Understanding community perceptions of health and social needs in a rural Balinese village: results of a rapid participatory appraisal

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SUMMARY
This article reviews the process and key recommendations derived from conducting a rapid participatory asset-focused health and social needs assessment in the small traditional rural village of Tulikup, Bali. The assessment aimed to develop recommendations for a community radio station based in Tulikup to promote social change and development. The health and social needs assessment utilized an asset-focused rapid participatory assessment cycle methodological framework, incorporating Annett and Rifkin's (1995) guidelines for rapid participatory appraisals (World Health Organization, Geneva), community-based action research (Sage Publications, California; Stringer, 1996) and asset-based community development. The study explored Tulikup’s pre-existing assets and highlights the value of using rapid participatory appraisal techniques as a first step in involving communities in assessing needs and planning meaningful community development strategies. Data was collected over a 3-week in-country period and included interviews with key informants, informal individual and group discussions, field observations and reviews of existing secondary data sources. Triangulation using cultural interpreters, and participatory consultation processes with community members helped ensure data reliability and validity. Recent terrorist attacks in Indonesia and, most notably, Bali, have had widespread economic and social effects throughout Bali. In particular, secondary consequences of unemployment and a reduction in income have had negative impacts on population health and child labour at the village level. The findings and recommendations of the health and social needs rapid assessment have been utilized by the radio station to promote social change and development.

Key words: rapid participatory appraisal; health; needs assessment; Bali

INTRODUCTION
Numerous examples exist of how community radio stations have made a significant contribution to the health and social development of their communities (e.g. Dagron, 2001; Jackson and James, 2002). The emerging role of community radio has not simply been to promote health, but rather to shift power back to the community by developing skills that enhance and boost the community’s voice. As a tool for social change and participatory communication, community radio has several advantages over other media (Jackson and James, 2002; James, 2003). First, because it is oral communication, it is ideal for populations that remain marginalized due to illiteracy or low-literacy. Second, communities can directly participate in the production and broadcast of programmes to strengthen cultural relevance. Third, the production and broadcast of radio programmes is less expensive than other mass
media, especially in distant and remote areas. Radio sets are also affordable for low-income families.

Bali is the second most populated island in the Republic of Indonesia. A popular tourist destination, Bali experienced an unprecedented economic crisis following the 12 October 2002 terrorist bomb attack in the tourist centre of Kuta and again in October 2005 following attacks around Denpasar by three suicide bombers. Tulikup (population of 7132 people in June 2004) a small, relatively unknown village in Eastern Bali, was one of the many communities throughout the island to experience the negative social and economic effects of these disasters, including increased unemployment and a collapse in tourism, retail trade, manufacturing and construction (World Bank, 2003). Located in Tulikup village is Heartline Bali FM (HBFM), one of the four radio stations in Indonesia’s Heartline network. Seeking to have a greater positive impact on the health and social status of the community of Tulikup, the Heartline network invited Health Communication Resources (HCR) to conduct a rapid participatory assessment (RPA) of Tulikup’s health and social needs in order to develop a communication strategy for health and social development.

RPAs are a qualitative research method used to collect information needed to formulate an action plan within a short time period without a large expenditure of professional time and finances (Murray and Graham, 1995). Given its strong emphasis on community participation, RPA methodology is commonly used in developing countries to gain insight into a community’s own perspectives of its needs. When conducted appropriately, health-focused appraisal methods provide valuable, reliable, cost-effective and timely information on health status, knowledge, attitudes and behaviours (Wright and Walley, 1998). An RPA of community health needs or health needs assessment is often regarded as the most effective starting point for any health-promoting community development activity (Hawe et al., 1990; Peterson and Alexander, 2001).

The purpose of this article is to review the methodology and findings of the RPA conducted in Bali and the key recommendations that were subsequently developed.

