Calasiao of Pangasinan Region I – A Situational Analysis *vis a vis* Our Summer Immersion

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Classes 2013 & 2014 (Region I)

ABSTRACT

Introduction. To develop the University of the Philippines-College of Medicine Regionalization Program (UPCM RP) student's appreciation of the community, the student participates in structured summer immersion activities in his/her region of origin.

Methods. Four students from Region I-Philippines did their 2010 summer immersion in Calasiao, Pangasinan and conducted community health diagnosis. Problems that were identified were reported back to the local Municipal Health Officer.

Result & Conclusion. Significant favorable reflections experienced by the students made them appreciate their roles as RP students and more aware of the Rural Health Unit's work in the community.

Key Words: Calasiao, Pangasinan, community health diagnosis, immersion

Introduction

The municipality of Calasiao in the province of Pangasinan, Region I served as the site for the community immersion of Region I – Regionalization Program Students for Summer 2010. Through the collaboration of the Municipal office and the UPCM RP, this endeavor served as a training ground for the RP Students in preparation for their future roles as doctors to the underserved regions of the Philippines. This activity also strengthened the mission and vision of the Regionalization Students' Organization, "*for the nation, through the regions*." In this paper, we studied Calasiao, particularly *Barangay* Bued, focusing on community dimensions directly and secondarily related to health, and reflected on our personal experiences in relation to this immersion activity.

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Methods

Legal, moral, ethical and social permission was taken from the University of the Philippines-College of Medicine Regionalization Program Committee and the Calasiao Municipal Health Office (MHO) to conduct a situational analysis related to health of Calasiao, last 19-29 April 2010. A situational analysis of Calasiao, focusing on *Barangay* Bued was conducted through reviews of available MHO records supplemented with surveys, focus group discussions, and key informant interviews. Informed consent was taken from the participants via written signed attendance of the focus group discussions (FGDs) and interviews.

Convenience sampling was used in selecting the interviewees from the 8 Zones in Bued, Calasiao. The house-to-house survey started in Zone 1 and ended in Zone 8 to ensure that all areas were covered. A total of 30 households were interviewed using a standardized questionnaire that identified the basic health profile per family, its health-seeking behavior, and other issues related to health. An FGD with the Municipal Health Officer, 21 BHWs and 1 midwife of Bued was also done prior to the health survey and public health lectures.

From these sources of data, problems of the community that were directly and secondarily related to health were identified. Problems in the community seen in the situational analysis were classified into categories: a) existing – problems evidently seen in the community; b) potential – those that may arise when existing risk factors were not controlled; c) health status – problems directly affecting the overall health of the residents of the community, d) health services – pertains to problems related to the delivery of health programs and services, and e) others – those that do not fall under health status or health service problems; this may indirectly affect the health of the population; this may be related to money, infrastructure, politics, economy, or education.

Results

1. Community Dimensions Secondarily Related To Health

a. Background and Setting

The municipality of Calasiao was founded by the Dominicans in the year 1588. It is the 2nd oldest town of the province of Pangasinan. The name of the town was derived from the root word *lasi*, "a place of lightnings."

Calasiao is a first class municipality that covers a total land area of 5,339 hectares. It is strategically located between the cities of Dagupan on the north and San Carlos on the south. It is also bounded by the towns of Sta. Barbara and Mangaldan on the east and the town of Binmaley on the west. It is politically subdivided into 24 *barangays* (barrios). These *barangays* are further subdivided into 31 *sitios* (sub-barrios).

The town has 2 distinct seasons - dry, from November to April, and wet, from May to October. During rainy seasons, the *barangays* are usually subjected to moderate flooding and, occasionally, severe flooding.

Barangay Bued is one of the 24 *barangays* in the municipality of Calasiao. It can be divided into 8 major physiographic areas called *purok*s. It lies on a major earthquake fault line, the San Miguel fault line. With a total land area of 58.3 hectares, and relatively flat terrain, it becomes favorable for urban development. Hence, though its land use is still predominantly agricultural, there has been a trend of using former agricultural lands for urban land purposes to accommodate the spillover of robust commercial activities from the nearby business and educational centers of neighboring cities.

b. Demography

Barangay Bued had a total population of 6, 877 as of January 2010, with a total of 1,376 households.[1]

A typical household in Bued consisted of an average of five family members (Figure 1), two of whom were of the pediatric age group (0 to 21 years old). From the 30 households visited, the average age of the youngest member was 10 years old while the average age of the oldest member was 46 years old.

