



Community Engagement in Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome Analysis at the Grassroots in Rural Tanzania: A Case of Visual Problem Appraisal for AIDS and Rural Development

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Authors' contributions

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Missed grounded analysis of Human Immune Deficiency Virus/ Acquired Immune Deficiency Syndrome Analysis (HIV/AIDS) at the grassroots level has led to the persistence of the pandemic in rural areas. This pseudo-experimental study aimed to explore the potentiality of Visual Problem Appraisal of AIDS and Rural Development (VPA A & RD) in supporting grassroots capacity to make informed choices through grounded analysis of the HIV/AIDS problem. Primary data were collected through VPA A & RD workshops, Focus Group Discussions (FGDs), key informant interviews,

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physical visits and observations. The secretariat of Matombo Division Farmers Groups' Local Network (MVIWATAMA) was involved directly in a strategic selection of 20 (14 males and six females) workshop participants from Kifindike, Tawa, Uponda, Kiswira and Konde villages. The collected data, narratives and observations were verified and compared with relevant literature for interpretation and interrelations. The tool was found to be useful in engaging, empowering and supporting small-scale farmers' informed choices. In addition, findings indicate that the persistence of HIV/AIDS in rural areas is due to improper analysis of the problem and review of HIV/AIDS policy. The study, among other things, recommends the establishment of an HIV/AIDS policy working paper and the incorporation of VPA potential in Tanzania universities' curricula to enhance critical thinking among graduates.

Keywords: Visual problem appraisal; problem analysis; HIV/AIDS; small-scale farmers.

1. INTRODUCTION

Sub-Saharan Africa is the region that has been severely affected by the AIDS tragedy. Tanzania is within Sub-Saharan Africa. The Tanzania Bureau of Statistics (NBS) [1], through the Tanzania Human Immune Deficiency Virus (HIV) Indicator Survey (THIS) of 2022-2023, estimated Tanzania to have about 1,548,000 adults living with HIV with a higher prevalence among women than men. This marks a slight decrease from 6% in 2007-2008 to 4.3% in 2022-2023, as reported by the Tanzania Human Immune Deficiency Virus/ Acquired Immune Deficiency Syndrome Analysis (HIV/AIDS) and Malaria Indicator Survey (THMIS) [2]. However, the data underscore the persistent nature of the pandemic in Tanzania.

Human Immune Deficiency Virus/ Acquired Immune Deficiency Syndrome Analysis (HIV/AIDS) has a major impact on economic progress, hence deepening poverty and food security, especially in rural areas. Tanzania, through her development vision 2025, envisages eradicating extreme poverty by 2025 by attaining a consistent economic growth of 6% for at least six years. Under the prevalence and impact of HIV/AIDS, this growth has not been achieved and will not be achieved. This is also proved by [3], who pointed out that affected households by HIV/AIDS were more likely to be impoverished compared to those not affected by the disease. The impact of HIV/AIDS can lead to the reduction of household income by 66% to 80% (for caregiving, funeral costs, etc) in rural areas. Other impacts in the agricultural sector include indirect loss in crop production and productivity as a result of losing trained personnel and experts such as extension workers, and traditional responsibilities for caring for the sick often rest with women in rural areas. Women with HIV/AIDS spend less time on agricultural production [4].

There is a clear mandate, evident in both policy frameworks and institutional structures, to facilitate the battle against the AIDS pandemic, coupled with a genuine willingness to address this pressing issue ". Several organizations implement HIV/AIDS interventions in Tanzania so as to mitigate its impact in rural areas. Also, at the policy level, the government commits to a countrywide response to HIV/AIDS in terms of prevention, care and support of those affected by the pandemic and mitigation of its impacts [5]. These include the provision of anti-retroviral therapy, testing and counselling centres. According to the National HIV/AIDS Policy (2001), HIV/AIDS is a priority issue. Based on this, Tanzania allocates funds in its annual budgets to central, regional and district governments to respond to the pandemic. It also dedicates financial support to civil groups to provide information and services to reduce transmission and to care for the people living with HIV/AIDS.

However, the Human Immune Deficiency Virus (HIV) Impact Survey (THIS) 2022-2023 indicated that new HIV-related infections were being registered in rural areas on a daily basis [1]. The survey indicated approximately 60,000 new cases of HIV infections among adults in the country. In addition, the study by Wang et al. [6] indicated *that* HIV-infected rural residents were significantly associated with never testing for HIV. Consequently, it underscores the prevalence of AIDS as a critical issue in rural areas. This observation highlights a considerable rural-urban disparity, with urban areas receiving more attention and access to control and prevention information compared to rural areas. It also suggests a potential inadequacy in responses from rural development organizations and policies aimed at mitigating the impacts of HIV/AIDS. Again, these problems are further aggravated by missed ground analysis of the

HIV/AIDS problem at the grassroots level. This becomes a challenge for policymakers and institutional professionals who seek to address the problem appropriately. Still, unfortunately, they did not know how due to incompetence in HIV/AIDS innovative issues. This resulted in mal-communication, as revealed by [7], who indicated that mal-communication in AIDS awareness campaigns created pandemic persistence since the proliferation of methods to disseminate information, values, feelings, and cultural ethos get marginalized or completely lost. Consequently, this led to the improper address of the problem due to insufficient capacity building at the grassroots level so as to make informed choices within their values, frame of reference, cultural issues and feelings for the proper address of the problem. All these issues are rooted in a major problem which relates to a lack of sustainable professional training with much focus on AIDS and Rural Development (A&RD) problem analysis and policy design at university levels in Tanzania.