METHODS

Methodological framework

The methodologies of RPA (Annett and Rifkin, 1995), community-based action research (Stringer, 1996) and asset-based community development (ABCD) were assessed for application to the health and social needs assessment of Tulikup. The assets-focused RPA cycle, a composite RPA model (Figure 1) was constructed to strengthen two key processes of RPAs. (A full discussion of RPA methodology and decisions that guided the present research is presented in Pepall et al., 2006.)

Stringer’s (1996) community-based action research routine of ‘look, think, act’ was incorporated into the Tulikup research methodology to facilitate a cyclical process, rather than a unidirectional structure which can be a weakness of RPAs if not pre-empted.

Annett and Rifkin (1995) advocate the use of the health information pyramid (Figure 2) as a framework for grass-roots research, collecting

![Fig. 1: Asset-focused RPA cycle (modified from Action Research Interacting Spiral, Stringer, 1996, p. 17).](image)

![Fig. 2: The health information pyramid (Annett and Rifkin (1995), cited in Murray et al., (1994), p. 698).](image)
and interpreting data used to identify the problems, goals and strategies of individuals and communities. Information is collected on 10 health-related aspects using a three-pronged method for rapid analysis and community participation: key informant interviews, field observations and review of existing written documents (Annett and Rifkin, 1995).

Stringer’s (1996) community-based action research routine of ‘look, think, act’ was incorporated into the Tulikup research methodology to facilitate a cyclical process, rather than a unidirectional structure, for the core steps of planning, data collecting, analysis and action-taking. The present study assessed community assets, as resources should be directed towards locating the assets, skills and capacities of residents and local organizations (Misra and Ballard, 2003; Berkowitz and Naggy, 2004) because communities cannot be rebuilt or improved by focusing only on needs, problems and deficiencies. A process for emphasizing assets was built into the assets-focused RPA cycle (Figure 1) to guarantee a focus on both problems and solutions.

Research team
RPAs are a multisectoral team exercise comprising those who are responsible for the resources necessary to help address the problems identified (Annett and Rifkin, 1995). For the present study, financial and time considerations restricted the research team to the primary researcher (Pepall), an advisor from HCR and two cultural/linguistic interpreters who were fluent in Bahasa Indonesia, Balinese and English. Both cultural interpreters were employees of HBFM and were involved in the process of obtaining local leadership approval for the study.

Data collection
The RPA conducted in Tulikup was divided into two main phases. Phase One (2 weeks) included communicating with stakeholders, planning, collecting and analysing information pertaining to community needs and assets. Phase Two, during the third week, involved further discussions with community participants to verify, clarify and share opinions about emerging issues and to propose community development strategies. Methods of rapid appraisal utilized included interviews with key informants, informal individual and group discussions, field observations and the collation of existing secondary data. Semi-structured questionnaires guided interviews with key informants: topics included media preferences, perceived community problems or needs, feedback on health, education, youth and social services, and identification of existing community assets or social capital. Both cultural interpreters reviewed all questions prior to commencing data collection and questions were later revised in the field as appropriate.

Interviews with key informants
Interviews were conducted with 57 respondents who provided informed verbal consent. Seventeen key informants represented the community leadership structure (both government and traditional) and services available in the community from health, education, religious and government sectors. HBFM staff intentionally recruited a majority of these informants prior to the 3-week visit of the primary researcher. Though this non-random sampling approach meant that the information gained could not be considered representative of the entire Tulikup population, it is widely accepted as the most suitable method for obtaining information in a short period, without a large financial expenditure and with involvement of community members (Annett and Rifkin, 1995). Furthermore, this recruitment process helped ensure the participation of a diverse group of informants (i.e. with respect to gender, occupation, social status and socio-economic standing) to avoid gaining only a narrow and biased understanding of the issues affecting Tulikup.

Informal and group discussions
Additional points of view were gained from informal discussions with teenagers revealed a youth-orientated perspective of life that tended to focus on the availability and access of leisure and recreational pursuits, and conflicts among young people. Separate focus group meetings were also held with staff from the regional government health clinic, Tulikup primary schools and HBFM.

