ATTEMPTS AT GAINING SOME UNDERSTANDING OF THE POSSIBLE FACTORS THAT PROMOTE HIV/AIDS SPREAD IN PAPUA NEW GUINEA

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ABSTRACT

Program identification and analysis methods used in agricultural program analysis, namely; Participatory / Rapid Rural Appraisal (PRRA) were applied as methods to gain an understanding of the possibility of the spread of AIDS/HIV in two districts in Papua New Guinea [PNG]. Based on this preliminary analysis, some occupational groups and certain social activities were suggested as more prone to the spread of AIDS/HIV. These are discussed below.

Keywords: *participatory/ rapid rural appraisal, HIV/AIDS, Trobriand Islands., Kakar Island, pair wise analysis*

INTRODUCTION

HIV/AIDS is an issue of international importance of which no country in the world and no occupation is immune from. In PNG, spread of HIV/AIDS is now being recognized as an issue that demands attention, as a result of its increasing incidence and deaths recently. HIV/AIDS affects all types of people irrespective of profession

This study employs the method of Participatory Rapid Rural Appraisal [PRRA] and others in trying to gain some understanding of factors or circumstances that may encourage the spread of HIV/AIDS in PNG. The analysis presented here is a result of a two-day workshop involving seven Research Assistants, three each from Trobriand Islands in Milne Bay and Karkar Island in Madang Provinces and one from Port Moresby. It was assumed that these staff, who are health and HIV/AIDS workers may have information on AIDS/HIV in their areas. The staff from these areas come to Port Moresby for a short training on HIV/AIDS, and participated in this exercise / study as component of their training. The study was used as training for the participants as well as for the organizers to explore the local knowledge base of the participants; in an attempt to gain better understanding of their rural community activities and behaviors that may encourage and promote HIV/AIDS spread in these parts of PNG.

Brief Information on Human immunodeficiency virus (HIV, giving rise to AIDS)

Humans inherited HIV from chimpanzees and mangabeys and since doing so, HIV has diversified and continues to do so. HIV parasitises T-helper cells of the immune system and uses their genetic machinery to produce new copies of itself. The end result is that it kills these infected cells and also reduces the body's ability to produce new cells to replace them. The depletion of these T-helper cells reduces a person's ability to fight off disease and when the number of T-helper cells drops to below 200 per mm^3 a person is regarded as having AIDS. He or she becomes particularly vulnerable to the opportunistic infections and cancers that typify AIDS, the end stage of HIV disease (NIAID).

People with AIDS often suffer infections of the intestinal tract, lungs, brain, eyes and other organs, as well as debilitating weight loss, diarrheal, neurologic conditions and cancers such as Kaposi's sarcoma and lymphomas. Most scientists think that HIV causes AIDS by directly killing $CD4^+$ T cells or interfering with their normal function, and by triggering other events that weaken a person's immune function. For example, the network of signalling molecules that normally regulates a person's immune response is disrupted during HIV disease, impairing a person's ability to fight other infections. The HIV-mediated destruction of the lymph nodes and related immunologic organs also plays a major role in causing the immunosuppression seen in people with AIDS. [*Fact Sheet* of National Institute of Allergy and Infectious Diseases (*NIAID*), *Piot et al. 2001*]

Background information on Trobriand and Karkar Islands

The Trobriand Islands consist of a group of sixteen (16) small islands or atolls situated at the south eastern tip of PNG. The population of the island is approximately 25,000 people of Austronesian origin.

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(1990 National Census, Milne Bay) The main language spoken by the people is Kilivila. (Weiner 1976.) PNG pidgin is not popularly spoken, and only few inhabitants who attended schools outside the Trobriand Islands or on the main land of PNG, speak pidgin. There is very little outside influence on the lifestyles of people in the Trobriand Islands. This is because only few outsiders live in there. The Trobrians practise matrilineal clan system, and there are four main clans, namely: Malasi, Lukwasisiga, Lukulabuta and Lukuba on the Island. Every indigenous Trobriand Islander belongs to one of these clans. Customary laws prohibit marriages between the clan members, but sometimes people flout these laws and marry within clans. Chieftaincy is the main traditional hierarchy system practiced on the Islands. The Paramount Chief is the chief of chiefs who has jurisdiction over lesser chiefs on the Islands. (Malinowski 1929). In Trobriand Islands women play special roles during funeral celebrations that give them some recognition in society (Weiner 1976).