Calasiao has a population density of 18 persons per hectare. Bued, on the other hand, has 118 persons per hectare.

c. Economic Aspect

The main crops of the municipality were rice, corn, vegetables, and banana, and the primary source of income in the family was mainly agricultural. About 3,836 hectares or 72% of the land area are farmlands.

One major income source for many *barangays*, including Bued, is the making of the famous Calasiao *puto* (rice cake). Other cottage industries, mostly family-based and small-scale, are hat and mat weaving, basket and *buri* (grass) ring making, metal crafts and blacksmithing.

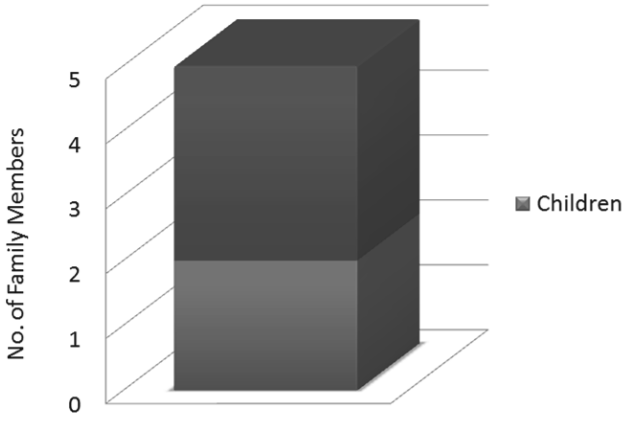

Figure 1. Typical Household Ratio

d. Social Aspect

Bued has two elementary schools and one secondary school. In addition, the town has 3 government and 4 private high school institutions, 2 private colleges, and 5 private elementary schools. Overall, Calasiao had a literacy rate of 91%, which is an indirect indicator of health status.

Bued is strategically located along the stretch of McArthur Highway, a national road, connecting the town of Sta. Barbara to the rest of Calasiao. Hence, most residents in Bued have immediate access to transportation. This might explain that only 27% owned private vehicles. Telecommunication is an important factor in the health-seeking behavior of the people in the community. Most residents in Bued have mobile phones making access to health resources a lot easier.

Television has a strong effect on society, and more than 90% owned televisions. It is important to look at the influence of television with regards community health.

e. Environmental Indices

About 60% of Bued owned their houses, 27% rented their houses while 13% lived with their relatives (Figure 2), with 14 years as the average length of stay of the households in Bued.

About 35% of Bued's water source (Figure 3) was bottled or purified water while 65% had other water sources (17% deep well, 21% aquifer and 27% tap water). Of the households that had other water sources, 67% boiled their drinking water (or about 43.55% of the community). However, water-borne illnesses such as diarrhea were not common in the community; probably the other water sources of the community were potable.

Moreover, a multinational hydrowater plant (Coca-cola Corporation) is situated within the *barangay*, which provided

a clean source of water to the community, especially to *Purok* 8.

2. Community Dimension Directly Related To Health

a. Health Status

The 2009 health status records showed that the leading cause of mortality (Figure 4) was coronary artery disease in Calasiao and hypertension in Bued. It was estimated that 12 per 1000 population died of coronary artery disease. The other causes were pneumonia and pulmonary tuberculosis.

Some of the leading causes of morbidity in Calasiao are shown in Figure 5. The two leading causes for the municipality, acute respiratory infections and hypertension, were also the lead causes of morbidity for Bued. While diarrhea was a lead cause of morbidity in the municipality, no case had been reported in Bued. This can be due to the presence of a hydrowater plant within the *barangay*, which provided clean water source to the community.

Most of Bued's households bought their food (Figure 6) from the public market implying freshly cooked food and more food choices for the families' nutritional needs. Next were the *sari-sari* (variety) stores, where less nutritional foods can be bought like canned goods, instant noodles and processed foods. The *talipapa* (flea market) was also a food source for the community, where 51.5% bought cooked food about an average of twice a week. This would relate to food handling which if not done properly could pose a major health risk.

The preferred food types (Figure 7) were vegetables (100%), fish (80%) and meat (47%). The top choice vegetables did not correlate with the lead cause of mortality in Bued, which was cardiovascular disease (CVD). Upon ocular inspection, smoking (risk factor for CVD) and drinking alcohol were still prevalent in the *barangay*.

Despite the high literacy rate of the community, 63% of the population had misconceptions (Figure 8). The most prevalent of which was that eating eggplant when one was pregnant would cause congenital anomalies of the infant's genitalia. These misconceptions might not be due to misinformation, but from beliefs passed from one generation to the next.

b. Health Services

The health care of the municipality of Calasiao was provided by 28 *barangay* health units (BHUs) of 2 rural health units (RHU). The health personnel of the 2 RHUs included 2 physicians, 2 nurses, 16 midwives, and casual health employees supported by 270 *barangay* health workers (BHWs), who were distributed among the 28 municipal health centers. In Bued, there was one BHU, one midwife, and 21 BHWs.