Vulnerable and poorer families were especially sought out. Nine separate discussions with this sub-group took place within the
privacy of their compound, providing not only an opportunity to ask questions, but also a chance to observe and compare the living situation of disadvantaged families within Tulikup. Based on the advice provided by the cultural interpreters, each family was given a small practical gift in appreciation of their willingness to be involved in the RPA.

Existing data

Basic census statistical information was obtained from the Tulikup village office and health service utilization statistics for May 2004 were provided from the regional government health clinic.

Field observations

Both physical features of the community (e.g. availability of clean water) and relational features (e.g. nature of interactions between older and younger persons) were observed and documented during the 3-week period. An asset map of Tulikup was also completed.

Allowing time for translation, key-informant interviews usually lasted between 60 and 90-min. On completion of each interview, time was routinely set aside for the research team to discuss the key findings and observations. This was done as a form of data cross-checking in order to identify and clarify any discrepancies, and to ensure the primary researcher, not fluent in either Bahasa Indonesia or Balinese, accurately understood the information gained. A similar process was adopted for informal individual and group discussions.

At the end of each day, detailed notes were written and data reviewed for dominant themes, inter-relationships and the existence of any inconsistencies. To assist with structuring the information gained, data was classified under the 10 blocks of Annett and Rifkin’s (1995) health information pyramid (Figure 2). Detailed summaries were developed for each of the 10 categories. Data gained from secondary sources and observations were reviewed and used to compare results and triangulate the data. Quantitative data collected from regional government health centre was analysed using simple descriptive statistics. This qualitative inductive analysis process took place throughout the data collection period, with discrepancies between different respondents or data sources being quickly noted and clarification sought through future data collection activities.

Research rigour

Rigour was systematically considered during all stages of the research process. Attempts to maximize the validity and reliability of findings included triangulation using different methods (interviews, focus group discussions, observations and document review), the theories of RPA and ABCD, more than one investigator (male/female, local and foreign) and data triangulation (Hall and Rist, 1999), a review of semi-structured interview outlines prior to data collection and the action–reflection process of distributing the assessment findings back to the participants to validate that they were a reasonable account of their experience (Branigan, 2002). The use of cultural interpreters, whose roles extended beyond translating to also acting as cultural brokers and advocates, helped minimize the risk that the community would only be appraised through a ‘western cultural filter’. Ethics approval for the study was obtained.

Limitations of the study

Data gained from key-informant interviews has the potential to limit the accuracy of the research if respondents choose to give a narrow and one-sided view of the community’s problems. Given this, triangulation of data and adequate time spent planning the assessment and choosing a diverse group of informants was prioritized in order to minimize this problem. Data triangulation was also necessary given the high probability of errors and prejudice arising from using just one data source. For example, given the many observable errors noted in the official health department routine statistical reports, it would have been questionable to use these as the sole basis on which to comment on health service utilization and the prevalence of different diseases in the population. However, used in combination with other methods of data collection, these statistics provide a useful source of information to verify and expand understanding of the health needs and issues affecting Tulikup residents.

The use of local interpreters, especially HBFM staff, raises the issue of research objectivity and bias. Given that the purpose of this assessment was to provide estimates of community
behaviours and facilities, rather than seek detailed personal information, the potential impact of courtesy bias affecting the honesty of responses provided was considered minimal. Furthermore, given the desire that radio staff should be seen to be taking a great interest in community affairs, it was considered advantageous that HBFM employees play an active and visible role in the community needs assessment process.

RESULTS

The results are grouped under four main themes: the ‘economic situation’; health service provision and health promotion; child labour and a perceived lack of community benefit from HBFM.

