



Impact of frost and drought in Papua New Guinea: Update mid - December 2015

Port Moresby

Mike Bourke

Mike.bourke@anu.edu.au

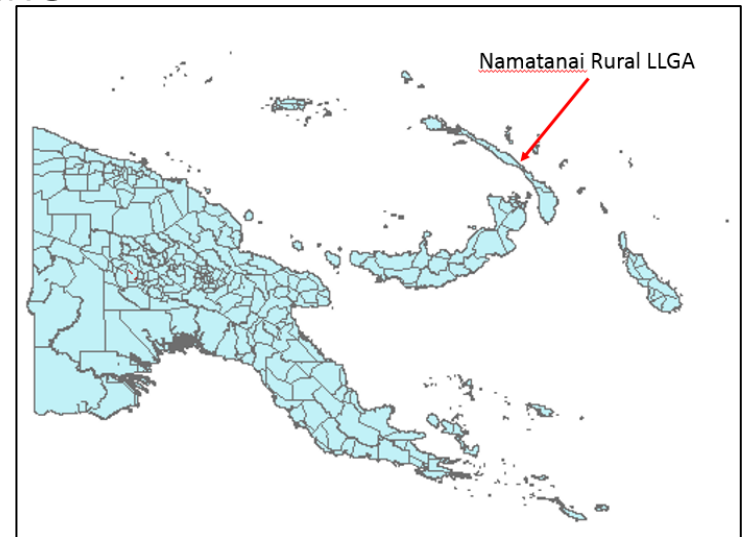
Presentation outline

- Snapshot of impact on rural villagers' lives
- How El Nino causes drought and frost (brief)
- Impact assessments (brief)
- An overview of the impacts on villagers
- Likely impact on PNG economy (brief)
- Comparison with 1997 drought (brief)
- Highest priorities locations for assistance
- Cost of food aid
- Next phase (December 2015 – January 2016)

Drought impact

Namatanai area, New Ireland

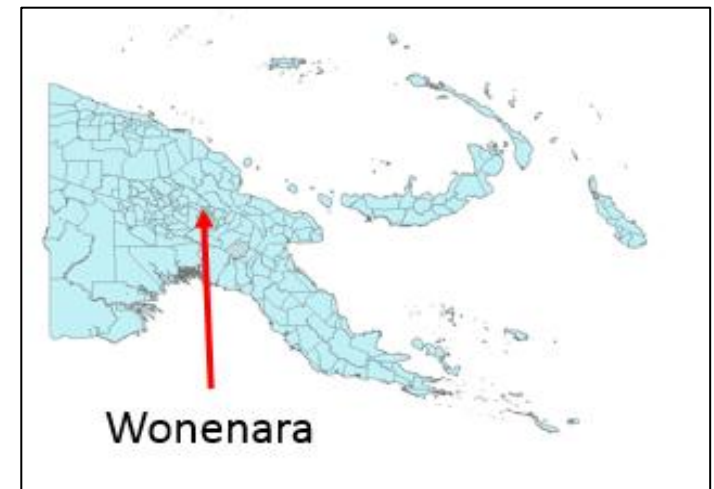
- This drought has taken the better of us now.
- Grade 9 & 11 students sent home because no more water in tanks.
- Quantity of food in market had decreased and prices have doubled for some food items.
- No sign of government officials in the province and districts to do assessments.
- (Source: Colleague, October 2015)