The health worker to population ratio showed a relatively inadequate number of workers that would satisfactorily provide the health needs of the community.

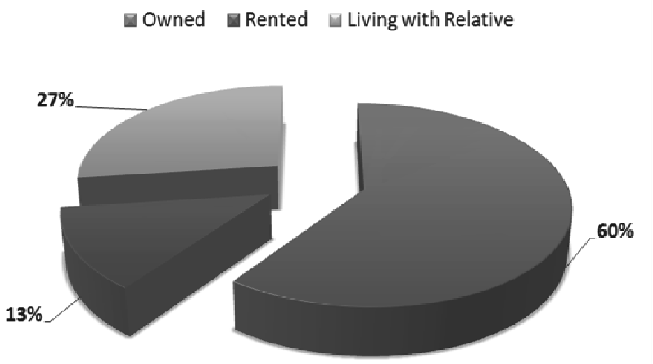

Figure 2. House Ownership Ratio

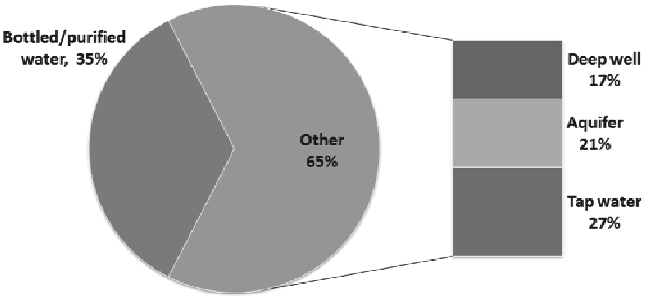

Figure 3. Common Water Sources

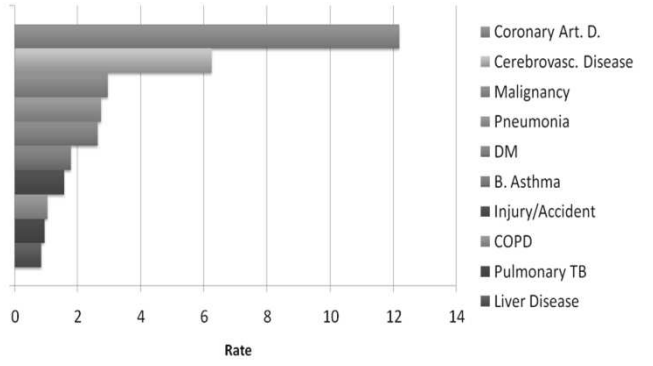

Figure 4. Leading Causes of Mortality, 2009

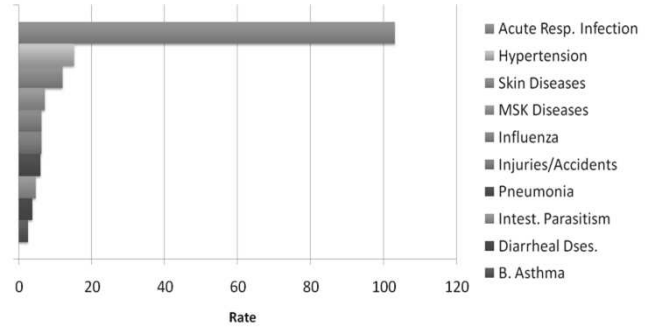

Figure 5. Leading Causes of Morbidity, 2009

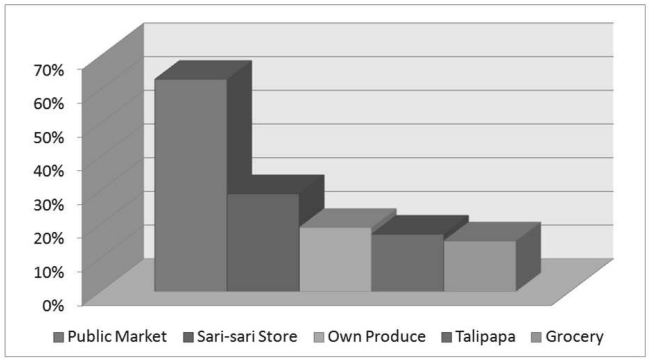

Figure 6. Basic Sources of Food

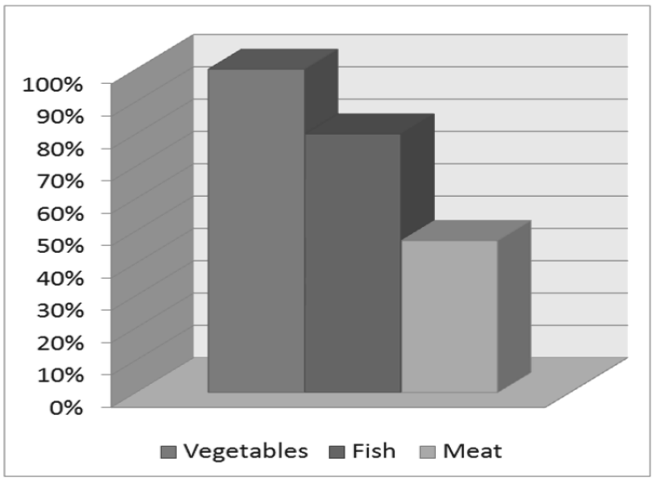

Figure 7. Preferred Type of Food

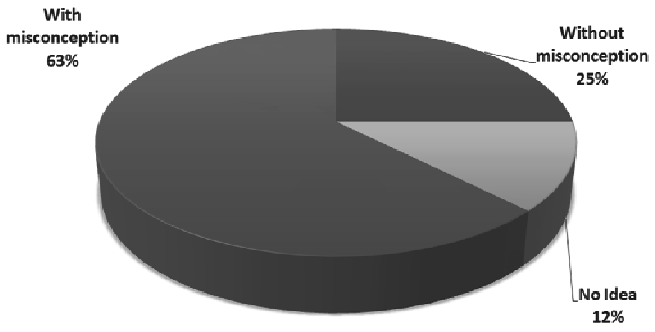

Figure 8. Misconceptions in the Community

There was also no dentist, nutritionist and sanitary inspector, who all play crucial roles in the health care of the community. Despite this, the two RHUs were granted the seal of *Sentrong Sigla*, a program of the Department of Health (DOH) that certifies RHUs performing well in providing health services.

The RHU referred complicated medical cases to Pangasinan Provincial Hospital in San Carlos City (the core hospital of the Palaris Interlocal Health Zone) and the Region I Medical Center in Dagupan City.

Additionally, the private sector has 6 medical clinics, 4 dental offices, 2 optometric clinics, and 14 drugstores in the municipality.

3. Community Health Problems

Health problems were identified (Table 1) from the situational analysis of municipality of Calasiao and Bued.

Potential problems identified included water-borne diseases, diarrheal diseases, skin-associated diseases, poor food handling and sanitation, adverse drug reactions and overdosing due to self-medication practices.

Existing health problems included were coronary artery disease (lead cause of death), prematurity (lead cause of infant mortality), anencephaly (lead cause of neonatal mortality), acute respiratory infections and hypertension (lead causes of morbidity), poor prenatal care, poor health education, and insufficient health manpower.

