Pathfinder International, the Tanzania National Parks, Frankfurt Zoological Society, the Jane Goodall Institute, and The Nature Conservancy have collaborated to create a new population, health, and environment project titled **Tuungane: Creating a Healthy Future for People and the Natural Resources They Depend on.**

**Assessment Methods**

The partnership conducted an 11-day RNA to inform the design of the project. Health Facility Assessment (HFA) sites included six of the seven health facilities in the villages around Mahale National Park: the Buhingu-Mgambo Health Center (HC), Igalula Dispensary, Rukoma Dispensary, Nkonkwa Dispensary, Kashagulu Dispensary, and Kalya Dispensary. HFAs reviewed available health records to determine site capacity for service delivery and demand for services. Research teams collected observational data on provider practices, equipment, water and power sources, waste disposal, and commodity supply.

The Greater Mahale Valley is home to the Mahale Mountain National Park (MMNP) and Lake Tanganyika. With its 30 villages and settlements, this remote area of Western Tanzania comprises 17 percent of the world’s available fresh water and 90 percent of Tanzania’s endangered chimpanzee population. Recognizing that healthy ecosystems enable people to live healthier lives, and that in turn healthier people are able to be better custodians of ecosystems, in March 2011 Pathfinder and collaborators conducted a Rapid Needs Assessment (RNA) of the area’s health facilities and their surrounding communities, to understand existing challenges to provision of health services. This brief discusses the assessment’s findings and their implications for Tuungane.
To assess health service needs and health behaviors of the facilities’ community catchment areas, 17 focus groups discussions (FGDs) were held in the villages of Buhingu, Sibwesa, Kallani and Kashagulu. FGD groups included women and men over age 25 respectively, and community leaders. All FGDs were conducted using interview guides. Researchers’ written transcripts and observational notes were subsequently analyzed for dominant themes.

Health Facility Assessment Findings

INFRASTRUCTURE

Infrastructure was a serious concern across all assessment sites. In addition to basic maintenance of the grounds and latrines, most facilities in the northern villages were in need of reconstruction of floors, stairs, and roofing. Of note, the roof of the Mgambo HC—the next level of referral for all area dispensaries—had begun to collapse. In the women’s ward, an open ceiling permitted rain water and waste from pests living between roof and ceiling to fall on patients seeking care in the ward. Figure 2 summarizes site resources, staffing, and catchment population size.

COMMODOITY SECURITY & EQUIPMENT

None of the facilities had sufficient medical equipment and supplies to provide basic services. Travel was often required to restock supplies and in some cases, the district medical officer sent them by boat. Although drugs were scheduled to arrive every month, delays were routine for all assessment sites. Staff reported that supply shipments sent from the district medical officer were frequently less than had been ordered. Figure 3 depicts availability of basic and reproductive health service equipment at the facilities.

SOURCE OF WATER

None of the six facilities had running water. Assessment results showed that the majority of the sites used Lake Tanganyika as their primary water source. Most staff manually carried the lake water to the facility each day.

SOURCE OF POWER

None of the facilities were connected to the national electricity grid. Four had working solar panels provided by international NGOs, though staff reported they did not provide adequate lighting for most facility services. Most of the facilities reported that the most reliable source of power was a flashlight or kerosene lamp.

MEANS OF COMMUNICATION & REFERRAL

Word of mouth was the most frequently used method of communication in four of the six facilities, and staff traveled an hour or more to reach the nearest radio station in case of need for referral or transport. Only one facility had a functioning radio to communicate with referral sites and coordinate transportation; this radio was shared with a dispensary an hour’s walk away. Only the Mgambo HC owned a boat to transport referral cases. Patients were required to cover cost of referral out-of-pocket, and could expect to be in transit up to 12 hours to reach the next level of care. Some staff reported that, depending on the weather and the state of the boat, transport on the lake could become dangerous.