Wonenara area, Eastern Highlands

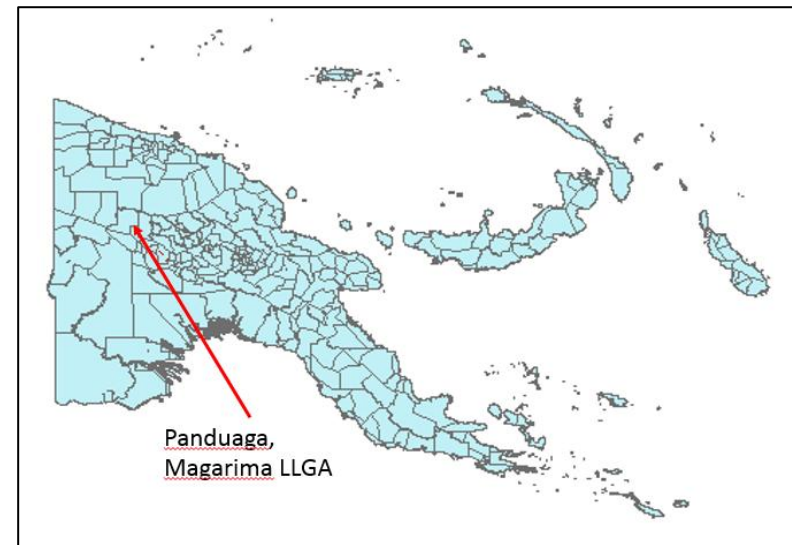
- People are dealing with pretty extreme situations
- Gardens with very little produce
- Everyone eating famine foods; people eating only once a day; and eating less when they do eat
- People suffering from heat and dehydration
- People are selling livestock
- People are using savings to buy food
- Food theft is more common
- People consistently reporting it is worse than '97

(Source: Colleague, October 2015)



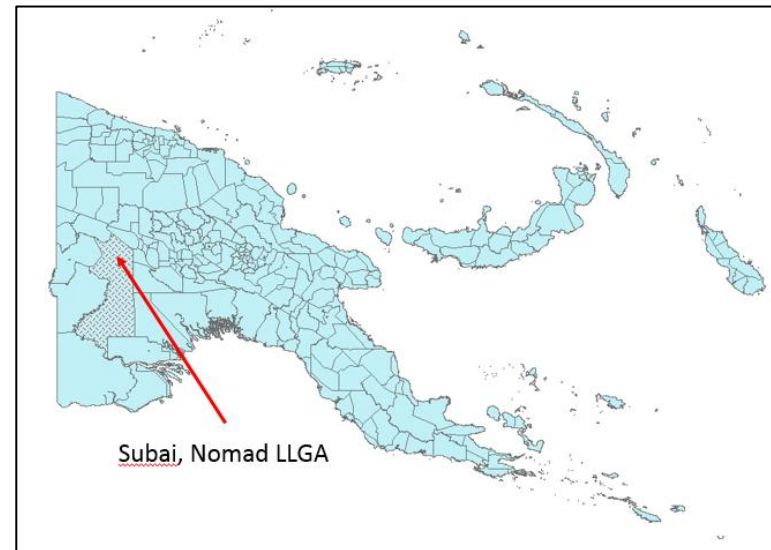
Panduaga, Kandep District, Enga Prov.

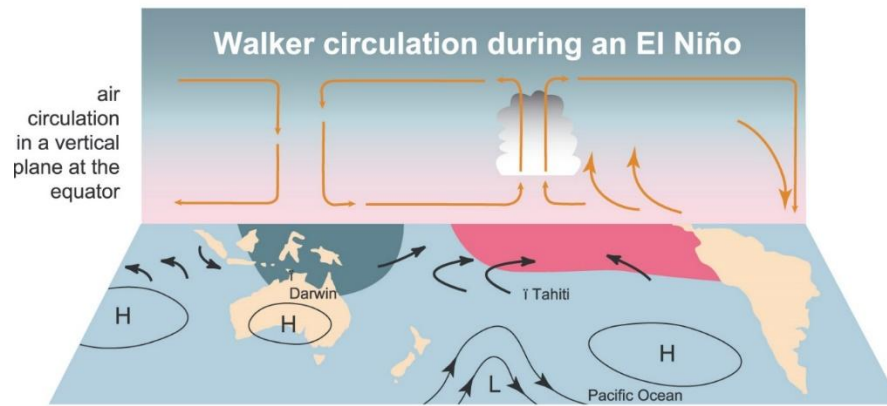
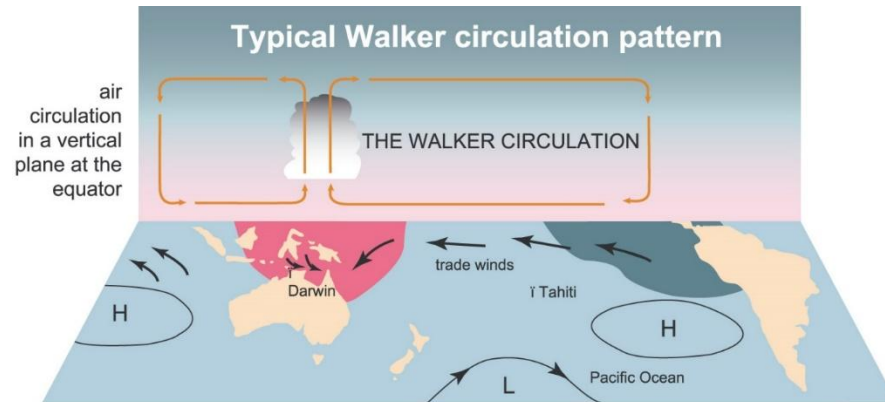
- It frosted again this week at Panduaga.
- All locations in that area (Karekare, Yumbis, Longap, Kandep, Yuhoma, Upper Mendi) would have been frosted also.
- All regrowth in gardens killed.
- In 2-3 weeks time, all these areas are likely to be at Category 5. This is very serious.
- (Colleague, late Sept 2015)