Discussion

The immersion was conducted in Bued, Calasiao, Pangasinan which involved re-evaluation of the community. The results were the same as last year according to economic, social, environmental aspects, health-seeking behaviors, and other health practices of the *barangay*. Majority of the families relied on agriculture as their source of income. This was also reflected on their food preference which was primarily vegetables. Calasiao had a relatively high literacy rate of 91%, an indirect indicator of health status.

Residents of Bued easily availed of the services of the health centers, due to accessibility. Majority of the households relied on telecommunication and television as the primary means of accessing health information.

About 35% of the households in the *barangay* depended on bottled or purified drinking water while 65% obtained their drinking water from deep wells, aquifers and tap water. But water-borne illness such as diarrhea was not significant in the community. A clean water source, especially for *purok* (sub-village) 8, is the Coca-cola hydrowater plant situated in the *barangay*.

The 2009 Municipal Health Index in Calasiao showed that coronary artery disease and acute respiratory infections were the leading causes of mortality and morbidity, respectively. Similar findings were observed at the *barangay* level.

Although, there were few diarrhea cases, food quality and safety was still important to assess the nutritional status of the community. Food preparation can identify possible areas of contamination. From the data gathered, a major health risk for improper food handling can happen at the *talipapa* (flea market), where food is bought at least twice a week.