FIGURE 1: TUUNGANE RNA SITES IN THE GREATER MAHALE VALLEY

FIGURE 2: SUMMARY OF SITE RESOURCES, STAFFING, AND CATCHMENT POPULATION SIZE

<table>
<thead>
<tr>
<th>SITE</th>
<th>CATCHMENT POPULATION</th>
<th>HEALTH FACILITY STAFF</th>
<th>WATER SOURCE</th>
<th>PRIMARY POWER SOURCE</th>
<th>AVAILABLE MEANS OF COMMUNICATION</th>
<th>MEANS OF TRANSPORT FOR REFERRALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mgambo Health Center</td>
<td>7,94</td>
<td>9</td>
<td>Lake</td>
<td>Flashlight</td>
<td>Police station radio (~15 min walk)</td>
<td>Yes</td>
</tr>
<tr>
<td>Igalula Dispensary</td>
<td>5,430</td>
<td>1</td>
<td>Lake</td>
<td>Flashlight</td>
<td>Word of mouth only</td>
<td>No</td>
</tr>
<tr>
<td>Rukoma Dispensary</td>
<td>No record</td>
<td>2</td>
<td>Lake</td>
<td>Kerosene lamp</td>
<td>Word of mouth only</td>
<td>No</td>
</tr>
<tr>
<td>Nlonbwa Dispensary</td>
<td>4,560</td>
<td>1</td>
<td>Public water well</td>
<td>Kerosene lamp</td>
<td>Word of mouth only</td>
<td>No</td>
</tr>
<tr>
<td>Kashagulu Dispensary</td>
<td>8,157</td>
<td>1</td>
<td>Public push pump</td>
<td>Solar</td>
<td>Police station radio (~1 hour walk)</td>
<td>No</td>
</tr>
<tr>
<td>Kalya Dispensary</td>
<td>No record</td>
<td>2</td>
<td>Lake</td>
<td>Solar</td>
<td>Police station radio (~15 min walk)</td>
<td>No</td>
</tr>
</tbody>
</table>

FIGURE 3: AVAILABILITY OF BASIC AND REPRODUCTIVE HEALTH EQUIPMENT AT ASSESSMENT SITES

<table>
<thead>
<tr>
<th>Mgambo</th>
<th>Igalula</th>
<th>Rukoma</th>
<th>Nlonbwa</th>
<th>Kashagulu</th>
<th>Kalya</th>
<th>TOTAL</th>
</tr>
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<tr>
<td>Basic health equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Blood pressure machine</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>4</td>
</tr>
<tr>
<td>Stethoscope</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>5</td>
</tr>
<tr>
<td>Fridge</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>5</td>
</tr>
<tr>
<td>Reproductive health equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Delivery bed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Episiotomy set</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Speculum</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>IUD insertion &amp; removal kit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Implant insertion &amp; removal kit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Suction pump</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Manual Vacuum Aspiration set</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
INFECTION PREVENTION

With only one in six facilities using soap for hand washing, infection prevention was a concern across most sites. One of the six facilities was observed to sterilize and store equipment in accordance with protocol. Three facilities reported boiling as the primary sterilization method. One used air-drying or the sun. All facilities had available sharp boxes, but only five reported using them. Four facilities disposed of medical waste via incineration. Two dumped their sharps and other waste; soiled syringes could be found by visually surveying the grounds.

HUMAN RESOURCES

Staffing was insufficient in all facilities except the Mgambio HC. Three dispensaries had only one staff member. Because dispensary staff often traveled with referral patients to oversee their care en route, it was common for dispensaries to be left unstaffed during cases of referral. Morale was a concern across all sites, with staff working long work hours with little support. Poor equipment and lack of supplies were the most commonly reported concern by the staff. Many reported that, due to the remoteness of the area, recruitment and retention was a persistent challenge.

HEALTH INFORMATION

Medical records were inconsistently kept across all facilities. Half of the sites did not have data entry books. Though each village had one to two active volunteer village health workers assisting with basic services and record keeping, staff reported that volunteers’ levels of commitment and availability varied widely.