Modern Trobriand Islanders hold firm beliefs in cultural practices and seasonal celebrations that have been practiced for many years. Promiscuity is rife and sexual freedom among the youth and the use of magic and love potions to attract partners for sexual pleasure are widely practiced and culturally accepted by the elders, even in this era of the AIDS epidemic. Marriage at a very young age is practiced and extra marital sex especially among teenagers is common. Teenage sex is regarded as one of the developmental stages that every young man or woman should experience, before finally settling down to marry. Group dating 'ula-tila', 'kapugula' between male teenagers from one village and female teenagers from another village, for sexual pleasure, as observed by Malinowski in 1920s, is still practised in all villages in the Trobriand Islands. (Malinowski 1929). These factors put the people of Trobriand Islands at a greater risk of acquiring STI and HIV.

Karkar is an island situated at the north eastern part of mainland PNG. It is east of Madang town. The population of the Island is between 25,000 to 30,000. Two ethnic groups, the Takias and the Waskias reside on the Island. Unlike the Trobriand Islands many people speak pidgin. Karkar society presents a similar picture as many other societies in PNG, in terms of male dominance and control over women and the patrilineal system of inheritance is practiced. Mixed marriage between the two main ethnic groups is practiced. There are also marriages between Karkar Islanders and people from other areas in PNG. Unlike the Trobriand Islands, people from the highlands region of Papua New Guinea have settled on the Karkar island and work as plantation labourers in coconut plantations. The 'Big Man' system of community hierarchy is practiced. Although elected local level government councilors and village court magistrates exercise more power in the Island than the 'Big Men', when it comes to cultural matters the Big Men's advice are sought and their directives are always followed. The Lutheran and the Catholic Churches have stronghold and with many followers on the Island. There are also Apostolic Churches, which are making their presence felt in some villages on the Island (Mgone C., Oyang G., Yeka W., Anang J. unpublished).

Anecdotal reports from Karkar islanders living in Port Moresby and Goroka suggest that promiscuity and teenage pregnancies are rife on the island. Sexually transmitted infections are common. Many young girls and boys are sexually active and in the absence of employment opportunities on the Island, young girls are drawn into the sex trade.

Interestingly, whilst among the elite circles in PNG, the Trobriand Islands are called the 'Island of love' probably due to the practice of sexual freedom among the youth, Karkar Island is known as the 'Island of No Return', probably due to fact that, young men and women who visit the Island do not want to go back to their place of origin once they fall in love with a member of the opposite sex, residing on the island (Mgone C. *et al.* unpublished).

These revelations also make Karkar Island a potential ground, where HIV and STIs can take their toll on the lives of people; if adequate preparations are not made to help community members stem the flow of HIV and STIs.

MATERIALS AND METHODS

White board markers, pens, cards and wall papers were used in this study.

The study explored the knowledge base of the participants on HIV/AIDS and followed on by asking participants to;

1. Name or indicate places where sexual activities take place in the two sites.
2. Name traditional practices that could promote HIV/AIDS in the country
3. Name the various groups in each community, and using pair-wise analysis, to rank them according to possible risks groups in relation to HIV/Aids spread

In the pair-wise analysis, you compare one group at a time against each of the other groups, and indicate in the appropriate cell, the name or number of the group, that in the opinion of the participants is more at risk than the other. At the end of the group

comparison, you count the number of times a group appears. That gives the frequency. This frequency can then be expressed in percentage of the total number of groups (less one).

An exercise in PRRA was done, to highlight the possible contributing factors to HIV/AIDS spread and as to how best to address the issue to reduce or contain future spread.