Clear needs to improve the economic situation

The primary form of employment in Tulikup is bata (brick) making. Bricks are made by hand and cured in kilns fired by wood or kerosene fuel. Estimates of daily pay for labourers ranged from 10 000 to 20 000 Rupiah (R) per day (1 USD = 10 024 Indonesia Rupiahs, November 2005). Prior to the collapse of the building industry following the ‘Bali bombing’ in October 2002, the average brick maker was reportedly paid between 40 000R and 50 000R per day.

On the basis of the census data provided by the Kades (village leader), between 2001 and 2004 the number of officially recognized poor families in Tulikup almost tripled from 34 to 118 families. Furthermore, within Gianyar (the Balinese regency in which Tulikup is located), the village of Tulikup had the second highest prevalence of officially recognized poor families. Key reasons identified for the recent increase in poor families included the socio-economic impacts of the Bali bombing and the failure of current village leaders to be concerned about community needs.

One of the core questions key-informants were asked included, ‘What do you think are the main problems or issues affecting life in Tulikup?’ The most common response to this question was the ‘economic situation’, citing either lack of personal income or a general reduction in the community’s ability to fund activities.

Negative consequences of the ‘economic situation’ were observed throughout all community sectors. For example, several youth groups, traditionally active in every banjar (village sub-unit) had ceased to exist due to lack of available funds. Residents also expressed difficulty in affording basic medication and school fees (especially for junior and senior high school).

Clear needs in health service provision and health promotion

Within Tulikup there was one government clinic, part of the puskemas (PKM) or regional government health centre located in East Gianyar. In addition to the clinic, there was one private doctor and one private midwife. Existing traditional health workers included one snake healer, one traditional herb/spiritual healer, three traditional birth attendants and one ‘black magic’ healer.

A shortage of staff (only one midwife) and equipment and medications, particularly birthing facilities and equipment (confirmed by observations) were acknowledged by the midwife herself, who stated:

I have written a letter to the government complaining that my equipment is old and broken. I have had no reply... what more can I do?

Consequently, community perceptions of the quality of service provision at the village clinic were very low and, when unwell, most people preferred to go to the PKM in East Gianyar. Reported utilization rates between the clinic and PKM confirmed this preference. Approximately, 25% of persons interviewed also reported occasionally visiting a traditional healer when unwell. It was suggested that people tend to go to a traditional healer if they have remained unwell despite previously attending the PKM, or if they cannot afford to visit government or private health services. Such persons often included the poorest families for whom transport to East Gianyar posed a difficulty.

A wide cross-section of residents was asked the following two questions: ‘What do you think are the main health problems in Tulikup?’ and ‘What do you think causes these problems?’ Table 1 summarizes the answers provided by respondents, listing illnesses and diseases in the order of those most commonly reported.
The reported perceived causes of common illnesses (Table 1, items marked with an asterisk) confirmed the research team’s observation that general public health education and knowledge was very low. Observations of routine behaviour also suggested a low general understanding of disease transmission and basic hygiene, for example, the build up of rubbish and food scraps around people’s homes and the preference to wash oneself in small streams and roadside gutters despite the availability of alternative clean water sources. In addition, no young person interviewed was knowledgeable about HIV/AIDS or sexually transmitted infections (STIs). HBFM radio staff also stated that recent mass media health education campaigns in Bali had focused only on Dengue Fever (which had not affected a significant number of persons in Tulikup) and sudden acute respiratory syndrome, which was not prevalent in Bali or Indonesia at that time. More prevalent health complaints, such as respiratory infections and diarrhoea, had not reportedly received the same media attention.

Community members’ perceptions of disease and disability were substantiated with routine PKM monthly statistics. Table 2 presents the diagnostic categories assigned to patients attending the East Gianyar PKM during May 2004, in order from highest to lowest prevalence. Upper respiratory tract infections, oral hygiene problems, skin problems and rheumatism were leading causes of ill health. In addition to statistical information, staff from the PKM also commented that Tulikup was known for poor nutrition and tuberculosis. The need for education on these topics as well as other communicable and non-communicable diseases is depicted in Table 3, which presents different health topics as ranked by a focus group of PKM staff according to priority for health education in Tulikup.