Mougulu area, Western Province

- Food is very scarce; banana (staple food) dried up
- No food for medical staff; and teachers (left late Nov)
- Increase in cases of malaria and malnutrition
- Number of deaths attributed to malnutrition
- Villagers eating bush mushrooms
- This caused illness; one death
- Some people were eating clay
- No access to store foods
- Six days walk to urban centre
(Colleague, Nov 2015)





- warmer sea
- cooler sea
- H typical spring positions of high pressure systems
- surface winds
- atmospheric winds

Frost damage mid July, Lower Kaugul Valley, WHP (Kud Sitango, NARI)



Dry landscape, Wararais, Markham Valley (Rebecca Robinson, Sept. 2015)



Oil palm damaged by drought, Ramu Valley, Sept 2015 (Rebecca Robinson)



Assessments

- CARE PNG (Menyamyra, Wonenara, Gumine)
- Morobe Prov Government (4 teams in Sept)
- United Church team in parts of Hela, SHP, WHP and Enga provinces (September)
- Milne Bay Prov Gov. assembled information
- NDC teams to four regions (late Aug/midSept)
- Save the Children (East Sepik Prov)
- WASH assessment (World Vision)

Overview of drought impact: water

- Water shortages widespread and early
- Water for drinking and washing scarce
- Increase in labour for women and girls
- Concern about purity
- Difficult to wash bodies and clothes
- Increase in skin and internal diseases
- School closures (partial or total closure)

Impact on food supply in rural PNG

- Ca 200 reports assembled by Mike Bourke
- Included formal assessments; email; press etc
- Database generated; extrapolation to locations with no information; uncertain areas flagged
- Generated map of food supply, based on LLG areas (Dec 2015) (B. Allen/M. Lowe/M. Bourke)
- 29 of 273 LLG areas: Cat 4 or 5 for food supply
- Further information is needed in some places
- Worst impacted areas are in 4 ecological zones

Overview of drought impact: food

- Ecological zones where food is scarce:
- Very high altitude (>2200 m) locations in Enga, SHP, WHP and Hela provinces
- Highland fringe and foothills (Telefomin Dist; Lake Kopiago, Hela; parts of Simbu; Wonenara, EHP; Kaintiba, inland Gulf; foothills in Milne Bay Prov.)
- Inland Western Province, especially away from the Kiunga to Tabubil road
- Few very small islands in Milne Bay Province
- Vulnerable people in other places, eg EHP and Simbu