In the PRRA, participants were first introduced to the method, and were asked to write as many cards on factors that could promote HIV/AIDS; one factor per card. Cards were pinned on the board, duplicated cards were removed and cards not understood were clarified and re-written. The interrelationship and hierarchy between the cards were established. The issues that help promote HIV/AIDS were stated in the negative and the possible solutions identified in the positive following standard procedures in constraints analysis (Dekuku 2001, GTZ 1990 and IRRI 1991)

The exercise was on 8-9th of August 2001 at the Institute of Medical Research Office in Port Moresby.

RESULTS

Places and traditional practices that may promote HIV/AIDS spread.

Based on answers provided by the groups, it was identified that illegal sexual activities take place in the two communities. The Karkar Team names the following as the places of illegal sex; video and disco places, sports venues, market places, plantations, schools and private sector workers compounds. The Trobriand Island Team named Market places, shops, Guest houses, Kebutu plantation and gardens (Table 1).

Table 1. **Places where 'illegal' sexual activities take place.**

Karkar Team [Madang]	Trobriand Islands Team
Video Places Disco places Sport venues Market places Plantations Schools Private sector workers compounds	Market places Shops Guest Houses Kebutu Plantation Gardens

Traditional Practices that may promote the spread of AIDS.

On traditional practices that may lead to the rise in HIV/AIDS, mentioned were; Traditional sing-sing, traditional circumcision and initiations, traditional marriage ceremonies and funeral practices (Table 2).

Table 2 . **Some traditional practices that can lead to rise in HIV.**

1. Traditional sing-sing 2. Traditional Circumcision/ initiation 3. Traditional Marriage ceremonies 4. Funeral practices

Pair –wise analysis in comparing groups to each other.

The groups of people by occupation in each locality were listed by the participants. The Trobriand team identified 19, while the Karkar team identified 20 groups (Tables 3 and 4).

By ranking groups against each other for perceived risk to HIV/AIDS, the various risk groups identified for Trobiland are as follows (Table 3);

Very Highly at risk: 50 – 100% score; Youth, Sailors, PMV Drivers, Public Servants, Dingy Drivers, Beach Dina Divers, Town Drifters, Canteen Owners, and Carvers.

High Risk: 25 – 49% score; Betel nut Sellers, Husbands, Fish Sellers, Gamblers and Kula Sellers

Medium risk: 10 – 24% score; Students, Widowers and Wives.

Low risk : <10% score; Widows and Church worker.

For the Karkar Group, the various risk groups are (Table 4);

Very Highly at risk: 50 -100 % score; Two-Kina sex workers, Private sector workers, Male plantation workers, Female plantation workers, Settlers and Dingy operators Public servants, Drug bodies, Husbands, Widowers and Male sport groups.

High Risk: 25 – 49% score: Female sport groups, Wives and Male School Leavers and Male village teenagers.

Medium risk: 10-24% score: Female village teenagers, Widows, Female school leavers and Youth groups.

Table 3. **Pairwise analysis of the various groups in Trobriand Islands in relation to HIV/AIDS risk**

Group*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Betel nut sellers		2	3	4	1	1	7	1	1	10	1	12	13	1	1	1	17	18	19
2. Sailors			2	2	2	2	2	2	2	10	2	2	2	2	2	2	2	2	2
3. Kula traders				4	5	6	7	3	9	10	11	12	3	14	3	16	17	18	3
4. Beach dina divers					4	4	7	4	4	10	4	4	4	4	4	4	4	18	4
5. Fish sellers						5	7	5	5	10	5	12	5	14	5	16	17	18	5
6. Husbands							7	6	6	10	6	12	6	14	6	16	17	18	6
7. Public servants								7	7	10	7	7	7	7	7	7	17	18	7
8. Wives									9	10	11	12	8	14	8	16	17	18	19
9. Students										10	11	12	9	14	9	16	17	18	9
10. Youth											10	10	10	10	10	10	10	10	10
11. Gamblers												12	11	14	11	16	17	18	11
12. Town Drifters													12	12	12	12	17	18	12
13. Widows														14	15	16	17	18	19
14. Carvers															14	16	17	18	14
15. Church workers																16	17	18	19
16. Canteen owners																	17	18	16
17. Dingy owners																		18	17
18. PMV drivers																			18
19. Widowers																			

* Note; The numbers in row 1 correspond to group names in column 1, and interpretation is that the number in the body of the table is more at risk than the corresponding number in row 1 or column 1.