**Concerns about the issue of child labour**

Underage working (below 17 years of age) is considered illegal in Indonesia. Despite this, information from community members suggested that at least 50% of children in Tulikup assisted their parents in their workplaces, usually after school. As brick making is the main industry, most children worked in these places. Children were also observed working in rice paddies, helping make incense and in small shops.

Schoolteachers commented that, while few children missed school to work, lower school performance was observed in children who routinely work during the afternoon. Other respondents raised concerns that because children were used to working from such a young age, that this then fostered a belief that education was not important. Rather, children were led to believe that one can earn sufficient money without needing to complete senior high school or university.

### Table 1: Community perception of health problems and their cause

<table>
<thead>
<tr>
<th>Common Health Problems</th>
<th>Perceived Causes of Health Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhoea</td>
<td>Seasonal (wet season)</td>
</tr>
<tr>
<td>Influenza/Fever</td>
<td>Food hygiene</td>
</tr>
<tr>
<td>Rheumatism (legs)</td>
<td>Seasonal</td>
</tr>
<tr>
<td>Stomach ulcer (Treated with Mylanta type product)</td>
<td>Working conditions of brick makers and rice farmers</td>
</tr>
<tr>
<td>Persistent cough</td>
<td>Not eating for lengthy periods/skipping meals aggravated by certain drink and foods (i.e. coffee and spicy foods)</td>
</tr>
<tr>
<td>Asthma</td>
<td>Stress</td>
</tr>
<tr>
<td>Respiratory infection</td>
<td>Working conditions of brick makers and rice farmers</td>
</tr>
<tr>
<td>Teeth problems (elderly)</td>
<td>Hereditary</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Seasonal</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>Sugary snack foods</td>
</tr>
<tr>
<td>Headaches</td>
<td>Diet</td>
</tr>
<tr>
<td>Cholera</td>
<td>Hereditary</td>
</tr>
<tr>
<td></td>
<td>Stress about financial situation</td>
</tr>
<tr>
<td></td>
<td>In the past this was a major problem. Now it is rare (as water sources have improved), however it still occurs</td>
</tr>
</tbody>
</table>

*These perceived causes suggest a possible lack of general public health education and knowledge.*
Table 2: Diagnostic categories of patients presenting to the East Gianyar PKM during May 2004 (excluding patients seeking treatment for pre-existing diagnoses)

<table>
<thead>
<tr>
<th>Diagnostic category</th>
<th>No. of persons</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper respiratory tract infections</td>
<td>729</td>
<td>30.21</td>
</tr>
<tr>
<td>Oral cavity problems</td>
<td>312</td>
<td>12.93</td>
</tr>
<tr>
<td>Other problems</td>
<td>221</td>
<td>9.16</td>
</tr>
<tr>
<td>Skin problems</td>
<td>213</td>
<td>8.83</td>
</tr>
<tr>
<td>Muscular and joint problems (rheumatism)</td>
<td>202</td>
<td>8.37</td>
</tr>
<tr>
<td>Nutritional deficiencies</td>
<td>137</td>
<td>5.68</td>
</tr>
<tr>
<td>Stomach ulcers</td>
<td>132</td>
<td>5.47</td>
</tr>
<tr>
<td>Stomach infections (including diarrhoea and dysentery)</td>
<td>123</td>
<td>5.10</td>
</tr>
<tr>
<td>Accidents and poisoning</td>
<td>99</td>
<td>4.10</td>
</tr>
<tr>
<td>Visual problems</td>
<td>81</td>
<td>3.36</td>
</tr>
<tr>
<td>Lower respiratory tract problems (including asthma)</td>
<td>55</td>
<td>2.28</td>
</tr>
<tr>
<td>Auditory problems</td>
<td>38</td>
<td>1.57</td>
</tr>
<tr>
<td>Urinary infections</td>
<td>25</td>
<td>1.06</td>
</tr>
<tr>
<td>Hypertension</td>
<td>18</td>
<td>0.75</td>
</tr>
<tr>
<td>Low blood pressure</td>
<td>14</td>
<td>0.58</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>9</td>
<td>0.37</td>
</tr>
<tr>
<td>Parasite infections</td>
<td>3</td>
<td>0.10</td>
</tr>
<tr>
<td>Sexually transmitted diseases</td>
<td>1</td>
<td>0.04</td>
</tr>
<tr>
<td>Common midwifery problems</td>
<td>1</td>
<td>0.04</td>
</tr>
<tr>
<td>Totals</td>
<td>2413</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Table 3: Recommended priorities for community health education (from most to least)

