



Strategy Evaluation Plan:
Use of "Sakau Songs" to Raise
Adult Male Awareness of Their
Role in Preventing Iron
Deficiency Anemia
in Women of Reproductive Age
on Pohnpei Island, Federated
States of Micronesia



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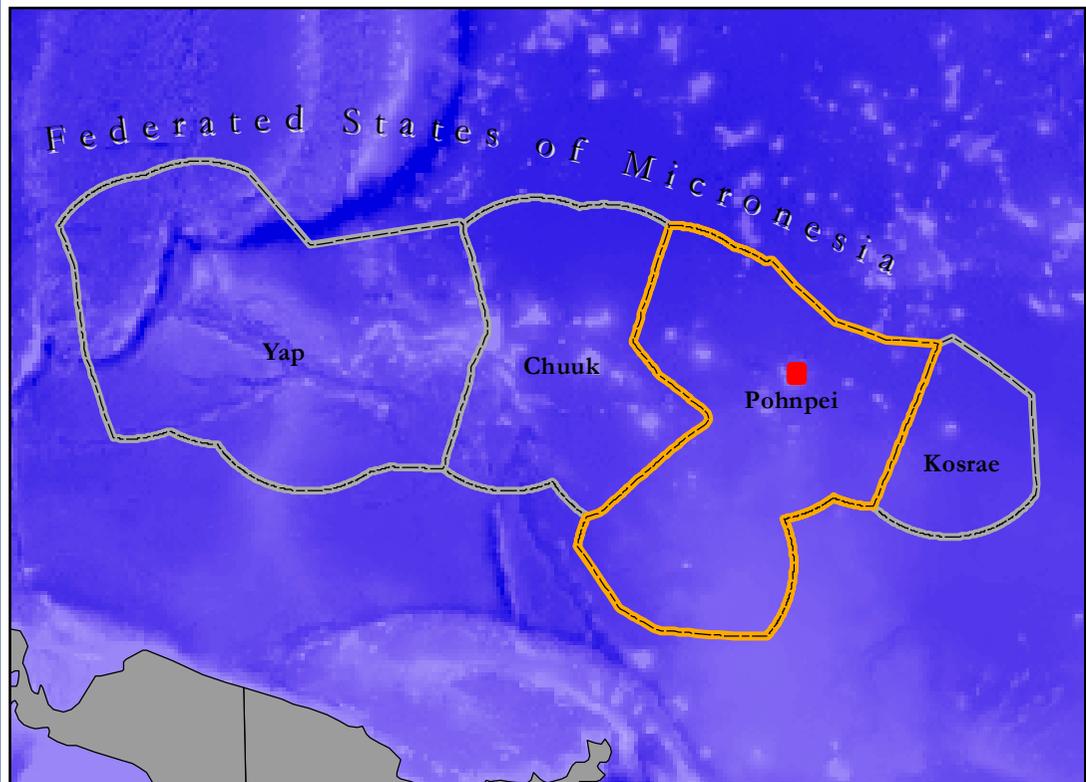