The Visual Problem Appraisal AIDS and Rural Development (VPA A & RD), a film-based methodology, serves as an innovative strategy for slow but sustainable long-term empowerment of rural development professionals in problem analysis and policy design. However, this method is yet to be fully utilised within Tanzanian universities and rural development institutions. According to Witteveen et al. [8], the tool stimulates interaction and analytical capacity and re-creates a slow but long-term sense of empowerment at the grassroots. In addition, it facilitates mediated dialogue and supports the process of making informed choices for future actions, which leads to meaningful problem and solution formulations. Therefore, it is a useful tool in community engagement in the sense that grassroots, like small-scale farmers, can take concrete measures to address HIV/AIDS-related problem(s) based on their priorities, realities and needs. This supports the argument by [9] that there is a need for communities to have a strong sense of ownership of the process from the beginning to be able to maintain motivation and commitment and integrate learning into their future practice (s). This potential was envisaged to minimize the impacts of HIV/AIDS on sustainability in rural development, especially in the Matombo division in Morogoro, Tanzania. This presents a challenge to universities and rural development organizations in Tanzania, which are the stakeholders responsible for

addressing AIDS and rural development, as well as institutional incompetence.

1.1 Literature Review

1.1.1 Integrating visual problem appraisal: A theoretical review

Visual Problem Appraisal (VPA) is a film-based innovation to explore and facilitate coordination for better decision-making through teamwork. The VPA uses and follows Rapid Rural Appraisal (RRA) methodologies and principles, but it deviates from this class of exploratory methods as visual diagramming is a less prominent tool for extracting information on behalf of outsiders [10]. In VPA, the information in the story is told, while in the visuals, the context of the person being interviewed is portrayed. Studies have indicated that the tool has been effective in the analysis of complex problems in natural resources management and the analysis of HIV/AIDS as a developmental problem [10, 11]. This is because VPA enhances the analysis of a wicked problem and sharpens the analytical competencies as it allows semi-interaction between users and real stakeholders without discomforting or harassing them. As a result, this facilitates effective learning in a natural environment [12].

Furthermore, in the context of AIDS and Rural Development Visual Problem Appraisal (A&RD VPA), Witteveen and Lie [11] indicated that it is lifelike film-based innovation to explore HIV/AIDS encapsulated issues. It also facilitates discussion and coordination of teams for better decision-making. This is true as HIV/AIDS complexity needs a new approach for analysis. However, most of the studies conducted in Tanzania have been too explorative. They only considered the effectiveness of prevention strategies on transmission of HIV to community members [13,14,15]. With regards to the engagement of the community in HIV/AIDS research, Karris et al. [16] highlight that the failure of academia in successfully engaging communities in HIV analysis research is due to power imbalance, poor understanding of culture and scientific incompetency. In addition, the study by Hausken and Ncube [17] in African countries indicated that the cost-effectiveness of community HIV disease prevention strategies is questionable. The researchers reported free riding by both policymakers and the international community in their contributions towards epidemic prevention. This is due to the fact that the way the

international community converts funds may differ from the policymaker's priorities in the recipient country. Hence, the process of HIV problem analysis for proper intervention might be affected. This indicates that academia, organizations and policymakers need to employ new and innovative learning methodologies in HIV/AIDS-grounded problem analysis for proper impact mitigation in rural areas. However, there is no documented evidence for non-governmental organizations, especially universities and colleges in Tanzania, to use Visual Problem Appraisal (VPA) in HIV/AIDS social learning and HIV/AIDS analysis and policy agenda setting at the local level.

In terms of policy, the study raises questions about the development strategy that emphasizes small-scale farmers amongst community members to derive their communication strategy as the central focus of fighting against HIV/AIDS and impacts mitigation. This is also true in order to reach the Millennium Development Goal (MDG 6), which focuses on combating HIV/AIDS, malaria and other diseases. According to [18], among the stated key actions in MDG 6 is investing in greater resources in HIV prevention, including the provision of accurate information through appropriate media and education systems. The study, therefore, through a pseudo-experimental study, tested the potentiality of VPA A & RD that was developed through filmed-based stakeholders of Zambia, Ghana and Tanzania in supporting grassroots capacity in rural Tanzania to make informed choices through grounded analysis of the HIV/AIDS problem.

1.1.2 Empirical review on the effectiveness of community engagement strategies in HIV/AIDS prevention and control

The exploration study on lessons on community engagement in HIV research by Karris et al. [16] revealed that *community members are not successfully engaged in HIV research as their studies do not meet their interests and wants*. They found that there has been a lack of grassroots participation and maximal involvement of HIV-infected due to poor understanding of their cultural contexts, power differential and poor scientific competency. In addition, Mpondo et al. [14], in their study on the possible role of the key populations in the HIV Epidemic in Tanzania, found that the accessibility of established Medically Assisted Therapy (MAT) as part of the HIV prevention strategy at Mwananyamala Hospital in Dar es Salaam,

Tanzania was poor to most Tanzanians. They suggested strategies such as promoting condom use, use of water-based lubricants, screening and treating sexually transmitted Infections (STIs), HIV counseling and testing, and early treatment of HIV as important measures to prevent HIV transmission in the country. However, the study on social and cultural determinants of the spread of HIV/AIDS, STIs and gender-based violence in high-risk areas by Jeckoniah [15] found that low-risk perception and marital instability accelerated inconsistent condom use and having many sexual partners.

