

Traditional Remedies for Women's and Children's Health Issues on Flores Island

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ABSTRACT: Effective, affordable healthcare is a critical issue for rural households in remote areas of Indonesia, many of whom are inadequately served by under-staffed and poorly equipped *Puskesmas* and *Posyandu*. Preventable deaths from common and preventable illnesses including diabetes, pneumonia, advanced internal infections, tuberculosis, and SIDS (Sudden Infant Death Syndrome) occur routinely amongst populations in western Flores. This paper reports on the results of a participatory applied research program conducted by Kempo Manggarai community members in Nampar Macing and Golo Leleng villages, Sano Nggoang subdistrict, West Manggarai District, Flores Island, East Nusa Tenggara. Farmer-researchers have been documenting ethnobotanical plant uses, including plant-based medicines, since 1999. Research methodology included qualitative interviews, quantitative nutritional surveys, participant observation, and personal experience. The research focused on health and nutrition issues affecting rural households and traditional remedies involving plant-based medicines, recommended foods, and psycho-spiritual treatments. We report on effective, low-cost, low-tech herbal remedies for women's health and reproductive issues and those relating to common childhood illnesses and preventative healthcare. We also discuss the applications of the research results toward heightening community healthcare.

INTRODUCTION

The inadequacy of rural healthcare services in remote Indonesian locales is well-known. In the West Manggarai District, eight qualified physicians serve a population of 190,286 (Dinas Kesehatan Manggarai Barat 2005). There are no hospitals in the district. The average life expectancy in West Manggarai, at 61.8 years for men and 65.6 years for women is a few years lower than the national average of 64.2 and 68.1 years, respectively (Ibid.). Deaths from preventable diseases, such as diabetes, tuberculosis, pneumonia, and secondary infections, are common. Given the level of poverty for the district at large – 37.72% of the district's population lives beneath the poverty level (BPS Manggarai Barat 2005) – it is not surprising that many households are reluctant to seek hospital care due to its distance and inaffordability. Government statistics for childhood nutrition in the Sano Nggoang subdistrict are of special concern: 77% of the children under 5 years of age were judged poorly nourished; another 17% reportedly received insufficient caloric and protein intake (Dinas Kesehatan Manggarai Barat 2005). Preliminary analysis of nutritional data collected from three representative settlements in the community where this research is based showed relatively monotonous diets with an apparently inconsistent, and often low, protein, vitamin, and mineral content (P3MT, Unpublished data).

This paper describes the work of indigenous farmer-researchers of the Tado community, who pertain to the Kempo Manggarai ethnic and linguistic group residing in the Sano Nggoang

subdistrict, western Flores (refer to Figure 1). Since 1999, Tado farmer-researchers working in the Tado Community Research and Education Center (*Pusat Penelitian dan Pendidikan Masyarakat Tado*, P3MT) have documented their ethnobiological and ethnopharmacological traditions as part of the Tado Cultural Ecology Conservation Program, sponsored by the Ethnobotanical Conservation Organization for South East Asia (ECO-SEA, www.ecosea.org).

The Tado Cultural Ecology Conservation Program was envisioned as a means to build the institutional capacity of the Tado community by empowering local farmers to research their heritage and design solutions to problems encountered by the community. The Program has succeeded in surveying hundreds of cultural practices (traditional foods, medicines, rituals, narratives, agricultural practices, etc.), has undertaken agronomic, anthropological, biological, ecological, ethnopharmacological, and nutritional research and published the findings in international scientific journals, and has facilitated water-supply initiatives in three Tado settlements. To date over two hundred medicinal plants have been surveyed by the P3MT Herbarium subteam, who have also placed voucher specimens on record in the P3MT herbarium (Pfeiffer & Uril 2003).

Availability and Use of Health Services at the Research Site

The Tado community consists of almost 700 households (over 3000 people) living in twelve settlements established fifteen generations ago within 30 km² of traditional lands containing mixed savanna, semi-permanent agricultural and agroforestry fields, monsoon dryland forest and [semi]evergreen hillside forest (Figure 1). Two *Puskesmas* (government clinics) in Sano Nggoang (Rekas) and the neighboring subdistrict (Lembor) are within 20 km of Tado (a 30-minute ride by inconsistent public transport). The Tado community is served by a *Posyandu* (clinic outpost) located in the center of Tado lands along the trans-Flores highway. The *Posyandu* is staffed by a *Mantri*, a healthcare technician who has received three years of diploma-based healthcare training, and his assistant. The *Mantri* makes routine visits to Tado settlements, and will make house calls when requested. However, government-supplied medications, such as aspirin, quinine, penicillin, etc. tend to run out at the *Posyandu* by the beginning of each month, thus it makes sense for Tado community members to resort to alternative sources of medical treatment.