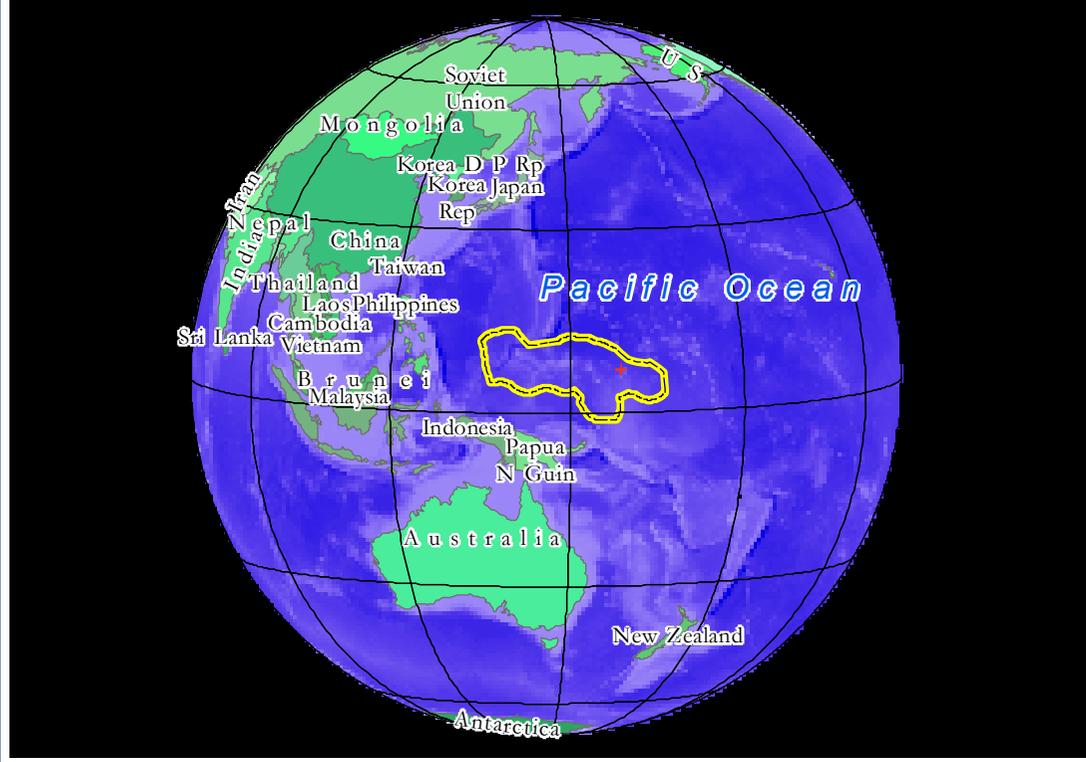
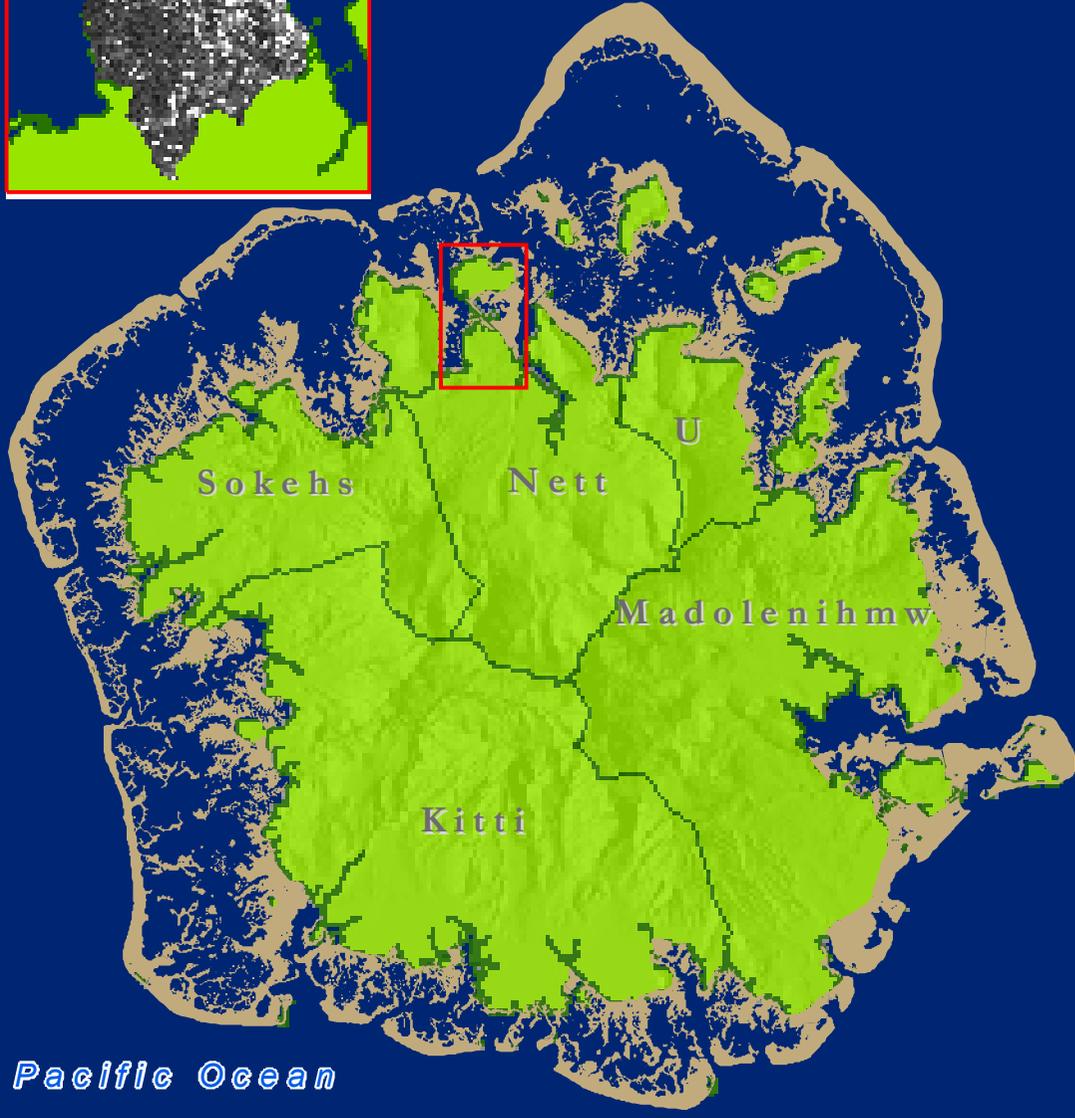
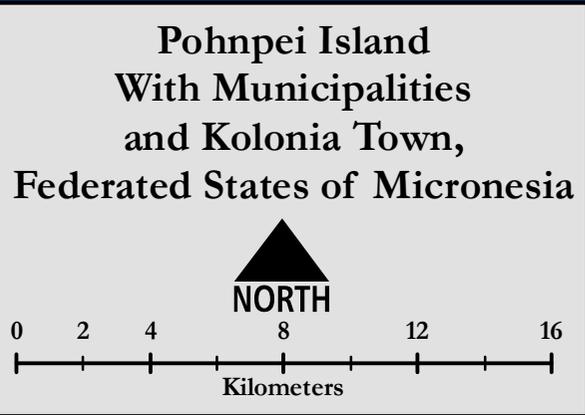
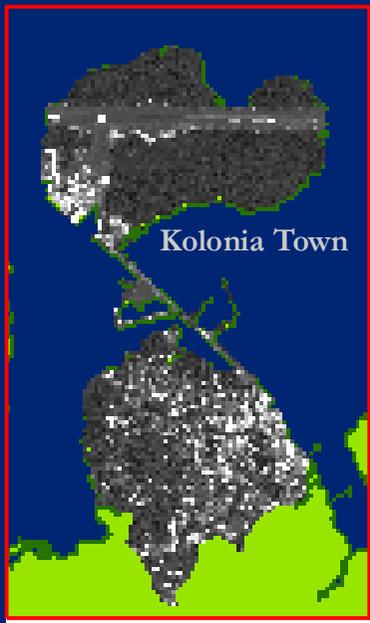
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Sakau bar attached to a small roadside store in Kitti Municipality, Pohnpei Island