Furthermore, in the study on trends in the uptake of voluntary counselling and testing for HIV in rural Tanzania in the context of the scale-up of antiretroviral therapy, Isingo et al. [13] indicated that participants attending Voluntary Counselling and Testing (VCT) increased by 7% from 2004 to 2007 and among HIV-infected persons from 14% to 25%. However, due to poor mobilization, about 26% of VCT attendees did not complete two rounds after two years, and there was an increasing number of sexual partners in 12 months. Their study found further that engagement of communities in accessing antiretroviral therapy was effective in the early years. Despite the VCT services attracting HIV-infected and high-risk individuals, the morale for uptake of the services dropped significantly after two years of operation. This study is supported by Wang et al. [6] and [13], who found that most HIV-infested rural residents and youth did not test for HIV. As a result, this raises questions on the effectiveness of approaches employed for mobilizing rural residents towards voluntary counselling and testing.

In spite of the fact that community engagement strategies in HIV/AIDS prevention and control are employed, but their effectiveness in the prevention and control of the epidemic is questionable. For instance, Karris et al. [16] revealed poor community engagement in HIV analysis research due to power differences, lack of understanding of culture, and scientific incompetence. Isingo et al. [13] indicated that despite the attendance in VCT centres, attendees increased sexual partners, inadequate strategies to mobilize rural residents in HIV testing [6], and poor access to Medically Assisted Therapy (MAT) as part of HIV prevention strategy [14]. In addition, there is scant information on studies that explore the integration of visual problem appraisal methods in HIV/AIDS problem analysis in Tanzania. AIDS

and Rural Development Visual Problem Appraisal (A&RD VPA), as an innovative learning methodology, allow semi-interactions between users and real stakeholders (understanding their culture) to guarantee power balance (in problem analysis). Therefore, this study intended to investigate the potentiality of the A&RD VPA in HIV/AIDS-based problem analysis, focusing on small-scale farmers in Morogoro district, Tanzania.

2. METHODOLOGY

2.1 Description of the Study Area

The study was conducted in the Matombo division, which is located in the Morogoro district, Tanzania. Five villages out of ten villages of the Tawa and Kisemu wards of the Matombo division were selected as sample villages for this research. I selected these four villages based on their location and eventual high HIV/AIDS prevalence. They are near Morogoro-Selous Game Reserve (for tourists), and the road passes through the division's villages and market centres. This creates high morbidity for people since the area is susceptible to HIV infections due to interaction; hence, it is vulnerable to the impacts of HIV/AIDS. Most members of MVIWATAMA reside in these villages. The villages include:

Uponda: It is situated North-East of the Tawa trading centre. Crop farmers inhabit the village. It is bordered in the East by the Mvuha River, where small mining activities take place. Bananas, cassava, simsim and maize are major crops grown in this village. Villagers keep livestock like local chickens and goats. It has a poor road network. This results in few visits by development practitioners and other guests in the area; hence, the community is not accessible to HIV/AIDS information.

Tawa: Tawa is a centre-forward local government administration. Bananas, pineapples and cassava are major crops. Villagers keep livestock like local chickens and goats. It is a fast-growing village to a peri-urban centre. It has a modern agricultural market constructed with the support of MVIWATA-The, the Network of Farmers' Groups in Tanzania; this makes it the centre of trading activities. There is also one Center for Farmers and Agriculture (CFA) and one dispensary which have just started Voluntary Testing and Counselling (VTC) services. It is situated along Tawa-Morogoro Municipal Road.

The infrastructure creates high morbidity and interaction among people in the community. The community is vulnerable to HIV infections.

Kifindike: This village is situated along Tawa-Morogoro Municipal Road. Crop farmers inhabit the village. It has fertile soil and supports such crops as bananas, beans, pineapples, and cassava. Villagers keep livestock like local chickens and goats. Almost $\frac{3}{4}$ of the village land is under a lease of Matombo Roman Catholic (RC) Mission, which acquired a 99-year Right of Occupancy lease. They spend almost their household income on hiring land from the RC mission. Coupling this with HIV/AIDS impacts among affected households makes the situation worse, especially for small-scale farmers among others in the community.

Kiswira: Bananas, pineapples, maize, millet, upland rice and cassava are major crops in the area. Villagers keep livestock like local chickens, pigs and goats. This village is situated along Tawa-Morogoro Municipality and is also near Morogoro-Selous Game Reserve Road (for tourists). Also, mining activities take place in the area. It is a collection centre for bananas whereby vehicles from Dar es Salaam come to load bananas. The community is vulnerable to HIV infections

Konde: It is situated southeast of the Tawa center. Crop farmers inhabit it. It has a poor road network. This results in few visits by development practitioners and other guests in the area, hence not access to HIV/AIDS information. Bananas, pineapples, upland rice, cloves and cassava are significant crops, and villagers keep local chicken and goats.

2.1.1 Rural livelihood system of the area

In the context of the rural livelihood of Tawa and Kisemu small-scale farmers, HIV/AIDS is a source of deterioration of livelihood. In order to have a good picture of the problem in the Matombo division, it was necessary to understand the livelihood systems of the area and how analysis and concrete actions can help preserve these assets and livelihood strategies. According to [19], livelihood comprises assets like social, human, physical, financial, and natural assets, as well as transforming processes and strategies.