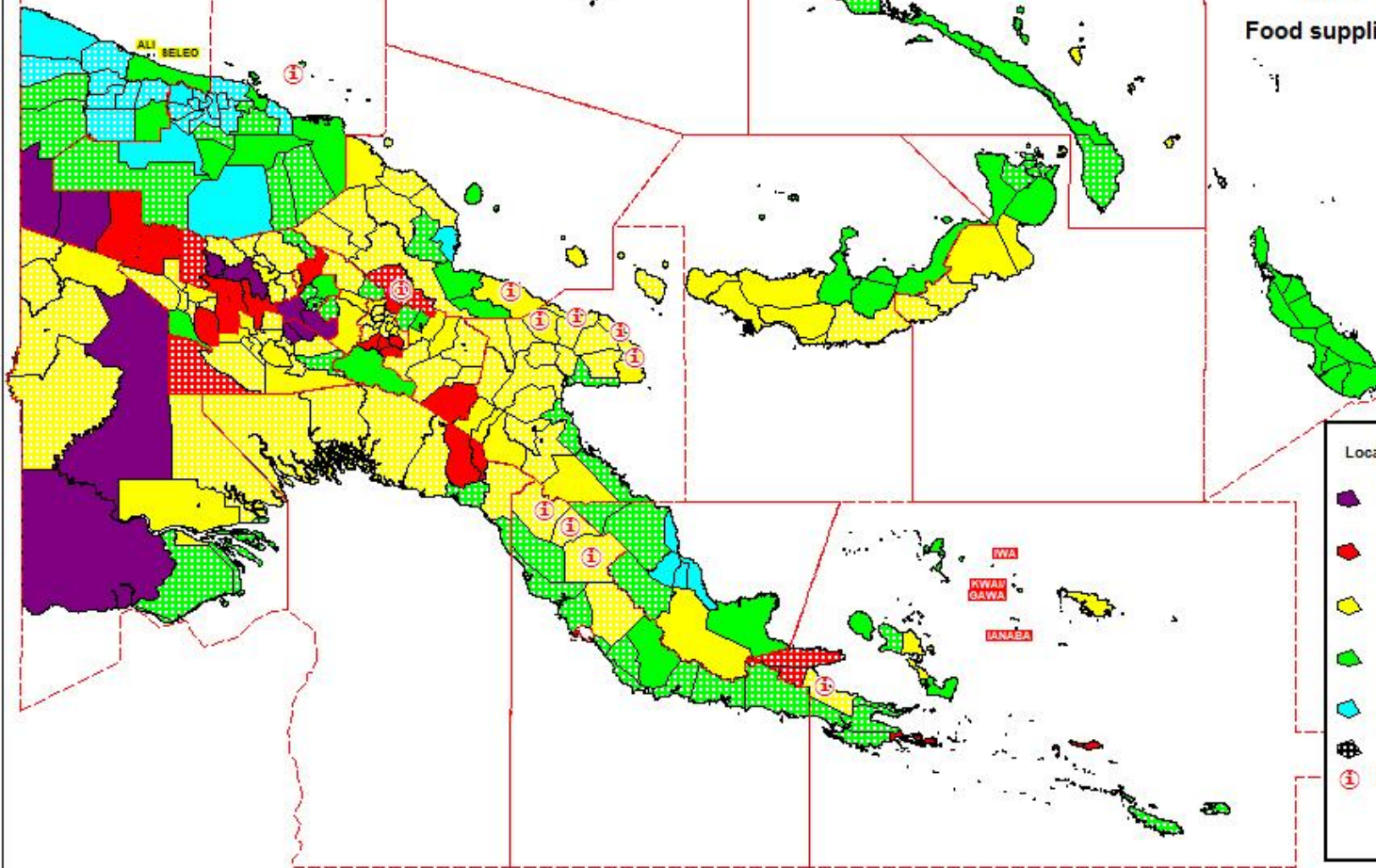
Number of people very short of food

- Very high altitude (4 provinces) 266,000
- Highlands and highlands fringe 182,000
- Inland lowland Western Prov 46,000
- Small and remote islands, MBP 28,000
- Total: 522,000 (mid-2015, extrapolated)
- [or 769,000 using unreliable 2011 census]