1.0 Introduction

Iron deficient anemia (IDA) is a wide spread, chronic, preventable illness affecting nearly one in every five women of reproductive age (15-39) on Pohnpei Island in the Federated States of Micronesia (FSM). A multi-faceted health promotion and behavior change program has been developed to raise awareness levels of the causes of IDA and the importance of eating local foods and practicing simple iron fortification techniques to prevent the condition. Given the relatively low socioeconomic status and geographic isolation of Pohnpeians, an assets-based approach will be taken employing a team of implementation actors and appropriate technologies to reduce the risks of IDA. The following is an evaluation plan for one of the program's strategies which uses folk media to enter-educate local opinion leaders—adult males and village elders—who greatly influence the type and amount of women's and girl's food intake. A "sakau song" will be produced and tested in popular sakau bars on the island to raise the awareness of IDA and simple means of prevention, and to encourage interpersonal discussion of the role men play in the dietary health of females in their families. The strategy will be implemented over 18 months with formative, process and impact evaluation periods and it will be complemented with other forms of media and peer-education outreach activities with the potential of reaching over 9,000 people.

2.0 Literature Review

2.1 Iron Deficiency Anemia

IDA is the most prevalent nutritional disorder in the world today, especially amongst women in developing countries (Creed-Kanashiro, et al., 2000; Kurz and Galloway, 2000; WHO, 2001; Berger and Dillon, 2002; Horton and Ross, 2003; Foo, L.H., et al., 2004; de Almeida, et al. 2005; Grosbois, et al., 2005). IDA is highly prevalent in women in the Western Pacific Region. Surveys from a decade ago report 40% of pregnant women (a severe level) and 20% of non-pregnant women (a moderate level) are anaemic due to iron deficiency in the FSM, with prevalence being highest in Pohnpei State (WHO, 2000; Yamamura, 2001). Despite this, no health interventions have been undertaken to reduce its impact in the FSM to date. The main risk factors for females developing IDA in Pohnpei are a diet poor in iron and vitamin A and little to no iron supplementation amongst non-pregnant females (Brabin and Brabin, 1992; WHO, 2001; Engleberger et al., 2002; Massawe et al, 2002; WHO, 2003; USAID, 2006). Although females are the primary food buyers (64%) and food preparers (99%) males—both men and boys—eat first and consume more IR-VA foods than do females (Corsi, 2004). Imparting a message about food, which traditionally is a woman's domain, to these influential gatekeepers is key.