Low risk: < 10 % score: Women groups.

Constraints Analysis of HIV/AIDS in PNG.

The constraints analysis tree (Figure 1) indicated that increasing **HIV/AIDS infection rate** is a result of Lack of Protection. The lack of protection results from; **Ignorance about causes and dangers of HIV/AIDS, Women feeling shy to negotiate for safer sex,** some people **having unprotected sex for fun, lack of condom, forced unsafe sex and sex for money.** Some of these are consequence of other factors as explained below;

Cultural taboos prevent sex education and this leads in some cases to the **lack of awareness about HIV /AIDS and its prevention**, and these result in **Ignorance about causes and dangers of HIV/AIDS by some individuals.**

Inadequate laws to protect sexual partners, night clubs promoting sex and **overcrowded settlements** contribute to **no restriction on sexual activities in the society** as well as the proliferation of **multiple sexual partners.** These in combination with **drugs and alcohol abuse** lead to **unprotected sex** in most cases.

Drugs and alcohol abuse also **contribute to increasing rape cases**, which in addition to **forced marriages** often leads to **forced and unsafe sex** in these circumstances.

Some individuals turn to indulge in **sex for money** as a result of **lack of food** or **income** to support the family and self. These in turn are due to **lack of employment** which in itself is due to **lack of education, lack of employment avenues, lack of**

Table 4. **Pair-wise analysis of the various groups in Karkar [Madang] in relation to HIV/AIDS risk**

Group*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Pubic servants		1	1	1	1	1	1	1	1	10	1	12	13	14	1	1	1	18	19	20
2. Drug bodies			2	2	2	2	2	2	2	10	2	12	13	14	2	2	2	2	19	20
3. Male school leavers				3	3	3	3	3	9	10	3	12	13	14	15	16	17	18	19	20
4. Female school leavers					5	6	4	4	9	10	11	12	13	14	15	16	17	18	19	20
5. Male village tenagers						6	5	5	5	10	5	5	13	14	15	16	17	18	19	20
6. Female village tenagers							6	6	9	10	11	12	13	14	15	16	17	18	19	20
7.Women Groups								8	9	10	11	12	13	14	15	16	17	18	19	20
8. Youth Groups									9	10	8	12	13	14	15	16	17	18	19	20
9. Wives										10	9	9	13	14	15	16	17	18	19	20
10. Husbands											10	12	13	14	10	16	10	18	19	20
11. Widows												12	13	14	15	16	17	18	19	20
12. Widowers													13	14	15	12	12	18	19	20
13. Male plantation workers														13	15	13	13	18	19	20
14. Female plantation workers															15	14	14	18	19	14
15. Settlers																15	15	15	19	15
16. Male sport groups																	16	18	19	20
17. Female sport groups																		18	19	20
18. Dingy operators																			19	20
19. Two Kina sex workers																				20
20. Private sector workers																				

* Note: The numbers in row 1 correspond to group names in column 1.

Table 5. **Summary of Pair-wise analysis of various groups for HIV/AIDS risk from two locations in Papua New Guinea**