2.1.2 Social assets

Social Capital: (The social resources) in the area include small-scale farmers' local networks

and groups). Almost 5 out of 10 small-scale farmers in the area belong to a group. Being in the group, they have the opportunity to share information, help each other and make monthly contributions. The generated amount is saved in small-scale managed SACCOS. This money, in later stages, is used to support each other's living. Also, the division has an established small-scale farmers' local network called MVIWATAMA, which is linked to The National Network of Farmers' Groups (MVIWATA). They hold monthly meetings on a rotational basis to discuss issues that impact their livelihood positively or negatively. HIV/AIDS is slowly disturbing this kind of capital. The death of some active members and leaders leads to the disintegration or underperformance of some groups. A recent example is the disruption of the road rehabilitation and maintenance group "TWIKINDE" from Tawa to Milawilila villages due to the impacts of HIV/AIDS. The group secretary was diagnosed and found contracted with HIV/AIDS. He didn't receive any counselling or ARV support. He finally died. He was a very active leader. Three years back, the group was very strong, and the road was passable in all weather. Since his death, the group disintegrated, and the road was mismanaged and left with holes; hence, it was a difficult passage during the long rainy season.

2.1.3 Natural assets

Natural capital refers to the stocks of natural resources, such as land use. In the Uluguru Mountains and adjacent lowlands, land was traditionally owned by women through the clan-ship system. However, in recent years, land ownership has shifted to men within the household. This limits the involvement of women and youths in income-generating activities aimed at improving livelihoods. This is particularly significant in activities like fruit cultivation, which could be used in jam processing to generate income. The situation has led girls to get involved in prostitution to secure income as a source of livelihood and eventually contract HIV. Also, the situation leads to severe youth rural-urban migration. The long-term future of the youths in towns has not been very fruitful. They end up brought home while contracting HIV/AIDS and become a burden to the family, and they divert their income to caring for the diseased and burial costs.

2.1.4 Financial assets

The financial capital- the capital base includes, for example, cash, credit/debit, and savings. Two (2) small-scale farmers manage SACCOS in the Tawa and Kisemu wards. They provide capital for income-generation activities. Women and girls take a loan to establish small café food vendors. This kind of business keeps women and girls up until late hours of the night, increasing women and girls' susceptibility to HIV infections. Sometimes, they may be attracted to well-off customers who may have contracted HIV. Also, SACCOS in the area have registered 50% as overstayed loans from small-scale farmers. In most cases, the borrowed money is diverged to buy medicine or used for transportation to hospitals for those caring for HIV/AIDS-positive people instead of establishing income generation activities.

2.1.5 Human assets

Human capital includes skills and knowledge. People in the areas utilize their indigenous knowledge to meet their livelihood needs or address challenges. For example, they use post-harvest pest control methods (using ashes) to control large grain stalk borers in maize (Uponda and Kiswira villages). They aim to minimize post-harvest losses and reduce the cost of production. Scientific knowledge of the proposed interventions is integrated with the existing indigenous knowledge. On the other side, the village is endowed with gold. Small mining activities in the villages create interaction; hence, the community are vulnerable to HIV/AIDS. This would be a threat to the disappearance of the knowledge.

2.1.6 Physical assets

Matombo is easily accessible by good roads. For example, the Morogoro-Selous Game Reserve (for tourists) road passes through the division's villages, and there is a famous modern agricultural market at Tawa ward (different people come into the area). These activities not only increase exchange (raising income due to the exchange of goods/services with money) but also create high morbidity and interaction of people; hence, the community is susceptible to HIV infections if men and women happen to be involved in unsafe sex with guests and vulnerable to HIV/AIDS impacts.

2.1.7 Transforming structures and processes

Institutions: HIV/AIDS committees were formed in each village, but they never met. Also, several seminars on HIV/AIDS awareness have been organized by Morogoro district council NGOs and TACAIDS, but no impacts have been registered. These seminars take place in town areas. The participants, who are primarily local government officials, get trapped to per diem. There are no feedback mechanisms. People, especially small-scale farmers, are no longer willing to listen to them. They don't see any changes.

Culture: The ethnic groups found in the Matombo division are "Luguru" and "Kutu". The major tribe is "Luguru". It is kind of matrilineal. In Luguru tradition, originally, land was passed from the mother to the son. In recent years, some conflicts have arisen, and there is a greater tendency to change the power of the land to the patriarch, hence leaving the female small-scale farmers the poorest among others. Sometimes, they do not access loans from SACCOS because they don't have land, which is used as a mortgage. This forces them to be involved in prostitution; hence, they are susceptible to HIV/AIDS.

Gender issues: Traditionally, in the Matombo division, men always become married to more than one wife. Also, the involvement of females and males in households' work and income generation is unequal. Women spend more time managing farms as cheap labourers, while men are responsible for selling agricultural produce either within the local area or transporting them to Dar es Salaam city. This morbidity and interaction keep them at a high risk of HIV infections if they happen to practice unsafe sex.