Most Tado households rely primarily on traditional medicine for treating health complaints. Yet the use of traditional medicine is declining in the newer roadside settlements, located far from species-rich forests and not yet containing well-established household gardens. Older community members residing in these newer settlements recounted that they no longer collect certain plants which are too far out of their way, and in the case of medicinal plants, will tend to substitute manufactured pharmaceuticals – sold unregulated and improperly stored – in local kiosks or markets. Use of these medications is especially problematic, as they are not always used appropriately: they are used to treat the wrong illnesses, taken in the wrong dosages or taken for insufficient periods of time.

According to anecdotal evidence, Tado households will request assistance from the *Mantri* for the following illnesses: (1) persistent high fevers (e.g., >48 hours); (2) unrecognizable illnesses (especially internal complaints); (3) obvious severe health concerns (e.g., snakebite); (4) chronic, serious illnesses where the afflicted does not recover within the expected period of time; and (5) unusual complications during pregnancy or labor (e.g., unexpected bleeding, abnormal positioning of the fetus, if the placenta is not expelled after birth, or if the newborn is spasmodic). Tado community members visit the *Posyandu* primarily for routine childhood immunizations; they visit the *Puskesmas* for pregnancy check-ups and for severe illnesses. Visits to both types of clinics are rare, not more than 3-4 times annually. Frequently community members will consult the *Posyandu* after several days if the application of traditional medicine is ineffective. Conversely, in cases where the *Mantri* has been consulted, if there does not seem to be adequate improvement following the consultation, traditional medicine will be used to augment the *Mantri*-supplied medications.



Figure 1: Map of Government Clinics in West Manggarai Districts in 2005.
(Source: WiSATA Atlas 2007:19)

RESEARCH METHODS AND RESULTS

The lead author has performed collaborative research with P3MT staff for nine years; part of the data reported in this study is derived from her dissertation research. Two of the co-authors, Raymunda Mia and Bernadeta Erni, are active farmers and mothers: Raymunda has three children, Bernadeta has four. Both women have served as P3MT research staff for at least four years, and both lost children at young ages (4 years old; 9 months old). Like many Tado residents, Raymunda and Bernadeta use traditional medicine to augment medical assistance received from the local clinic, and Raymunda frequently offers her expertise to other Tado households. The research methodology is straightforward: as members and practitioners in the Tado community, Raymunda and Bernadeta research and report on herbal remedies they are familiar with and have found to be effective.

The knowledge of herbal medicines in Tado is most often transferred within families, primarily via gender-specific, consanguineous relationships (i.e., from mother to daughter, from uncle to nephew), but also from knowledgeable elders, shared experiences between friends and neighbors, and learning from local health practitioners including the Sisters at the Poliklinik St. Rafael Cancar (considered the most reliable hospital in western Flores, it is located in Central Manggarai district). Raymunda has attended special training workshops in the area on healthcare for pregnant women and infants, and on traditional medicine to treat common illnesses including diabetes, typhoid, and dysentery.

The remedies noted in this brief paper represent a selection of the dozens of different traditional plant-based medicines used in Tado: other instances where we have documented the local plant names, but lack positive botanical identification of the species used, have been omitted from this analysis.

General Herbal Remedies

The most common herbal preparations used to cure a wide range of ailments in Tado involve tonics, tinctures, or the application of previously masticated plant parts by spitting, spraying or rubbing (see Figures 2 and 3). For certain traditional medicines, Tado employ pounded rice as a

flour base known as *barak*, to which other plant-based ingredients are added. Prayer usually accompanies the application of traditional medicine (Pfeiffer 2004).

Research on native edible fruit plants in Tado documented preparations using Ceylon oak (*Schleichera oleosa*) or the gebang palm (*Corypha utan*) to treat toothache; and a wide range of plants involved in treating gastro-intestinal complaints, including banana (*Musa* spp.), betelnut palm (*Areca catechu*), coconut (*Cocos nucifera*), Chinese laurel (*Antidesma bunius*), Ceylon oak, wild figs (*Ficus* spp.), jackfruit (*Artocarpus heterophyllus*) and *wase jebia* (*Piper retrofractum*). External and internal wounds are healed by plant-based remedies derived from the candlenut (*Aleurites molucanna*), *Ficus* spp., and mango (*Mangifera indica*). Tado midwives rely heavily on mango- and banana-derived tinctures, as those taxa are the most commonly found close to Tado settlements.



Figure 2: Preparing traditional medicine in the home kitchen.