2.2 Folk Media for Health Promotion

Folk media as a health promotion strategy uses popular and familiar cultural and performance arts (drama, skits, poems, stories, dance and songs) to disseminate information. It has several strengths including overcoming barriers of literacy and low education; offering entertainment; stimulating and sustaining interest; providing education opportunity to all ages; and encouraging community participation and sustainability by using local resources and community artists. Folk media channels have been found to encourage critical awareness of health issues and faster acceptance of program messages, innovations and behavior change (Theuri, 2004).

2.3 Music to Convey Health Messages

Music has been used for decades in developing countries for spreading health messages about HIV/AIDS and STIs (Bartz, 2001; Deniaud, 1993; Toelupe, 1993), and family planning and reproductive health (JICA, 1999; Emah, 1993; Pemberton, 1991; Johnson, 1988, 1990; Coleman, 1986). Panter-Brick et al (2006) state health interventions should build on existing practices and engage local communities within their social systems. Because nearly all mass media are imported in Micronesia it is less responsive to local situations and specific audience needs. Therefore, existing traditional practices and channels of communication are more effective to communicate health messages in Pohnpei. A promising example come from the Marshall Islands—the closest geographic and cultural neighbour to Micronesia. There local youth groups produced traditional island music with clear health messages throughout the late 1980's and early 1990's to promote the acceptance family planning and increase awareness of good nutrition and cancer. Performances and cassette tapes rekindled pride in the local culture and sparked a sense of urgency to improve health conditions in the islands evident by a nearly 4-fold rise in the number of reproductive health clients within five years (Johnson, 1990, 1988). However, do definitive data exists measuring the songs impact specifically.

2.4 Sakau Songs¹

Sakau is the most important plant in Pohnpei, symbolizing masculinity and respect for ones self, one's family and one's culture (Balick and Lee, 2002)². Sakau roots are pounded and mixed with water to create a mild narcotic drink³. Drinking sessions are nearly always accompanied by 'sakau songs' played live by local artists or on music CDs. Sakau songs are a means of traditional storytelling in Pohnpei. Brock et al (1999) found story telling to be an

¹ A Music CD containing Pohnpeian sakau songs accompanies this evaluation plan.

² Sakau is also known as kava. Pohnpeians even say that one is not a man until he can grow sakau and own pigs (Author's personal conversations with several Pohnpeians from 2000-2001 and 2005-2006). A sakau cup is featured on the Pohnpei flag seen on the cover of this document.

³ Sakau is also a diuretic (Wong, 2006). Like tea and coffee it inhibits the absorption of iron such that sakau drinkers, who are mostly males, may also be more susceptible to IDA (Mayo, 2007).

effective strategy in providing health information, especially when Elders were involved and discussions followed, to Australian Aboriginal communities who, like Pohnpeians, have no formal written language. Sakau songs can be up to 10 minutes long and repeat simple stories to a hypnotic tune that tends to stick in one's head. Sakau music is almost entirely sung by males and played in sakau bars where customers are predominately male. Sakau bars are community assets as they provide a meeting place where much conversation and planning takes place (Balick and Lee, 2002). Stephens, et al. (1998) encourage others to seek out culturally relevant and appropriate forms of music to convey health messages to male target groups. Following his model, sakau songs will be written containing IDA awareness messages targeting adult males.

