porgera:

- Actions, Actions, Actions for all activities
- Since reduced number of Actions & used Checklists



## ■ **Prior knowledge**

- Where possible have some knowledge of Flexi before commencing a Compensation implementation

@ Porgera (Me!):

- With hindsight (a wonderful thing) we should have implemented Flexi for tenement management before Compensation
- I made decisions which, with more knowledge, I would have made differently





## ■ **Skill Level of Users**

- Assess potential Users for ability to correctly use the system – this is not a system for low level educational skills

@ Porgera:

- Would not have been successful if hiring policy had not changed to 'graduates' only



## ■ **Has it Been Worthwhile? - Yes**

- Annual occupation fees took all Land Dept staff approx 5 months – now one month
- Loading all legacy data abolished many days in the file room where there may or may not have been documents
- Users now have tools commensurate with education levels – retention of staff
- Audits: Latest 'cash' audit gave the Flexi system a good result

**With Many Thanks to**

**Margie Winsel Boorda**

Director of Lands, Barrick Gold

**Carolyn Holness**

Spatial Dimension





Any Questions