HEALTH SERVICES

All facilities provided immunization, counseling for family planning (FP), and oral contraceptives, some injectibles, and male condoms. None provided emergency contraception, female condoms, vasectomies, or tubal ligation. None of the facilities offered long-acting FP methods. Caesarian sections were not available in any facility, nor was rapid testing for syphilis in pregnancy.

Management of sexually transmitted infections was provided in four of the six facilities. All practiced HIV counseling and testing, though availability of test kits varied. Antiretrovirals (ARVs) were only available at the Mgambio HC. Though the Kalua dispensary had a supply of ARVs, the providers had not been trained to prescribe them.

Four facilities provided services both onsite and through community outreach, which typically took place once a month. All offered child health services through outreach and three provided maternal and newborn services during outreach visits. Only the staff from Mgambio and Rufukama offered reproductive health services through community outreach.

Focus Group Discussion Findings

FGDs with 238 villagers revealed recurring themes across gender, age, and leadership groups. Key topics in the 17 sessions included: power and health decision-making, health beliefs and practices, the demand for services, and barriers to health service uptake.

POWER ROLES AND HEALTH DECISION-MAKING

“If a child falls sick at home, a mother can take the child to the health center … without consulting her husband, if he is not at home.”

—OLDER WOMAN RESPONDENT

The majority of older women identified motherhood and child-rearing as the primary area in which they could exercise decision-making in the household. Some stated that decisions related to child-rearing were not valued by male spouses, and therefore were delegated to women.

Across male respondent groups, most reported that decision-making was reserved for the male head of the household. Some respondents suggested that women could make decisions regarding purchase of medicines for child ailments. Most male respondents did not feel that women should elect to take a child to a facility for care without spousal consent, in part due to the financial implications of seeking skilled care. Similarly, most male respondents felt that the decision to seek care during delivery should be made by the husband.

HEALTH BELIEFS AND PRACTICES

HIV, gonorrhea, syphilis, sexually transmitted infections, and cholera were referred to as “shameful” or “embarrassing” across all respondent groups. At least one person in each group stated that most villagers sought help from traditional healers when these conditions were suspected, although some younger women said they preferred to seek care at a facility. Some groups discussed a general reluctance on the part of their community to address the presence of HIV, and that shame associated with the disease prompted many not to seek skilled care. One older woman respondent reported that a positive test result for HIV was often regarded as witchcraft by many of her peers.

“Most youths do not go to test for HIV because they are afraid if they will be found positive and other people will also know that she or he is HIV positive.”

—YOUNG WOMAN RESPONDENT

All groups reported use of traditional medicine, particularly for malaria, hernias, typhoid, and care during pregnancy. Though at least one respondent in each group voiced doubt that traditional medicine was effective, many also believed that the earlier traditional medicine was sought, the more effective it could be.

Groups demonstrated a range of reactions to the idea of FP. Each group had respondents who reported having personal experience with FP, at times voicing strong support for FP and its implications for stability of the family. Still, the majority of groups also had participants that insisted they did not practice FP or approve of it. Some believed in a traditional practice termed “pig,” in which a woman ties a twig from a traditional healer around her waist to prevent pregnancy. However, most groups expressed reservations about the efficacy of this method. Many women respondents expressed dissatisfaction with pills because of the unreliability of resupply at facilities. Injections were preferred by the majority of women respondents who approved of FP.

Across women and men’s respondent groups, concerns were expressed about rumored side effects of modern FP methods, including risk of female infertility, cancer, heavy bleeding, and fear of accumulation of blood in a woman’s uterus that could require surgery to remedy. Most respondents expressed interest in education about FP.

“There are many benefits to FP, the family will be happy because there will be enough food, clothes, and a good house.”

—OLDER MAN RESPONDENT

DEMAND FOR SERVICES

Health conditions of chief concern across respondent groups included cholera, diarrhea, hernias, malaria, TB, asthma, HIV, and typhoid. Other desired health service improvements included increased access to FP (particularly pills and injectibles), quality maternal health services, an increase in qualified staff at the facilities, and availability of blood transfusions and major and minor surgeries.