3.0 Target Group

The sakau songs strategy will target Pohnpeian males ages 20-40 (28% of the total population) as they are most likely to be married and or have daughters at risk of IDA. Elder clan title holders will also be targeted as they are the most influential opinion leaders on the island. The majority of this population are also sakau drinkers. The average male sakau drinker spends 5.36 hours in one drinking session and often drinks sakau more than once a week (Balick and Lee, 2002). During drinking sessions and while listening to the radio males are exposed to sakau songs. The median household income in Pohnpei dropped from \$7,503 in 1994 to \$6,354 in 2000, and prompted resurgence in sakau drinking over buying imported beer and liquor. The average household size is 6, including extended family members (29% of households), who are dependent on 1-2 cash income earners (usually male) and local farming and fishing. Sixty-nine percent of males are employed, mostly in government administrative jobs. Male education rates are low: 40% elementary, 28% high school and 24% college and only half speak English, the official language of the FSM. The lower educational attainment and reliance on the local language of this target group points towards the use of folk media. Nearly all of Pohnpeian males belong to some religion (99.5%) with most being Catholic (FSM Statistics, 2002). Although 59% of Pohnpeian females report receiving some information on healthy foods, no recent interventions have targeted males about nutrition or IDA (Corsi, 2004).

4.0 Goals, Objectives and Strategies

The overall program **goal** is to reduce the level of IDA amongst non-pregnant females ages 15-39 from current moderate/severe levels to mild levels⁴ as measured by clinical blood tests & self-reporting on perceived severity of symptoms on Pohnpei Island in the Federated States of Micronesia within 18 months. Given the main **risk factor** for females developing IDA is a diet poor in iron & vitamin A, the behavioral **objective** is to increase the daily dietary intake of iron and vitamin A of at least 25% of females ages 15-39 clinically determined to be

⁴ mild levels: <20% of population; moderate levels: 20-39.9% of population; severe levels: ≥40% population

ID or IDA prior to interventions in order to achieve normal body iron stores⁵ by the end of the program. A key **predisposing/reinforcing factor** is the cultural practice of males eating before females which leaves less iron and vitamin A rich foods. Therefore, **a sub-objective** is to increase males' awareness of the need for females to regularly consume iron and vitamin A rich foods within 12 months, primarily via a sakau song. One main and two complementary **strategies** will be carried out to reach this sub-objective:

- Main Strategy: Produce a “**sakau song**” with popular local artists with clear health messages and themes that appeal to traditional elders and males to raise awareness of IDA, the importance of women and girls eating iron and vitamin A rich foods and the role men can play in supporting the health of female family members. The song will be distributed on music CDs to the most popular sakau bars in each of the five municipalities on Pohnpei Island and played over the local AM radio station.
- Complementary Strategy 1: Conduct **peer outreach** at sakau bars to encourage discussion of song lyrics which promote local food consumption for IDA prevention and overall better health after the sakau song is played.
- Complementary Strategy 2: Production/erection of message reinforcing **posters and billboards** at target group identified men's meeting places and sakau bars.

5.0 Methodology

5.1 Formative Evaluation (3 months)

A **Design Workshop**, as described by de Fossard (1998), will be held for key implementers⁶ and target group representatives to develop key themes and messages for the sakau song lyrics, posters and billboards and peer outreach encounters. It is essential that messages and images resonate with the target audience's knowledge, experiences and values and that all media products complement each other to achieve the greatest impact. Because the intervention revolves around sakau, the ideas associated with this plant, masculinity, self-respect and the importance of family in the culture will be explored and incorporated into health messages. **Peer-Outreach staff** will be trained and carry out mapping exercises with males focus groups and traditional elders in each municipality to identify the most popular sakau bars, men's meeting places and singing artists. Permission to conduct intervention outreach will be obtained from sakau bar owners. **Signing artists** will be secured. Themes, messages, lyrics and music will be written and pre-tested with male focus groups before the song is launched via music CDs distributed to sakau bars and radio stations. Posters and billboards will be put up at key men's meeting places and sakau bars.

⁵ 15 mg iron and 65mg of vitamin A for females ages 15-18, and increase daily dietary intake of iron to 18mg and vitamin A to 75mg for females ages 19-39

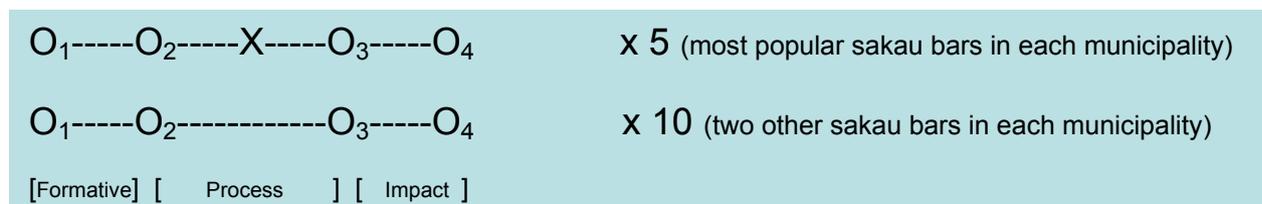
⁶ See implementation partners under 6.0 Timeline.