Risk position	Trobriands Group Milne Bay Province	Trobriands Risk Score	Karkar Group Madang Province	Karkar Risk Score
	Very high risk		**Very high risk**	
1	10. Youth	18 [100%]	19. Two Kina sex workers	19 [100%]
2	2. Sailors	17 [94.4%]	20. Private sector workers	17 [89.5%]
3	18. PMV Drivers	16 [88.9%]	13. Male plantation workers	15 [78.9%]
4	7. Public Servants	15 [88.3%]	14. Female plantation workers	15 [78.9%]
5	17. Dingy Owners	14 [77.8%]	15. Settlers	15 [78.9%]
6	4. Beach Dina diver	14 [77.8%]	18. Dingy operators	15 [78.9%]
7	12. Town Drifters	12 [66.7%]	1. Public servants	12 [63.2%]
8	16. Canteen Owners	11 [61.1%]	2. Drug bodies	12 [63.2%]
9	14. Carvers	9 [50.0%]	10. Husbands	12 [63.2%]
	High risk		12. Widowers	11 [57.9%]
10	1. Betel nut Sellers	8 [44.4%]	16. Male sport groups	10 [52.6%]
11	6. Husbands	8 [44.4%]	**High risk**	
12	5. Fish sellers	8 [44.4%]	17. Female sport groups	8 [42.1%]
13	11.Gamblers	6 [33.3%]	9. Wives	7 [36.8%]
14	3. Kula Sellers	5 [27.8%]	3. Male school leavers	6 [31.6%]
	Medium risk		5.Male village teenagers	6 [31.6%]
15	9. Students	4 [22.2%]	**Medium risk**	
16	19. Widowers	4 [22.2%]	6. Female village teenagers	4 [21.1%]
17	8. Wives	2 [11.1%]	11. Widows	3 [15.8%]
	Low risk		4. Female school leavers	2 [10.5%]
18	13. Widows	1 [5.6%]	8. Youth groups	2 [10.5%]
19	15. Church workers	1 [5.6%]	**Low risk**	
20			7. Women groups	0 [0.0%]

Across both islands, Public servants and Dingy owners/operators are at very high risk.

access to land and in some cases **laziness and unwillingness to work.**

Objectives Analysis of HIV/AIDS in PNG.

Making positive the negative factors that are promoting HIV/AIDS gives the objectives or results (Figure 2). **Low HIV/AIDS infection rate** will result from increased **protection of and by individuals. Increased protection** results from; **Increased knowledge about causes of HIV/AIDS and its prevention, Women not shy to negotiate for safer sex,** there is **less unprotected sex for fun, increase condom use, less forced unsafe sex and less sex for money.** These could be boosted through the following means as explained below;

Cultural taboos are relaxed and therefore **support sex education** and this leads in most cases **to increased awareness about HIV/AIDS and its prevention**, and these result in **increased knowledge about causes and dangers of HIV/AIDS** by many individuals.

Adequate laws to protect sexual partners, night clubs promoting safe sex and **less crowded settlements** would promote **restriction on sexual activities in the society** and would lead to less proliferation of **multiple sexual partners.** These in combination with **less drugs and alcohol abuse** would lead in most cases to **less unprotected sex for fun.**

Less drugs and alcohol abuse would lead to decreased **rape cases**, which in addition to **less forced marriages** would lead to **less forced and unsafe sex** in many circumstances.

Lower number of individuals indulging in **sex for money** would result, if people have **adequate food** or **income** to support the family and self. These in turn would result from **increased employment** due to **increased employment avenues** and **improved education levels, improved access to land, less laziness and willingness to work.**