Laws and Policies: The village government, especially in the Matombo division, distributes land to poor small-scale farmers ranging from ½ to 1 acre per household. However, in Kifindike village, small-scale farmers are becoming overwhelmingly poor. Almost ¾ of the village land is under lease. Matombo Roman Catholic (RC) Mission acquired 99 99-year Right of Occupancy lease. The small-scale farmers spend almost their entire household income on hiring land from the RC mission. In coupling this with HIV/AIDS impacts among affected households, the situation is made worse, especially for small-scale farmers, among others in the community.

Private sector: A private investor in Morogoro town has constructed a fruit processing industry.

It started operations in 2005. The industry attracts youths from rural areas to seek employment, hence increasing interaction. This morbidity and interaction keep them at a high risk of HIV infections if they happen to practice unsafe sex.

2.1.8 Livelihood strategies

Livelihood Diversification: Agriculture is the major economic activity in the Matombo division. Only half of the total area of the division is put under gainful production. Small-scale farmers own not more than 1- 2 acres of land. Very few small-scale farmers undertake a wide range of off-farm activities such as running retail and semi-retail shops, petty businesses, "Mama ntilie" (food vendors) cafes, medium rest houses, and handy craft (masonry) works to enable them to survive in the fragile and ever challenging agro-social setting environment. These activities not only increase exchange (raising income due to the exchange of goods/services with money) but also create high morbidity and interaction of people; hence, the area is susceptible to HIV infections, and hence, the community is vulnerable to impacts of HIV/AIDS.

2.2 Data Collection Tools

The data were collected using VPA A&RD (through interviewee films from Ghana, Zambia, and Tanzania), workshops, key informant interviews, focus group discussions (FGDs), and observations. The study followed under pseudo-experimental and case study strategies. This is because, as per [20], a pseudo-experiment guarantees the internal and external validity of the results. It is carried out in many more situations than laboratory experiments, and its variants are usually more life-like. Data collection was performed to test some steps in the flow chart below (Fig. 1):

2.2.1 Tested steps in the flow chart

Steps: Which stakeholder is able to elaborate on this problem? Watching the interview, interview analysis, (re) formulation problem definition, sufficient interviews have been watched? Watching documentary 2.

This was meant to test small-scale farmers' analytical capacity in making choices, their reactions towards the interviewees, and their level of interaction in problem analysis as a way of social learning.

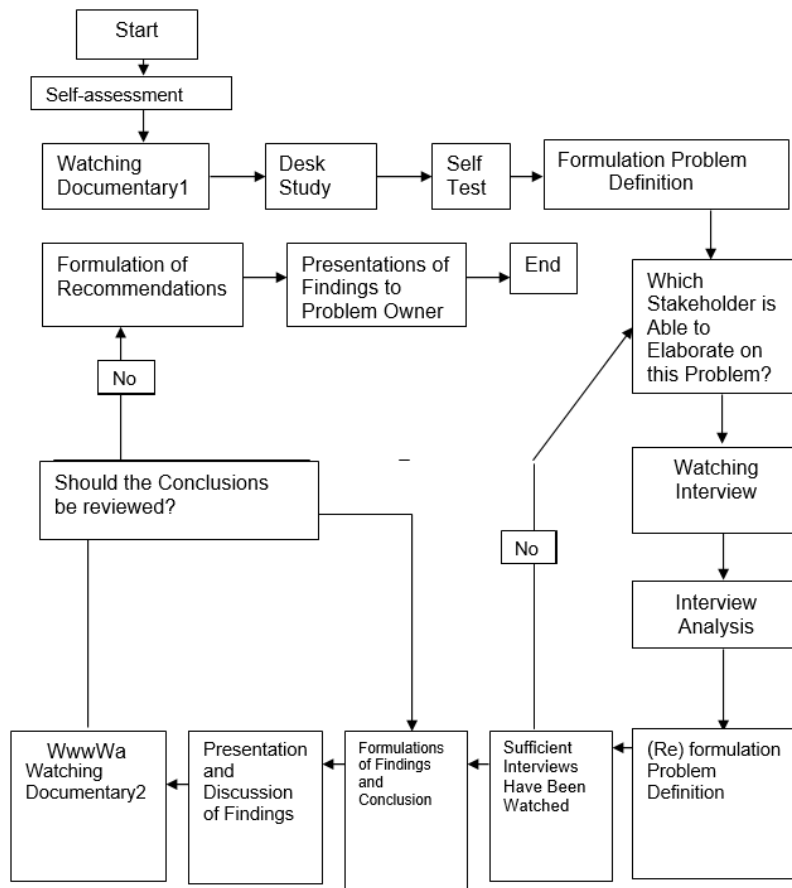


Fig. 1. Flow chart of visual problem appraisal process [10]

Steps: Formulation of findings and conclusions; presentation and discussion of findings; should the conclusions be reviewed; Formulation of recommendations & presentations of findings to problem owner.

This was meant to test small-scale farmers' ability at the grassroots level to frame problems. To what extent does VPA A&RD facilitate dialogue and ownership of the process and solutions among small-scale farmers? To what extent do they rely on outsiders in problem formulation and agenda setting? Also, to determine mandate issues regarding the follow-up of the outcome of the research. Finally, how does VPA A&RD bring about mediated public participation in the decision-making process?