PAPUA NEW GUINEA

DROUGHT AND FROST AFFECTED AREAS

Food supplies as at 10 December 2015



Local Level Government Area (LLGA) Categories

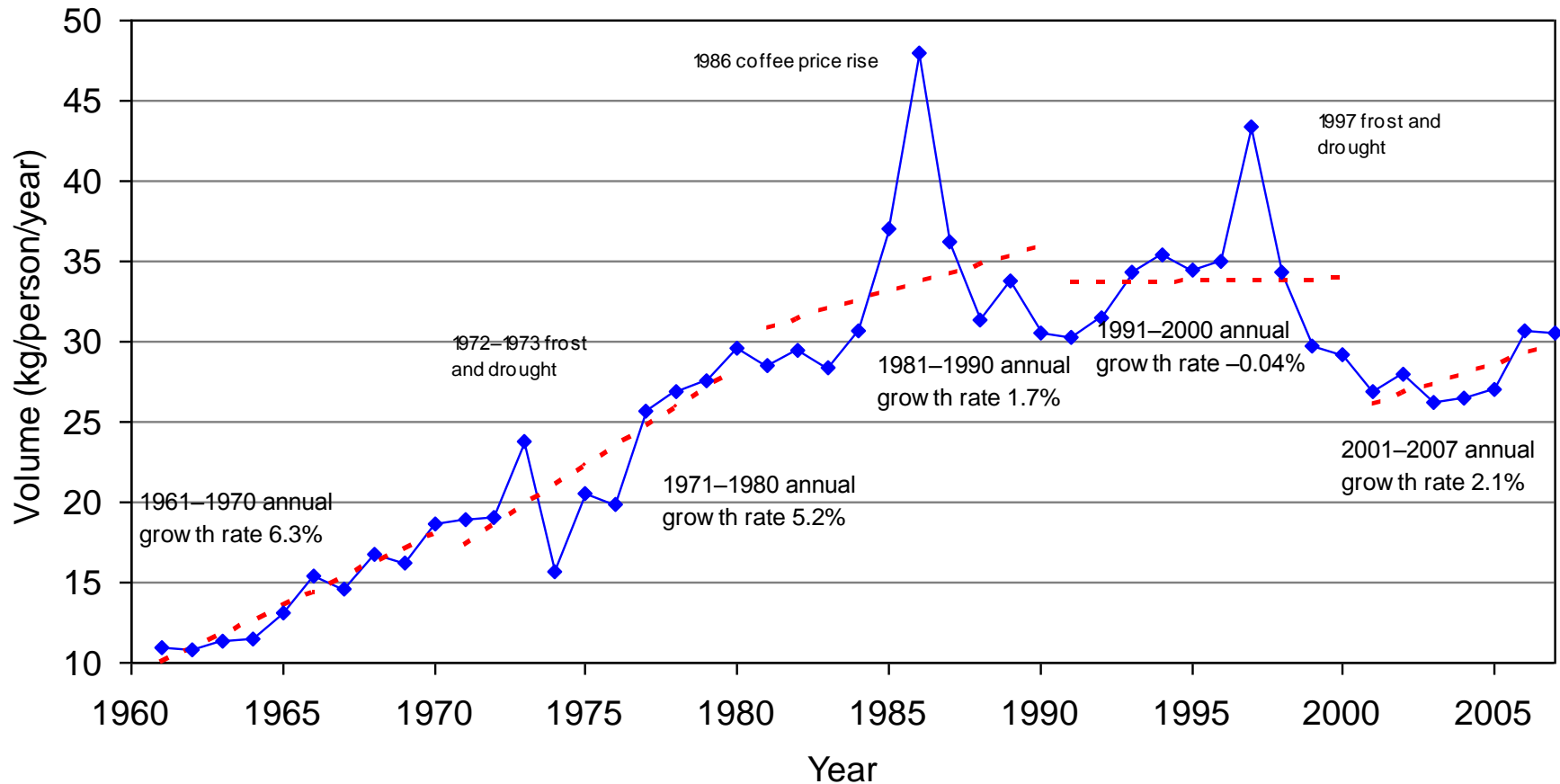
- Category 5 Area - Extreme Situation (no food available at all)
- Category 4 Area - No Food in Gardens (famine food only being eaten)
- Category 3 Area - Difficult/Food Short (some famine/unusual foods being eaten)
- Category 2 Area - Some Inconvenience (staple food short, other foods available)
- Category 1 Area - Unusually Dry (but no major food supply issues)
- Extrapolated Data
- Urban Area/No Data
- More Data Required
- Provincial Boundary