“There is a theatre in the health center but it does not work, operations are not done in there. This is costing lives of pregnant women in the village.”

—YOUNG MAN RESPONDENT

Care during and leading up to delivery was voiced as a particular concern across all respondent groups. In both older and younger women respondent groups, access to antenatal care (ANC) services was discussed as a concern, in part due to requirements that those seeking ANC be tested for HIV. Though most women respondents reported willingness to be tested for HIV,
the majority reported a lack of willingness on the part of their spouses to be tested. Because HIV testing required consent of the husband, and testing was required to receive ANC, most women respondents reported that they were thus unable to access ANC.

**BARRIERS TO HEALTH SERVICE UPTAKE**

Numerous impediments were cited that prevented access to health services. Six predominant barriers emerged across groups: transportation to care, spousal permission to seek care, availability of staff at health facilities, quality of services, cost of services, and the ability to access necessary health-related commodities. Because of the difficulties experienced in accessing care, all groups stated that they made use of available private sector health resources, such as drug stores for commodities, and drug store employees for medical advice. Traditional healers were also listed as an alternative to facility-based care across all respondent groups.

“If a (woman) needs to go to the hospital and she is not financially able she will just stay here until she dies because of lack of reliable transport.”

—WOMEN COMMUNITY LEADER

**Future Plans**

Assessments such as these, combined with Pathfinder knowledge of relevant research and activities on the ground suggest an urgent need to strengthen Mahale’s existing service delivery systems to alleviate gaps in health services and health behaviors. Tuungane’s task will involve capacity building for the households, villages, private drug stores, traditional healers, dispensaries, and health centers that comprise the area’s community and health systems. The goal of Tuungane’s future plans is to ensure that the area’s existing assets are leveraged to better coordinate service delivery and community-level prevention strategies.

**Health facility refurbishment must include meaningful, appropriate technologies**

The level of structural reliability at all health facilities must be raised to meet national guidelines and protocols. Roofing and flooring are in need of repairs, and equipment that is lacking or outdated must be refurbished. More than this, facility restructuring must answer the systemic resource limitations that currently impede facilities’ ability to deliver quality, timely services. Facility-based systems for rain water harvesting and filtration can increase availability of clean, running water in facilities, and return service delivery hours to staff who would otherwise carry water in from Lake Tanganyika. Similarly, back-up generators and fuel supply can provide a reliable source of power to facilities—a supplement to solar panels giving insufficient light, and a basic first step for those currently using flashlights. **Immediate purchases necessary to stabilize referral and supply chain maintenance**

With only one boat available to transport patients and a lack of other safe and affordable transportation to connect the lower level facilities, boats and vehicles should be purchased immediately. Development of a reliable supply chain for commodities from the higher health service levels to the health center and, by extension, to the dispensaries will require the proactive efforts of all partners, including the government. Gap-filling measures including purchase of reserve supplies must be instated to minimize impact of stock-outs when they occur, and ensure security of essential medicines, a comprehensive method mix of FP commodities, and consumables across all sites. **Increase training & recruitment of facility staff**

Facility staff require training to enable better coordinated, efficient, and quality service delivery given facilities’ resource constraints. Staff members require training in infection prevention, waste disposal, proper methods for commodities storage, health information systems and data use, and, where appropriate, major and minor surgery. The limited staff knowledge of FP observed across facilities also points to the need for training focused on comprehensive, integrated sexual and reproductive health (SRH) and maternal and child health (MCH) services. Targeted training to dispansary staff can also aid all service delivery levels, helping these lower level sites to recognize high risk pregnancies early on, to establish emergency referral systems, and waiting homes for end-of-term pregnant women to be closer to care when needed.