Table 1. Problem identification

Problems Identified	Existing or Potential?		Type of Problem		
	Existing	Potential	Health Status	Health Service	Others
1. Prone to natural calamities, such as flooding and earthquake	√				√
2. Bounded by 3 rivers, thus making the people prone to water-borne diseases (e.g. dengue, diarrhea)	√		√		
3. Leading cause of death: coronary artery disease	√		√		
4. Leading cause of infant mortality: prematurity	√		√		
5. Leading cause of neonatal mortality: anencephaly	√		√		
6. Leading cause of morbidity: acute respiratory infections, hypertension	√		√		
7. 43.55% do not boil their water (prone to diarrheal diseases)		√	√		
8. Only 17% store their wastes in covered cans (could become a breeding area for organisms and pests that are vectors of some diseases)		√	√		
9. 25% burn their garbage (contribute to ozone depletion which can aggravate global warming, which, in turn, will cause heat stroke, skin cancer, etc)		√	√		
10.63% with health misconceptions (poorly educated in terms of health)	√			√	
11.40% of pregnant women do not have prenatal check-ups (prone to congenital defects, prematurity, abortion, malnourished and low birth weight infants)	√		√		
12.51.5% buy cooked food (issues on food handling and sanitation)		√	√	√	
13. 24.3% self medicate (prone to adverse drug reactions, overdosing)		√	√		
14.Relatively underserved based on health worker to population ratio	√			√	
15.No dentist, nutritionist and sanitary inspector	√			√	
16.Mostly open in the morning only (Services are not maximized by the community)	√			√	
17.Only diseases with high incidence and prevalence are given priority.	√			√	

Vegetables and fish were common food types, but there was a high incidence of cardiovascular diseases in the area. Thus, several risk factors such as a sedentary lifestyle, cigarette smoking, and alcohol consumption should also be addressed.

Over-all, there was a low government health worker to population ratio in the community, in addition to the lack of dentist, a nutritionist, and a sanitary inspector. On the other hand, the RHUs were granted the seal of *Sentrong Sigla* from the Department of Health. More complicated medical cases were referred to Pangasinan Provincial Hospital in San Carlos City and the Region I Medical Center in Dagupan City. There are private health care facilities (medical, dental, optometrist, drugstores) in the community.

Reflections

Identifying health-related problems in a community serves as a guide for planning community health programs in our next immersion activities. Knowing the community profile will help us in serving the community.

The health programs can be prioritized and suited to the duration of the community immersion. Public health lectures would be directed to the existing and potential problems, for example, importance of exercise in preventing cardiovascular diseases - teaching practical exercises that the community can do at home. Hypertension being one of the community's concern - a program can be organized to help train the BHWs on how to take blood pressure. The Integrated Management of Childhood Illness (IMCI) could be implemented in the community, with training of the BHWs.

The survey interview was a tool for the group to familiarize themselves with the environment and the people of the *barangay*. It was an opportunity to develop our skills in communicating with the people.

As compared to last year, we were more at ease with the community. We even conducted the house-to-house survey by ourselves. This made us realize that the people of Bued were very cooperative. With the proper introduction, they gave the necessary information which made our work more productive and easier.

The Municipal Health Unit had organized health data collection and filing. Dr. Jesus Arturo de Vera, the MHO of Calasiao, Pangasinan was one of the most commendable persons we have ever met. His love for his work was unwavering even though most of the time, his work was demanding and the reward he reaped from it was minimal.

Although we did a lot during the entire immersion, connecting with the people and trying to identify the root cause of their problem were the most important experience we had. Even the simplest act of chatting with them for a few hours during a fine afternoon was enough to get as much information about their health needs. This was more effective than a structured questionnaire. We were able to walk several times along the farther areas of Bued, where the houses were not easily accessible from the road. Chatting with the residents revealed that health services didn't seem to cover their area. We remembered how the *barangay*

midwife reported to us that they had been getting enough supply, like basic vaccines for children. However, according to the residents here, even the highly acclaimed policy on waste segregation and regular collection of garbage didn't reach their area. This was one example of how the health system failed to deliver the services despite their availability. And this is what one should look closely into.

This summer immersion served as a reminder to us of why we pursued medicine in the first place --- to be a health practitioner dedicated to the people. It also fulfilled and served its purpose in convincing the regionalization program students to stay and carry out selfless and all-out service to the community.

Serving Pangasinan has always been part of our career plan and we intend to return after training. Everything important to us, our family, friends, memories, values is part of this place. It is our honor to serve the people who have made us who we are today. This experience had given us the chance to re-introduce ourselves, which will help us when we return to practice and serve them. With this experience, we were able to appreciate more the community where we were born. We were able to impart knowledge and at the same time, helped them in identifying their health problems.

Reference

1. MHO. Records of the Municipal Health Office. Calasiao-Pangasinan, 2010.