Fig. 1. Preliminary Constraints Analysis of HIV/AIDS in Papua New Guinea

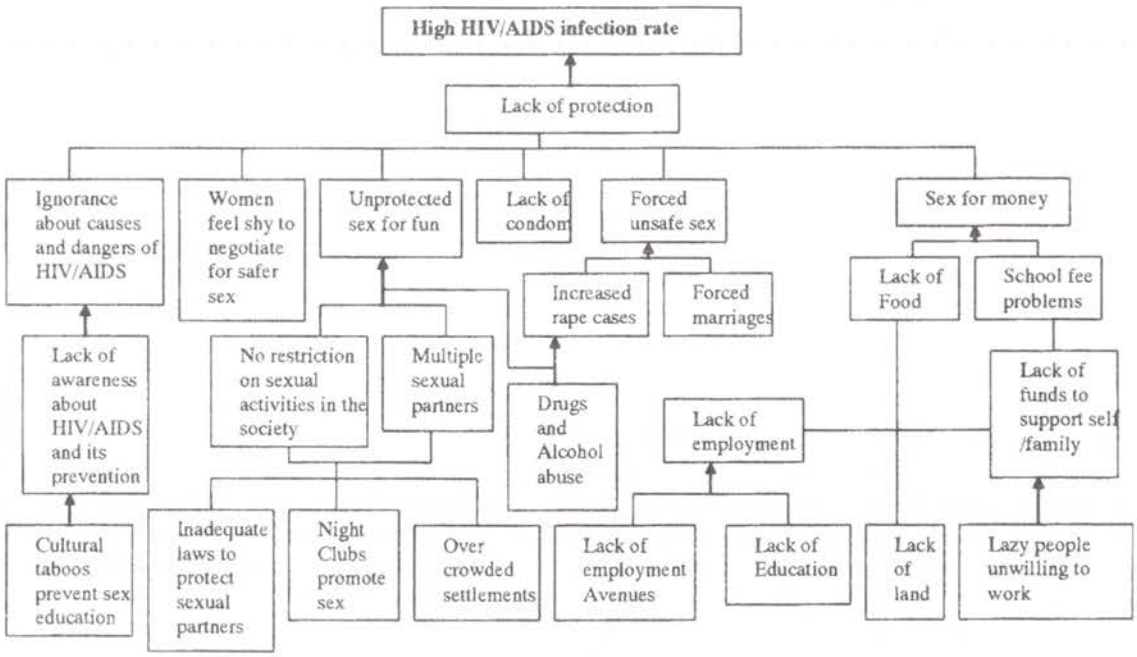
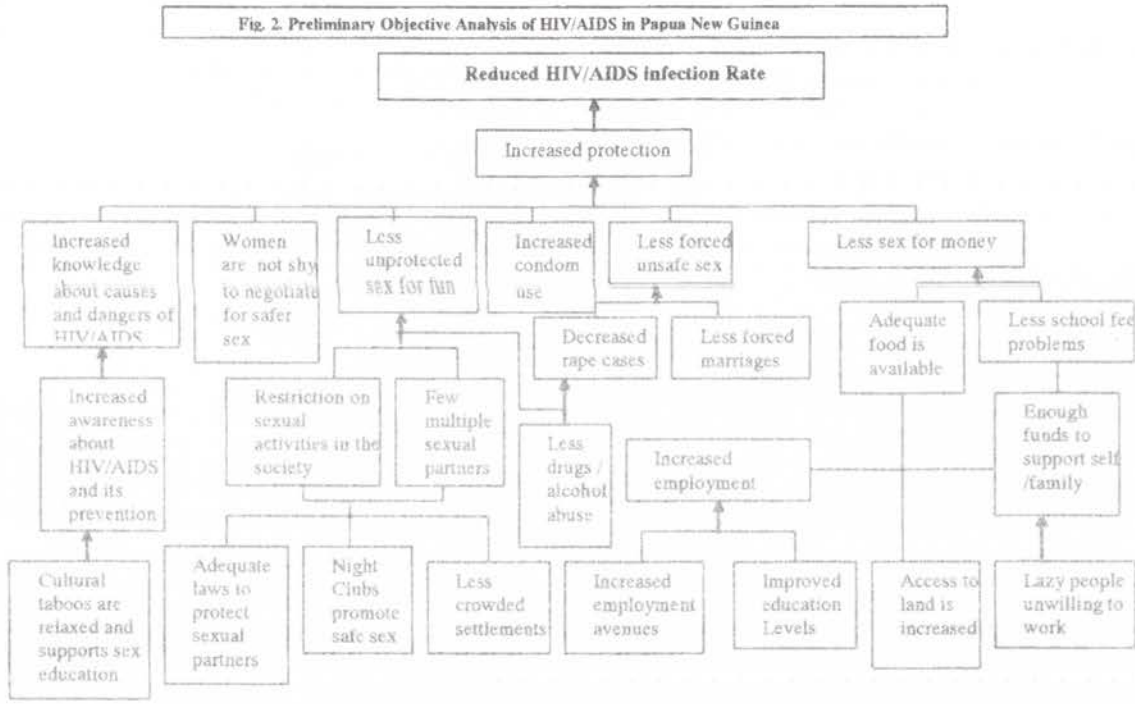


Fig. 2. Preliminary Objective Analysis of HIV/AIDS in Papua New Guinea



DISCUSSIONS

This study assumes that using Medical Assistants with reasonable knowledge of people and their rural lifestyles in the two communities may give us some understanding of the possible contributing factors to HIV/AIDS in these areas.