1. Nutrition and food preparation
2. Respiratory infections, asthma, and influenza
3. Tuberculosis
4. Hygiene, diarrhoea and cholera
5. Dengue fever
6. Hook worm
7. Sexually transmitted diseases
8. Diabetes
9. Maag (excessive stomach acidity)
10. Dental problems

**Perceived lack of community benefit from HBFM**

Tulikup’s population listened to the radio almost everyday (Photo 1). Preferred listening times were afternoon and evening, and early in the morning (between 5am and 7am). Radio Gema Merdeka (98.1 FM) was the preferred radio station of all respondents, irrespective of age. The primary reason provided for this was the station’s programming of Balinese songs.

Of the respondents (35%) who stated they had previously listened to HBFM, they tended to have positions of authority or leadership in the community, e.g. banjar leaders and school principals and most were critical of HBFM, citing the lack of Balinese music and unfulfilled promises related to community benefit, such as increased local employment and revenue.

**DISCUSSION**

Using PRA methodology to guide the needs assessment process helped ensure community awareness and active involvement during the investigative process, thus enhancing the likelihood of community ownership of the community...
development programmes later instigated by the radio station.

Using radio as a catalyst for social change and development requires thorough understanding of the principles of radio programming. Such principles include the importance of clearly identifying and defining the specific target audience, ensuring continuity of radio programming and making certain that programmes have a strong, locally relevant message. Simultaneously, for participatory community development to occur it is also necessary to ensure local voices are regularly heard on the radio. To attract a greater local audience, the need for programmes to be in Balinese was also acknowledged.

Given the significant reduction in income among brick makers, a growing number of poor families, a lack of employment opportunities in the village besides brick making and no tourism industry in Tulikup, it was not surprising that financial concerns were the most salient problems mentioned by Tulikup community members, and contributed to prevalent communicable and non-communicable diseases.

Strategies for change

After preliminary assessment findings were fed back to key stakeholders and the community, and discussed further, three main strategies were recommended:

A Cultural Tourism project to help alleviate a wide range of community concerns was the first strategy proposed. The project would seek to provide tourists with an opportunity to observe, and experience first-hand, different aspects of traditional village life while providing local families with much needed income and skill-building opportunities.

A second strategy was to organize education and community-based activities to help improve nutritional knowledge and behavioural change, and increase community participation in the health and nutrition programme of the Local Integrated Health Service Centre (Posyandu).

The third strategy recommended was for HBFM to implement several relatively inexpensive activities within a short period to maintain the momentum and interest already created from the community needs assessment. The activities would reflect identified needs of the community and have a cumulative effect. Two of a range of suggestions included organizing Fun Days for under-resourced schools and, to encourage social dialogue and advocacy, train community members to interview people in village locations about relevant issues.

CONCLUSION

The RPA did result in a cultural tourism project, a large-scale nutrition-focused health education project in partnership between the radio station, HCR and the Department of Nutrition (Polytechnic of Health, Denpasar), innovative participatory radio programmes that involved community identities and locally trained interviewers, a monthly children’s fun day and a range of other activities.

The range and depth of information obtained from this study suggests that RPA methodologies are effective as a first step in including communities in assessing needs and planning the provision of services.

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