Site visit by Melli Annamalai, Asha Boston/MIT, on July 11 and July 16, 2015

I was eager to visit Vignyana Vahini after receiving the Oracle grant. The Oracle grant has enabled expansion to 96 schools by adding 54 higher primary schools and tribal ashram schools to the project. We now cover all schools in 8 of the 12 clusters in H.D. Kote taluk, and are in a good position to create large scale change in an entire geographic region.

The first half of the visit I spent at B. Matkere school, the high school in B. Matkere village. Prof. Sharma, of the Central Food Technological Research Institute (CFTRI) in Mysore, has become closely involved with the project. On July 11th he was scheduled to give a lecture on Biology to Class X students of B. Matkere.

Class X was bubbling with excitement when we arrived. Two sections were squished together in the classroom, with about 60 girls and 40 boys. It was a Saturday, so they were all in white uniforms, and I don't think anyone was skipping class. Prof. Sharma began his lecture, and he made it interactive. He asked students to come up and take part in various activities he had prepared. Any time he asked for volunteers a number of hands shot up, girls raising their hands with equal or more eagerness than the boys. They were most decidedly not shy. That was inspiring.

A key discussion point in Prof Sharma's class was the ratio of the lengths of arms and legs of humans. This got the students measuring their own arms and legs and their friends', and their excitement grew as each measurement confirmed that the ratio was similar. They were amazed that whether the person was tall or short, young or old, the ratio was the same. They were eager to measure the arms and legs of their family members when they got home. How easy it is to stir the natural curiosity in them! All we need to provide is interesting questions, some support to find answers. Our current education fails in this basic task of education.

As the class was beginning the PU teacher had came running in asking whether he should ask his students to join the class. There is such a lack of any kind of "expert" lectures in this rural area, anything is welcome. (How PU classes have been added to this school is a separate story.)

After the class we met with some of the teachers at the school. The Science teacher is part of Vignyana Vedike, the teacher network that has been initiated over the past year. I view this network as a significant achievement (see note below). As with other schools in the area, there are teacher shortages here too. There is one Science (PCM) teacher, one Arts teacher, one English teacher, and the Asst. Headmaster, for classes 8 – 10, each with two sections for a total of ~100 students in each class. There are no teachers for other subjects, and these teachers manage the best they can, always combining sections, and sometimes giving the students some work to do while they handled another class. The project is trying to hire local teachers to cover the vacancies (through a different grant), but it has been hard to find good and qualified people in this rural area. The teachers shared with us the heavy emphasis government was placing on attendance with methods to track each individual student. While

that is a great initiative, it adds more work for the already overworked teachers. The teachers shared with us their other challenges also.

I asked about the high number of girls. It turns out that this high school is on what is a main bus route in this rural area, so parents prefer to send their girls to this school, even if it is more miles away from the school the boys in the same village might go to.




Special lecture in class X at B. Matkere high school. Girls outnumber boys in class.

Over lunch we met with the CEO of SVYM, Flt Lt Dr. M. A. Balasubramanya. I brought up the teacher shortage issue, and Dr. MAB shared an interesting perspective. One reason for the shortage is teachers are not interested in coming to this rural area. He says one way to reverse this is to make it attractive for teachers to come here, and the project activities help that. He said, "This project will bring intellectual depth, resources, and opportunities for teachers that are unmatched even in urban areas. This will attract teachers to this region, who will be happy to accept H.D. Kote appointments for professional development." That is a terrific goal indeed. As a similar example, the hospital run by SVYM in Sargur village is highly respected tertiary care facility in the region, and doctors come from Mysore and other cities for training and other activities.

Vignyana Vedike

After lunch I participated in a Vignyana Vedike meeting. It was Saturday afternoon, and there was no need for them to be at this meeting. Yet the teachers were there, for a discussion on genetics. Some of

the women teachers had come from far off villages and I was impressed by that – they had to travel some distance to go back home. Yet they had come, which shows their interest in the network.

What can the teachers network achieve?

Typically government school teachers are de-motivated after years of struggling with challenges, and become completely apathetic, and their main goal is getting a transfer to a school in an urban area. This project has broken through that apathy. The teachers have come together to form a network, to work together and exchange ideas. The network has a vibrant group on WhatsApp, where Science discussions go on for hours into the night. The excitement in these discussions is palpable. The low cost technology has been an enormous asset to the project. The group also meets physically and visits Science museums and institutions in nearby towns and cities. Teachers have begun taking ownership of project components.

This network is the foundation for permanently changing the quality of teaching in schools. External interventions often find it hard to create change, but when the teachers themselves change, there is great potential for systemic change. There is scope for breaking the cycle of memorization and bringing real learning to schools.

One of the little known teacher challenges is their own gaps in understanding Science. Like their students, they have virtually no resources other than their textbooks in this remote area. Their doubts and questions go unanswered, so they are not able to create that culture in the classroom. The network has made tremendous strides in discussing content and clarifying their understanding of concepts.

Higher Primary Schools

On my visit on the second day I visited a higher primary school (middle school), which the Oracle grant is funding. I sat through a few sessions where the project staff taught the class. Again, the kids were so eager, and so engaged. The project staff members have created many quizzes to help all the kids participate. The class is divided into 4-5 teams and there is friendly competition as they think through Science questions. After this, the second class typically shows an experiment, when I visited they showed Archimedes' principle. Higher primary school classes are much smaller (about 25-30 kids were in this class) so kids get to actually work with the experiments themselves.

Experiments in higher primary school

Friendly quiz competition

The new mobile Science van funded by Oracle (for higher primary schools)

When I was at the school the magnitude of what the Oracle grant enabled came home to me. With the Asha funded portion we work with the high schools. By the time the kids come to high school there are several challenges. The learning levels are uneven, because some upper primary schools are good, and some are not. If children are lagging behind, it is harder to catch up. Class sizes are much larger, so it is almost impossible for teachers to give anyone any kind of individual attention. By extending the project to include higher primary schools, we are starting earlier. We can aim for the children to have more uniform learning levels when they start high school. And the teachers at the upper primary schools tend to be newer in government service, have D.Ed instead of B.Ed degrees, and hence are more open to new ideas.

I also visited the resource center for tribal ashram schools, also funded by Oracle. I spent some time talking to the resource center students and staff. The resource center is part of VTTRC, funded by Asha-San Diego.

VTTRC staff are excited about the resource center, they feel it supplements their programs well. The resource center's main goal is helping teachers who are working in the tribal ashram schools (many – 20 teachers - are graduates from VTTRC, 17 are VTCL alumni). They are providing a series of workshops for the teachers, and they showed me many notes of appreciation from the teachers. There are 1020 students in the tribal ashram schools, so the resource center reaches this many children.