2.3 Sampling and Primary Data Collection Process

Data were collected through a holistic triangulation method, i.e. group interviews, VPA A & RD workshops, physical visits and observations. The secretariat of Matombo Division Farmers Groups' Local Network (MVIWATAMA) was involved directly in a

strategic selection of 20 (14 males and six females) workshop participants (both non-affected and HIV/AIDS positive individuals) from Kifindike, Tawa, Uponda, Kiswira and Konde villages. The criteria for selection included the following: The local network has been supported by the Uluguru Mountains Agricultural Development Project (UMADEP) under the Sokoine University of Agriculture (SUA) and Tanzania Farmers' Groups Network (MVIWATA) for more than seven years. Second, these were reasonable research units for the internal validity of the information from VPA A & RD and the external validity of the literature review on the impacts of HIV/AIDS in the area. Also, among other activities, the local network carried out lobbying and advocacy works. The participants were divided into four (4) separate groups of females and males. First, this method helped to gather more information from people with similar experiences and backgrounds with regard to a situation and their feelings about VPA A&RD portraits in relation to their situations. Second, it helped in the open expression of ideas, hence better decision-making.

Three (3) workshops on VPA A & RD were organized. The workshop method allows not only gathering and describing information but also examining why they were taken and how they will be implemented. Workshops are platforms for democratic community engagement and provide critical reflection on encapsulated problems and solution development [21,22]. First, a workshop was conducted to train facilitators. It also meant to pretest the VPA A&RD analysis questions, and adjustments were made whenever possible. Three (3) co-facilitators from Uluguru Mountains Agricultural Development Programme (UMADEP) under the Department of Agricultural Education and Extension of SUA and one (1) recorder who was an undergraduate student in B.Sc. Agricultural General from the Department of Crop Science and Production of SUA were trained. The training on VPA A & RD was divided into the following categories: First, scoping (reflective journal form one), and problem analysis. The second category dealt with technicalities, coordination/organizational issues and facilitation (how to facilitate A&RD and facilitation skills). A separate questionnaire was used to gather their reactions after the second and third workshops.

The second and third workshops were organized to test VPA A&RD further at small-scale farmers' grassroots level. They meant to compare responses (similarities and differences). The workshops were divided into the following phases: scoping phase (filling reflective journal form one and workbook/film orientation). The second phase is problem analysis (use of a workbook with pictures and particulars of interviewees, watching the film into groups and technicalities), and phase three is developing alternative strategies. The main objective of the VPA A&RD workshop was to support small-scale farmers through the MVIWATAMA farmers' group's local network to make informed choices through HIV/AIDS-based problem analysis, which led to a better decision-making process. The objective sought to build institutional problem ownership, hence generating research data that are helpful for recommendations for government, rural development organisations, and farmers' organisations to address the HIV/AIDS problem in new innovative ways.

During the workshops, a workbook translated into Swahili was used. The workbook, in the form of a worksheet, contained interviewees' information (picture, name, title, place of residence and other particulars). The participants

chose three interviewees in a justified manner. Also, for every interview session, they filled out the reflective journals (in the form of a questionnaire) and presented the findings in plenary sessions on flipcharts. The reflective journals had open questions in relation to their knowledge of HIV/AIDS, main issues in relation to HIV/AIDS and Rural Development in Africa and Asia and problem formulations. The competence of facilitators was identified during the facilitation processes. Furthermore, some observations were made regarding what inspires people: If they had to ask more questions? Whether they did ask for more interviewees? Were they interested in continuing the process? Did they evaluate the process at the end? Etc.

The data were also collected through the semi-structured checklist. Ten Uluguru Mountains Agricultural Development Project (UMADEP), governments and other rural development organizations' key informants were interviewed to ascertain their competencies in addressing the HIV/AIDS problem and its impacts on rural development. Finally, physical visits were done to ascertain small-scale farmers' views on how condoms use catalyse new infections. This activity was achieved through visiting pharmaceuticals in Dar es Salaam city, Morogoro municipality, Ngerengere and Matombo divisions (buying condoms and observing expiry dates) and other organizations to cross-check on small-scale farmers' responses and the potentiality of A&RD VPA. Other fieldwork activities were to cross-check information in different organizations and within different communities.

2.3.1 Secondary Data Collection

Several up-to-date works of literature from peer-reviewed and specialized scientific journals, scientific books, etc, on media, HIV/AIDS policy, rural development studies and the internet were reviewed. The information search focused merely on the impacts of HIV/AIDS on social learning and agricultural productivity within a community, the coping strategies for HIV/AIDS affected small scale farmers' households and the local community's mandate in problem formulations and ownership of solutions that help in minimizing HIV/AIDS impacts within the community.

2.4 Data Analysis and Framework of Analysis

The potentiality of VPA A & RD in HIV/AIDS problem analysis and policy design is an object of analysis. The key points analyzed were

responses (narratives) and observations during the workshops. The framework of analysis is based on the fact that involvement in VPA A & RD analysis supports grassroots-level community capacity in making informed choices for better problem formulations and eventually becomes an effective tool for facilitating small-scale farmers' dialogue and agenda-setting.

Data obtained from VPA A & RD (interviewees' films from India, Ghana, Zambia and Tanzania) and responses from key informants, group discussions and workshops were analyzed following the content analysis procedure [23]. The procedure enabled the analysis of HIV/AIDS meaningful problem formulations and concrete measures and actions to address those problem(s) and impacts, and rural development organisations and small-scale farmers' feelings and perceptions of the ownership of the alternatives and validity of VPA A& RD tool.