0 150 300
Kilometres

Overview of drought impact: food consumption

- Increase in rice consumption
- Consumption of unusual foods (eg Pueraria; wild yam; banana corm; green pawpaw)
- Consumption of foods in larger quantities (eg green banana, cassava, coconut, bush greens)
- Theft from gardens
- Slaughter of animals
- Use of savings to gain cash to buy food

Average per person rice imports into PNG and growth trends by decade, 1961–2007



Other impacts on villagers

- School closures. Early impact and widespread
- Bush fires. Damage to houses and gardens
- Migration to other rural or urban locations
- Fly River too low for barges to move; food and fuel shortages in Kiunga, Tabubil, North Fly area and Telefomin District
- Urban people remitting funds to rural wantoks

Widespread bushfires

Yahoma – Kandep valley, huge area of forest and grasslands burnt



Rescue mission at Longap village (Kandep). This woman was badly burnt trying to save her two children inside a burning house



Outmigration

Many villagers are moving to urban centres and to other rural locations.

Numbers are not known.

In 1997, some areas were almost depopulated as villagers sought food and water.

A family travelled from Kandeep to Magarima. UC team found them at 8 pm, having started at 5 am, still



Impact on PNG economy

- PNG LNG project not impacted
- Exploration for gas in North Fly impacted
- Closure of Ok Tedi mine and Porgera mine (short)
- Possible impact on hydro power from Yonki and Surinumu dams (Highlands/Lae and Moresby)
- Income from sale of fresh food reduced
- Oil palm production may be reduced
- Unknown impact on coffee production
- Lesser impact on cocoa, rubber and copra oil (because of other factors operating)

Comparison with 1997 drought

- Impact of 2015 drought similar to 1997 event
- Government food relief in 2015 organised through members of parliament
- Politisation of food aid in 2015
- Many villagers know what to expect (after 1997)
- Social media and mobile phones improve information flow
- Improvement to some roads, but many remote roads and airstrips no longer useable

Lessons from 1997 drought

- Rice consumption increased by 40% in 1997
- Almost 60,000 tonnes above predicted sales
- Most of extra rice (82%) was retail sales
- PNG government bought extra rice (9.5%)
- Australian gov bought extra rice (4.5%)
- Balance of extra rice (4%) purchased by churches, politicians, businesses

Lessons from 1997 drought (ctd)

- Most villagers saved themselves (cash and help from urban-based wantoks)
- Greatest impact of drought and frost was in remote locations
- Remote locations: very low cash income; no or limited road access; limited access to markets
- In some remote locations, death rate rose in 1997-98 (inland Gulf; Nomad, WP; Lake Kapiago, Hela; Hewa area, Hela; Kandep, Enga)