Figure 3: Applying traditional medicine to the infant's legs.

Herbal Remedies for Infants and Children

For infants who have infections at the site of their umbilical cord, combinations of different members of the genus *Curcuma* (e.g., tumeric, *C. domestica*) are applied. Preparations using candlenut and tumeric are given to colicky infants who are 2 weeks – 1 year old. Young leaves of the Ceylon oak are rubbed over the breasts of lactating women to aid in the weaning process. Young kapok (*Ceiba petandra*) and hibiscus (*Hibiscus rosa-sinensis*) leaves or garlic (*Allium vineale*) mixed with coconut oil are used to reduce fever accompanied by flu-like symptoms in young children and pregnant women. *Ageratum conyzoides* and *Curcuma* spp. leaves are used to combat malaria for women in their second trimester and for children of 1-2 years. Whole candlenut is used as a suppository for constipated young children; roasted candlenut is rubbed over the feverish parts of children as well. Candlenut bark is also mixed with bark of the *dau* tree (*Dracontomelon edule*) to treat fever in children. Coconut root is mixed with betelnut root, chewed by the mother and given to children who are teething to avoid diarrhea. *Ficus septica* is particularly recommended for treating young children with gastric or abdominal pain evidenced by a distended stomach or sharp pains. The young seeds of the invasive *lamtoro* (*Leucaena leucocephala*) plant and the old leaves (only a teaspoon) of the *Caesalpinia major* tree are used as antihelmintics (to treat intestinal worms).

Herbal Remedies for the First, Second and Third Trimesters of Pregnancy and Labor

Leaves of the Madagascar plum (*Flacourtia indica*) are mixed with *barak* and fed to women in their first trimester to strengthen the fetus and aid with labor. The bark of *Uvaria* spp. and *Gmelina elliptica* is used to treat nausea and vomiting during pregnancy. Leaves of *Plectranthus teysmanni* and *Hyptis rhomboidea* are administered as a blood strengthener to

pregnant women who are dizzy or having trouble sleeping. The leaves of the bael fruit (*Aegle marmelos*) are given to women in their third trimester who are experiencing lower abdominal or back pain; it is also thought that this will help reduce blood loss during labor. Shredded mango roots are consumed at seven month's pregnancy to avoid lower back pain during labor; young *wase lekeng* (*Uvaria* spp.) leaves are also consumed at this time as a tonic (or rubbed over the body routinely throughout the duration of the pregnancy) to guard the health of the mother and fetus and enable a quick expulsion of the afterbirth. Dried coconut husks, when combined with special prayers, are believed to treat an improperly positioned fetus (when rubbed over the womb).

Shredded banana roots are used to expedite labor: the pregnant woman is instructed to eat them raw. Dried and shredded banana leaves are consumed raw or mixed with boiled avocado (*Persea americana*) leaves to flush out post-labor "impurities". *Gendarusa vulganis* leaves are given to post-labor women thought to be suffering from internal wounds that are not closing properly. Tit-berry (*Allophylus cobbe*) roots leaves are also used post-labor to aid in the healing process. The consumption of dried coconut, along with rubbing the liquid coconut albumen over the woman's belly and praying, is believed to aid with the post-labor healing process.

FUTURE APPLICATIONS

P3MT research experience has enabled the Tado to document and locally disseminate key ethnopharmacological practices. Ecological and social factors such as close neighborhood interactions, widespread availability of therapeutic plant resources, and the inherent thriftiness of rural households all promote the continued maintenance of traditional medicine in Tado. Yet the heightened vulnerability of pregnant women and young children to a multitude of often difficult-to-diagnose tropical illnesses, exacerbated by a reluctance to seek professional medical assistance and relatively poor sanitation/hygiene within the community at large indicate a critical need for a more proactive approach to healthcare in Tado.

Although an optimal solution would involve the establishment of well-equipped, up-to-date medical facilities in Sano Nggoang district with more highly trained personnel, such a scenario is highly unlikely to take place within the short-term. To survive and thrive, rural communities such as the Tado must become even more self-reliant.

To achieve this, the following community-level interventions are recommended:

- the establishment of gender-balanced healthcare cadres in each *mukang* (settlement) trained in basic first aid and standardized herbal medicine, and who are capable of diagnosing which cases require urgent medical attention;
- the distribution of illustrated posters to every Tado household addressing proper hygiene and listing key symptomologies of life-threatening childhood illnesses;
- the provision of illustrated pamphlets in Kempo Manggarai detailing herbal remedies for basic health concerns (e.g., fever, common colds and mild respiratory ailments, temporary bouts of diarrhea, muscle cramps and sprains, stomach- and headaches and external wound care).

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