The VPA A & RD interviewees recorded responses from key informants, and group discussions and workshops were transcribed into texts. The procedures enabled sorting and creating labels of sentences and paragraphs that communicated the categorical meanings of such sentences and paragraphs. Then, the data were categorized into different themes and numerous cross-references among emerging themes. In this way, as per Braun and Clarke [24], similar labels were grouped into themes and sub-themes. With the help of literature, themes and emerging themes were verified to identify final themes that represented meaning related to the research questions in Section 2.2. Finally, the results were compared to relevant literature whereby interpretation and interrelation of the data (similarities, conflicts and inconsistencies) were done.

3. RESULTS AND DISCUSSION

3.1 Validity of VPA A&RD Tool in Problem Formulations

3.1.1 Coincidence of VPA A&RD stories with a general problem understanding

Participants claimed that "expired condoms catalyze new HIV infections in rural areas". Following this claim as a response from small-scale farmers, a deliberate effort was undertaken to ascertain the truth so as to make an interpretation. In August 2007, condoms were bought from four different areas. That's at Morogoro Municipality, Dar es Salaam city,

Mtamba village (Kisemu ward Matombo, Morogoro District) and Ngerengere village in Morogoro District. With regards to condom expiring dates, it was found that: Morogoro Municipality (September 2011), Dar es Salaam City (February 2012), Mtamba Village (September 2005) and Ngerengere (February 2007). Again, it was observed that people in rural areas often neglect to check expiry dates, seemingly due to their haste. Upon reaching a pharmacy or shop, individuals would hastily request condoms to be wrapped in paper without bothering to check the expiry date. They would then promptly leave the premises without a concern for expiration dates. Contrary to this, customers in towns were observed to inquire about expiration dates. In rural areas, sellers took advantage of people's lack of awareness and sold expired condoms. A lack of knowledge on condom expiring dates accelerates their burst during sexual intercourse, hence catalyzing new infections.

Group members supported this argument during group discussions; they claimed that expired condoms were sometimes in use. They further said that some condoms did burst when having sexual intercourse with their beloved partners. Based on the findings, expired condoms contribute to new infections. This shows that the impact of HIV/AIDS will continue to be very devastating in rural areas if no action is taken, especially on awareness of the lethal effects of expired condoms and education on their use. However, there was no scientific evidence of whether bursting of condoms was due to expiry dates or not. There is therefore a need for further research on the matter.

3.2 The Role of VPA A&RD in Fostering Grassroots' Future Actions

3.2.1 Confidence of grassroots to take action

It was observed during workshops and Focus Group Discussions (FGDs) that farmers still have a traditional system of trusting and depending on professional responsibility. This is evidenced when more than 50% of small-scale farmers during discussions on initiatives to realize the solutions. They agreed that since the researcher brought them with an innovative approach, he should help them on how to convince MVIWATA and relevant government bodies and other national and international bodies so that their suggestions could be put into practice.

Table 1. Coincidence of VPA A&RD stories with a general problem understanding

S/NO	Major claim	Narratives	Observation
1.	Claim on expired condoms catalyzes new HIV infections in rural areas	"We sometimes use expired condoms. That's why some of them burst when we're having sexual intercourse with our beloved partners."	All condoms bought in rural areas expired compared to those in towns and cities.

The facilitators tried their level best to foster a sense of ownership and insisted on their personal responsibility, but they kept insisting on the same. This shows that they lack the confidence to take action. This is quite different from an international class setting. During Visual Problem Appraisal class, students formulate problems and solutions and bring a sense of ownership [8]. This implies that a form of institutionalization is important to exert political influence to minimize this traditional dependence on professionals so as to re-create a sense of community empowerment.

3.3 VPA A&RD as Means of Developing Grassroots Communication Strategies

In their views, small-scale farmers believe that VPA A & RD help to foster participation and are a means to re-create communication and empowerment among stakeholders. As revealed by [25,26, 27], participation is not just about getting people to do projects; it is about empowering them so that they can sustain their development process into the future. In this way, MVIWATAMA members, through VPA A & RD workshops, developed their communication strategies to formulate problems and integrate them into their actions for the betterment of their fellows at national and international levels. This is because [28] peasants cannot and must not confine themselves to their local development needs and problems. They are concerned with, and actually involved in, national and international issues and problems.

The VPA A & RD workshop participants agreed that VPA A&RD convey information in an accessible way, even to illiterate people; they can access and understand the information. The finding is supported by [29,30], who pointed out that video is a tool to both reflect the participant's reality and highlight their potential to change this reality. In this research, participants framed problems and solutions based on the information provided by distant interviewee(s)

3.4 The Role of VPA A&RD in Influencing Informed Choices

3.4.1 VPA A&RD and language issues in problem framing

It was noticed that participants showed fear in choosing English-speaking interviewees in spite of the presence of translators. Participants wondered how a Tanzanian doctor would use the English language in his interview. They expected him as a Tanzanian to tell his story in Swahili language. Despite this shortcoming, in their discussions, they agreed that the VPA A&RD tool was very promising whenever they watched interviewees portraying their own situation in the language they are used to, which is the Swahili language. They felt better and became motivated and interested to continue with the process. It made them keep on asking questions like: What is the next step? Where is the next interviewee(s) to fulfil our ambitions? The results imply that VPA A&RD interviewees' portraying issues in participants' own language encourages participation and interaction as compared to foreign ones. This is an important aspect as far as agenda setting and community engagement for rural transformation is concerned.