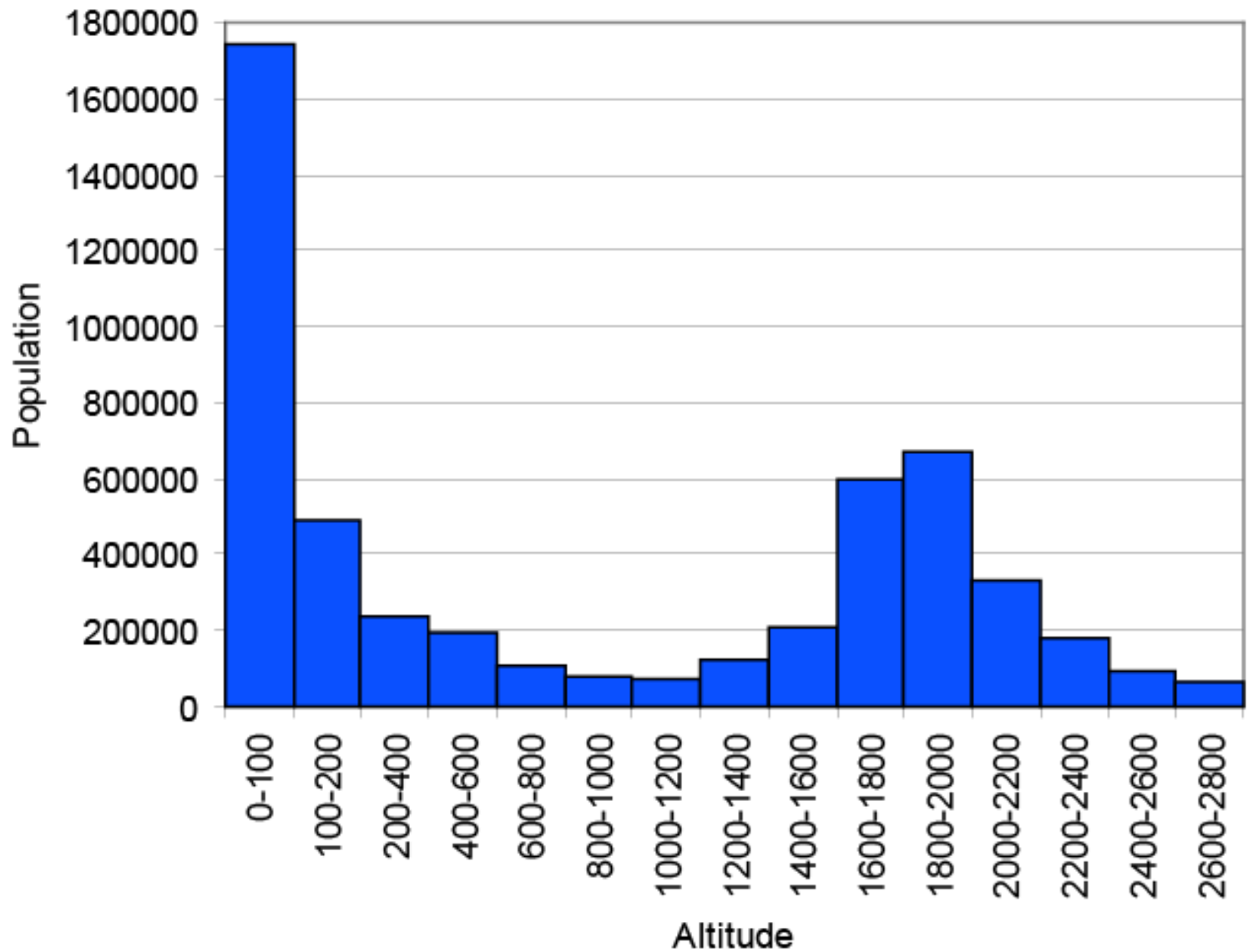
Highest priority locations for relief now

- Highest priority needs to go to remote locations where impact of drought is greatest
- Villagers in these places have low cash income, limited market access, no road access and limited capacity to influence aid
- Very high cost of transporting food and other aid to these locations

Relative disadvantage populations in rural PNG (Adapted from PNG RDH)

• Class	Per cent	Number (million)
• Strongly disadvantaged	3	0.2
• Moderately disadvantaged	16	1.0
• Marginally disadvantaged	42	2.7
• Not disadvantaged	39	2.5

Total population distribution by altitude



Cost of food aid

- Basic food aid only (400 g rice plus 60 g tinned fish/person/day)
- Volume for 10,000 people: 4.6 tonnes/day
- Cost of food only to feed 10,000 people for 120 days: K2.1 million to purchase rice and tinned fish
- 85 rural districts, mean ca 75,000 people
- Highland districts: 40,000 to 190,000 people
- Cost to feed 3 million people for 120 days: K625 million (food alone; excl. transport and admin)
- Transport costs to remote places double total

Some implications

- Feeding rural villagers is very expensive
- Greatest needs are in remote locations
- Little road or river access to many locations
- Massive logistic and security exercise
- Food aid is needed for relatively small proportion of rural population
- Value of subsistence food production is grossly underestimated

Next phase (December-January)

- Impact of drought/frost to continue, despite rain
- Recovery depends on access to sago and on altitude
- Widespread rain (Nov/Dec; but not universal)
- Greater involvement by church development agencies, World Food Program and others
- Propagation of planting material for garden rehabilitation is needed (corn, kaukau, potato)
- Post-drought rehabilitation
- Lessons to be learnt and documented

Em tasol