The study also assumes that this study may not be exhaustive as in all program planning and constraints analysis exercises, because the information presented is limited to the knowledge base of the participants. Thus other unknown or emerging issues may come to light in future as the sample base is expanded or more information becomes available. Nevertheless this study gives us some understanding of possible factors that may contribute to increasing spread of HIV/AIDS in these sites.

First is the acknowledgement that illegal sexual activities take place in both islands, and are predominant in some places; market places, plantations and gardens, shops, video and disco places, sport avenues, guest houses and private sector workers compounds and schools.

Second is the reasoning that certain traditional practices may promote the spread of HIV/AIDS; such as traditional circumcision /initiations, traditional marriage ceremonies, funeral gatherings and traditional sing–sing

Thirdly, is that, depending on the area, certain groups of people are more risk taking and therefore more at risk at getting HIV/ AIDS than the other groups based on pair wise analysis. The rankings from the two Islands are not identical but similar in some cases, indicating that group behavioral patterns may vary in different localities in some cases, but at the same time, similarities may exist in some instances. For example; youths are very high at risk in Trobriads, but of medium risk only in Kakar. While, Dingy owners/operators and Public Servants are at very high risk in both islands. Husbands are in high risk (Trobriands) to very high risk (Kakar). Wives are in Medium risk (Trobriands) to high risk (Karkar). Widowers are in medium risk in Trobriands but very high risk in Kakar, while Widows are in Low risk in Trobriands and medium risk in Kakar.

All said and done, topping the risk group in Trobriand are Youths and Sailors, and in Kakar, Two Kina Workers and Private Sector Workers. The low risk group in Trobriands are Widows and Church workers, and in Karkar is women groups.

CONCLUSIONS

This exercise to our knowledge is the first attempt of using the PRRA analysis in HIV/AIDS study in PNG, and we believe that it would provide some insight in understanding the issues of HIV/AIDS in PNG.

The identification of places of illegal sexual activities, traditional practices that may contribute, groups more at risk for HIV/AIDS and the issues that contribute to the lack of protection, as well as the possible solutions may be useful in the planning for HIV/AIDS prevention.

The constraints analysis indicated that, the issue of AIDS/HIV needs to be addressed holistically. It is a cross sectoral issue and needs to be addressed so. It is not only a medical issue, for example, education, jobs, employment and income, land, traditional practices, cultural taboos, inadequate laws, drugs and alcohol abuse etc needs to be addressed by the respective authorities. Addressing the issues collectively, and not in isolation [as is the case now], may be the best way to speed up the campaign and programs to reduce HIV/AIDS in PNG.

We agree with Piot et al. 2001 that certain ingredients are needed to effectively control the epidemic, and the four main lessons to be learnt from countries that have managed to contain the AIDS epidemic are;

1. There needs to be **unified national planning**.
2. **Proven strategies for reducing HIV infections need to be put into practice on a scale that matches the extent of the epidemic, and** for strategies to be effective, they need to be adapted to local community circumstances.
3. People need to have **ready access to essential drugs and equipment (e.g. condoms) for prevention of HIV infection and for care of those infected with HIV**. Prevention and care need to operate in synergy.
4. There needs to be a **positive attitude by the public to those people infected with HIV and those most at risk**. HIV-infected people are vital in the process of educating those not infected.

We hope that this study would be useful, in a small way to planners and HIV/AIDS workers, in planning strategies to compact and limit HIV/AIDS in PNG.

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