At least one sakau song will be completed and distributed on music CDs, and 100 posters and 5 billboards displayed and at the beginning of the 6 month intervention period. CDs will be given to the most popular sakau bars (5) and the radio station (1) for air play during the ‘sakau songs show’. Billboards and posters will be displayed at key men’s places identified in mapping exercises and posters will be given to all sakau bars on the island. This will establish two cross-sectional evaluation groups:

- Intervention group: attends sakau bars playing CDs and displaying poster, receives peer outreach and potentially exposed to billboards and/or song radio play
- Comparison group: attends sakau bars displaying poster but not playing CDs or receiving peer outreach, and potentially exposed to song radio play, posters and/or billboards.

Researcher triangulation will be achieved by program staff and peer outreach staff conducting process evaluation observations and informal interviews at sakau bars on different occasions. Evaluation will follow a cross-sectional, time-series design with more than one intervention and comparison group as shown in the diagram below. When evaluating folk media strategies, immediate feedback can be gained via observations of audience reactions or informal interviews (Theuri, 2004). Prior to the intervention informal interviews and observations will focus on determining awareness levels of IDA, preventing IDA and other health problems via nutrition and attitudes males have about their role in supporting their family’s health. In addition, researchers will attempt to cue sakau bar customers in to regular sakau song lyrics via conversations and sing-alongs to ‘prime the pump’ for the up coming intervention.

Study Design Diagram



5.2 Process Evaluation and Impact Evaluation (9 months)

Once the music CDs have been distributed and posters and billboards displayed pre-post-process evaluations will commence. Data will be collected at sakau bars. Sample size will vary depending on the number of customers at the bar on a given night. A minimum of 3 sakau drinkers and at least one sakau bar staff will be interviewed and as many as possible will be observed to determine awareness of the sakau song and its message, awareness of the posters and billboards and their message, attitudes related to individual stage of change in adopting behaviors of encouraging regular consumption of iron and vitamin A rich foods by female family members, and attitudes towards males taking an active part in supporting overall nutritional

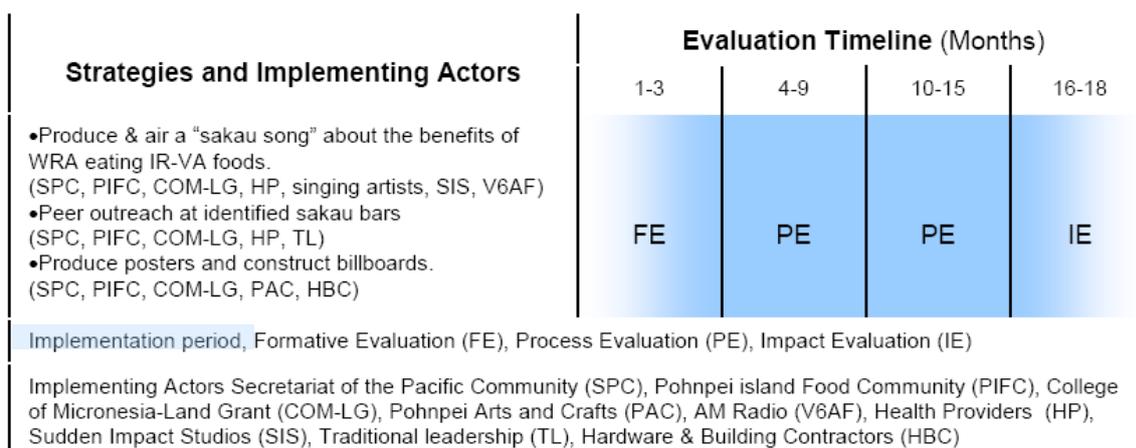
health of family members by providing more local foods⁷. One month after peer outreach sessions end and the CDs have been removed from radio and sakau bars impact evaluation will take place for the same indicators tested during the process. The same people may or may not be observed and interviewed on different locations as researchers will alternate locations and only record relative ages of males and not names.