Overall, the number and diversity of staffing must increase. Collaboration with local government could lead to new incentive schemes to aid staff recruitment and retention in this remote area. **Leverage community assets to improve prevention and demand for skilled health services**

Leveraging the existing community structures that villagers currently rely on for health information and services will ameliorate the burden on overworked facility staff. Targeted training in health education and behavior change for village volunteers can establish a link between local communities and their health facilities. Volunteer peer educators can also build community members’ capacity for model health behaviors and basic prevention methods such as home water storage, hygiene, and waste disposal, and build households’ ability to identify need for skilled care in a more timely manner. Community Based Distributors (CBDs) can also bring FP counseling, commodities, and medically accurate SRH information to the community level. With trained CBDs and volunteers in every village, facilities could also leverage these locally-based agents to help establish more frequent schedules for community outreach services. **Existing private sector stakeholders should be mobilized to aid in service provision.** Drug store owners trained to provide medically accurate counseling in addition to the medicines they dispense would create a reliable source of medical advice to the community members already using their services. With training to refer to dispensaries, they would also serve to better link communities and health sites for timely delivery of care. Similarly, training of traditional healers and birth attendants would open new avenues for accurate health information and timely referral to skilled care. **Involve male decision-makers and community leaders as change agents**

The support of male decision-makers and community leaders is essential for improved health outcomes. Men’s circles can address identified social barriers to health service uptake and access, such as women’s status in the household and gender-based violence. Through targeted engagement efforts, traditional and religious decision-makers can become advocates for SRH and MCH interventions. As the assessment has already identified men who are invested in improving community health outcomes, Tuungane can begin with outreach to these stakeholders to mobilize their male peers.

**Community structures for accountability in service improvement**

Health facility boards can formalize the link between health facilities and their community catchment areas, creating accountability and fostering community ownership of health service improvement efforts. Health boards will foster communities’ participation in monitoring health indices and quality control measures, creating a structure for dialogue on ongoing efforts. Engagement with Village Development Committees can also establish mechanisms for improved transportation systems and savings programs for pregnant mothers, to help cover the expenses of skilled birth attendance and transportation to facilities. **Establish community-based health financing solutions**

Finally, Pathfinder will work with The Nature Conservancy and Frankfurt Zoological Society to build village-level community banks. Once established, these banks will identify methods to increase income generation and career development opportunities for local villagers.
Conclusion

The Tuungane assessment findings point to the long-standing, systemic development failures Mahale Valley communities and environments have endured. In areas like this, where villagers are dependent on natural resources to sustain their livelihoods, integrated interventions that conserve natural resource as well as improve health will alleviate the pervasive poverty that threatens survival. Improvement of health services, combined with developing alternative sources of income and food security will improve quality of life. Making information about health and FP widely available will also allow couples to better achieve their desired family size and live longer and healthier lives. By extension, the improved well-being of families will contribute to communities’ improved capacity to manage and sustain their natural surroundings. In this way, Tuungane represents a comprehensive partnership linking both health and conservation, and will address the deep, long-term challenges facing the Greater Mahale Valley. By answering communities’ perceived constancy of insecurity with targeted, appropriate, and sustainable interventions, Tuungane will fundamentally change the life experience of some the most vulnerable human and natural communities in Tanzania.

The changes we seek are not difficult to achieve—they are indeed possible—and we know they can yield tangible results. Pathfinder brings decades of experience in successfully addressing the health needs of hard-to-reach communities in resource-poor settings. Similarly, our Tuungane collaborators have long-established records of excellence protecting and sustaining natural environments. With long-term commitment from partner and donor organizations, Tuungane will be able to achieve its project goals: to sustain healthy, diverse, and abundant human communities and natural resources in this unique and fragile area.

Tuungane is creating a new model for integrating conservation and health programs. Strengthened by the findings from its initial years, by 2015 Tuungane will be replicated in 17 additional villages throughout the Greater Mahale Valley.

Contributors:
Giulia Besana
Claire B. Cole
Betsy LaRoque

Pathfinder International
a global leader in reproductive health
Change starts here
WWW.PATHFINDER.ORG