3.5 VPA A&RD as a Dialectic Tool in Public Participation and Problem Framing

According to [27], the collaborative approach has the following stages: understanding the problem, developing a long-term vision for the future, generating alternative solutions, evaluating and debating the alternatives, selecting and agreeing on a preferred alternative and finally agreeing on mitigation measures. It can be deduced from the above explanations that the use of VPA A&RD can be seen as a collaborative approach to public participation as it encourages interaction, generating agreed solutions and mitigation measures for future action.

3.6 Institutional-Related Factors in Facilitating Decision-Making and Agenda Setting

3.6.1 Facilitating the decision-making process for meaningful problem analysis

While making some observations, the co-facilitators were seen clarifying key points and important steps. They let participants determine their destiny and did not interfere during the discussion. Also, they let participants be involved in a live discussion. They also gave participants several chances to re-watch the VPA A&RD video during the workshop. This skill is needed in VPA A&RD facilitation and fostering social and experiential learning. As reported by [18], experiential learning can be enhanced by actively supporting the basic steps and translations that take place during learning and by offering new learning opportunities. The results imply that professionals can facilitate VPA A&RD processes when their capacity is enhanced.

It is also important to intervene in the process of decision-making for the grassroots to make collective decision-making and informed choices. An interview was made with one of the co-facilitators who said:

"I strongly agree with one of the group members during discussion who said it is possible the current HIV/AIDS crisis will escalate to calamity on a scale not before as seen and heard from the interviewees on VPA A&RD films" (a workshop facilitator-SUA field practical student at Tawa village).

He further said that:

"Members could not offer concrete solutions, and his group members reacted to him and demanded more clarification. They did it in person. In order to avoid discouragement from the participation of the group members, I firmly insisted they attach the ideas for better solutions not a person during the discussion" (a workshop facilitator-SUA field practical student at Tawa village).

This might indicate that in order for VPA A&RD facilitation to contribute to better decisions as a way of public participation in their endogenous development, facilitators and professionals

should let the process be free and should intervene whenever possible.

3.7 Mandate in Problem Formulations and Ownership of the Solution

The mandate issues were figured out as indicated in Table 1. This meant having a follow-up of energy and the full consent of the participants. MVIWATAMA farmers' groups' local network and Kisemu and Tawa wards executive officers were asked about the mandate of study in fostering problem formulation and ownership of solutions; they all agreed that small-scale farmers have a mandate as per Tanzania's constitution, and they seem they could support the follow up from problem owners. In addition, it is mandatory to design their own communication strategies for future action. When small-scale farmers asked to what extent they have the mandate in problem formulations and ownership of solutions, they narrated as follows:

"The government and some HIV/AIDS-related development organizations formulate problems and ask us to implement, and we don't have to formulate problems since we don't have support to make things happen".

They further added that:

"Always outsiders come here to extract information from us, and they end up formulating projects for their own interest, and that is all. They only frame their problems and bring their interventions so that we act upon their need. Thanks to this approach (VPA A&RD), it is empowering, and it's our national constitutional right to formulate problems and take actions ourselves".

A sense of empowerment is in accordance with [31] assertion that through documentation, the "realities" and situations can be confronted and subsequently remedied. The above responses show that grassroots, especially small-scale farmers, are unwilling to participate in traditional methods of information extraction. They feel mandate and ownership of the solutions if interactively and actively involved in generating their own solutions. This is possible if they feel trusted to take concrete action themselves. The results show that VPA A&RD is empowering as small-scale farmers have mandates and ownership of solutions.

3.8 VPA A&RD Encourages More Interaction among Participants

The use of A&RD at the grassroots level encourages interaction among participants. During group discussions, it was observed that group members kept awakening passive participants. It was observed and heard from one group member who awakened her fellow by saying: *“Please say something. Why are you so quiet?”* Finally, a shy man cooperated and interacted positively with constructive contributions in group work. This is indicated by [32,33], who reported media as a social activity can bring benefits associated with better information, insights, and understanding and encourage interaction among stakeholders.

4. CONCLUSION AND RECOMMENDATIONS

Generally, with regard to the use of Visual Problem Appraisal AIDS and Rural Development (VPA A&RD) in HIV/AIDS problem analysis in Tanzania, the findings indicated that the tool enhanced community engagement by stimulating interaction and communication among small-scale farmers. The tool reflected on their realities, backgrounds and feelings. It mediated small-scale farmers' participation in the decision-making process as they were interactively and actively involved in generating their own solutions. In addition, the tool reinforced agenda setting as it led to the development of new insights as they were able to identify key problems that prompted future actions. For instance, the expired condoms and policy inactions. Furthermore, the study found that professionals can facilitate VPA A&RD when their capacity is enhanced. Therefore, the study recommends the following:

- (i) An establishment of an HIV/AIDS policy working paper among Tanzanian universities, which will contribute to policy analysis, fostering and promoting a wider understanding of the relevant HIV/AIDS policy gaps and inactions and creating a debate in confronting lethal effects.
- (ii) Universities in Tanzania should incorporate the VPA methodology in their curricula to enhance critical thinking and grounded analysis for future HIV/AIDS policy analysts and advisors.
- (iii) The rural development organisations' frontline field workers should be trained in

filming and production of site-specific VPA A&RD and facilitation skills. This will support a proper, grounded analysis of problems and solutions for proper mitigation of the AIDS pandemic.

CONSENT

As per international standards or university standards, Participants' written consent has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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