5.3 Limitations and Ethical Issues

Because Pohnpei is a relatively small island where the research staff will likely be known to some sakau drinkers it is important that they do not overtly announce their presence at sakau bars as this would possibly bias the data. They must not lead the conversation but instead ask open ended questions. Peer outreach sessions must be kept separate from evaluation sessions as outreach sessions purposefully convey information meant to increase awareness and prompt behavior change. To this end, peer outreach staff will not carry out evaluations at the same bars they do outreach events at. This will require a complex schedule. Other limitations include the possibility for sakau drinkers to move from bar to bar so the intervention population cannot be contained. Sakau CDs may have been shared and copied and may still be played in homes and bars without researcher knowledge. Sakau songs and peer outreach will be conducted in Pohnpeian so customers who are not fluent in this language will not receive messages.

A possible ethical issue exists in conducting research at sakau bars due to the cultural significance of the this drinking activity. Strict protocols are adhered to at most sakau bars in the presence of elders and titled clansmen sometimes making it inappropriate to discuss health issues, especially when they pertain to what is considered a women’s domain—family nutrition.

6.0 Timeline



⁷ Sakau plants are grown in agroforestry plots in Pohnpei mixed with local foods high in iron and vitamin A such as bananas, breadfruit, mangos, taro, and tapioca (Balick and Lee, 2002). Therefore, men could be encouraged to harvest local foods along with sakau on a regular basis.

7.0 Anticipated Use of Results

Unlike posters and billboards, to date, the traditional sakau song has not been employed for health promotion messages in Pohnpei. And the combination of peer outreach with song in sakau bars is a unique and novel approach which may produce positive synergistic effects. All Micronesian cultures are very musical and other forms of local music exist to reach out to different target groups. Sakau songs in particular appeal to an often untargeted health promotion group-male adults. The results of this strategy will be important for others in the region looking to find ways to reach adult males in traditional settings and in establishing a baseline for potential health awareness impacts of folk media methods.

8.0 Methods for Dissemination of Findings

Findings from the entire program and this intervention strategy in particular will be disseminated locally, regionally and internationally. Locally results will be shared via the radio and newspaper and a video summary will be shown on television. All local churches will receive a message to share at the end of their services. Regionally and international results will be published in Secretariat of the Pacific Community and United Nations' health bulletins.

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Peer Outreach Checklist

Name of staff: _____ Date: _____ Time: _____
 Municipality: _____ Name of bar: _____
 Number present: _____ male _____ female
 Age of male customers: _____ <20 _____ 20-30 _____ 30-40 _____ >40

- ___ Mentioned program and activities
- ___ Brought attention to poster/message
- ___ Brought attention to song/message
- ___ Mentioned importance of local foods for health
- ___ * Discussed men's role in family nutrition/possible harm of males eating first

Customer feedback over all was _____ positive _____ indifferent _____ negative
 *Majority stage of change _____ unaware _____ aware, not acting _____ acting _____ maintaining

Key comments and observations:

Pre-/Post- Intervention Impact Evaluation Form

Name of staff: _____ Date: _____ Time: _____
 Municipality: _____ Name of bar: _____ Intervention/Comparison

Number present: _____ male _____ female
 Age of male customers: _____ <20 _____ 20-30 _____ 30-40 _____ >40

Y/N Song played Y/N Poster displayed Y/N Billboard displayed

Informal Interviews (at least 3 per site/night)

Interview #1: _____ customer _____ bar owner _____ elder/title holder
 Approximate age of interviewee: _____ <20 _____ 20-30 _____ 30-40 _____ >40

Pre-intervention Awareness Levels

•IDA/symptoms/prevention	high	medium	low	none
•Importance of local food consumption for good health	high	medium	low	none
•Possible health risk to females when males eat first	high	medium	low	none
•IDA/symptoms/prevention	high	medium	low	none
•Program and activities	high	medium	low	none
•Song and message	high	medium	low	none
•Poster and message	high	medium	low	none
•Billboard and message	high	medium	low	none
•Importance of local food consumption for good health	high	medium	low	none
•Possible health risk to females when males eat first	high	medium	low	none

If heard song, where? _____ present sakau bar _____ other sakau bar _____ radio _____ other: _____
 Attitude towards song _____ positive _____ indifferent _____ negative
 Attitude towards song message _____ positive _____ indifferent _____ negative

Stage of change: male responsibility for females health
 _____ unaware _____ aware, not acting _____ acting _____ maintaining
 Stage of change: males share iron, vitamin A rich foods with females
 _____ unaware _____ aware, not acting _____ acting _____ maintaining

Key comments and observations: