



REPORTS FROM THE FIELD



SCIENCE FOR MONKS

Science for Nuns

Beyond the Nunnery: Findings and Observations at a 10-Day

Science Workshop

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Reports From the Field:

Inverness Research supports the Science For Monks program through a process of “groundtruthing” where we help the program articulate its theory and intentions, and then make site visits to the field to check the congruence of theory and field realities. This report is part of a series of Reports From the Field where we ask senior researchers to write about their site visits sharing what they learn from their in-depth interviews, observations and discussions with monks and faculty. The reports are intended to maintain an informal tone and reflect the researcher’s impressions as well as the data they have gathered.

Background on this report

This report shares observations and interview statements that Kapil Bisht, a freelance writer and researcher based in Kathmandu, recorded during the Science for Nuns Workshop 2019. This report presents the nuns’ experiences of studying science for their second time and their ideas and reflections on possible future partnerships between science and Buddhism, their vision of how nuns could assume leadership roles in addressing issues of lay communities.

Background

This workshop was the second Science for Nuns (SFN) workshop to be held at the *Khachoe Ghakyil Ling (Kopan) Nunnery* in Kathmandu, Nepal. It took place from *April 24* through *May 4, 2019*. There were *48 participants*, all residents of the host nunnery, in the program. The workshop was led by Tory Brady and Julie Yu. Tenzin Tsondue translated the teachers’ lectures into Tibetan. He was assisted by Tenzin Namgyal, a trained nurse who also held some sessions on women’s health.

The participants were all senior nuns. Two of them were geshe-ma (monastic graduates). Out of a total of 48 participants, 4 were between 25-30, 14 were between 31 -35, 17 fell in the age group 36-40, and 13 were 41 or over. About 360 nuns live at Kopan Nunnery. The majority of them come from remote villages in the Himalayas. There are nuns from Nepal’s northern, mountainous regions, Tibet, and from Ladakh, India. According to Geshe Tashi, the nunnery’s principal, all the nuns come from poor families.

Of the workshop’s 48 participants, 14 are from the Tsum Valley, a remote, mountainous region in northern Nepal. Its remoteness from Kathmandu combined with an apathetic, corrupt and Kathmandu-centric government means that basic amenities like health and education are almost non-existent. Some work has happened in the last two decades after the area’s Restricted Zone status was revoked and it opened to tourism. Further development of infrastructure was dealt a blow by the massive earthquake in 2015. Although the Tsum Valley would possibly be top of the list of neglected and remote areas of Nepal, its problems –

miserable amenities, poverty and lack of schools – is shared by many other rural, mountainous areas in Nepal.

As Buddhist nuns trained in Buddhist philosophy as well as being residents, if not citizens, of a country where corruption is daily headlines news, the nuns identify ethics as one of the cornerstones of a prosperous and happy society. They firmly believe everyone – careless school teachers, apathetic village officials, corrupt and short-sighted politicians, and indifferent members of a community – would benefit from inculcating a more compassionate, honest, and altruistic outlook. Mindful of the pitfalls of projects hatched in cities and grafted onto communities they purported to serve, the nuns emphasized on the importance of education as a long-term and more effective solution to social problems.

There was a keen sense of their own limitations – financial, temporal, knowledge – among the nuns. Thus, they saw the benefit of performing small actions that had the potential to grow into something bigger. For them, setting examples, even the smallest ones, was a way to bring about positive change.

There is a deep sense of responsibility in the nuns. Although only a handful of them have had the experience of working in the lay community, they identified several ways in which they could assume leadership roles in lay society. The nuns were aware of the respect that their robes inspire in the lay community. However, they were quick to point out that as nuns they didn't have the skill sets and the financial means to run projects aimed at addressing specific problems.

Though the nunnery's education system is still firmly grounded in the classical Tibetan curriculum, many changes have been made in recent times to provide education that is also in tune with the wider world. Computer science is taught at the nunnery. The nuns also have regular classes that follow the Nepali public school curriculum. This means daily classes in science, mathematics, English and Nepali besides their staple Tibetan and Buddhist philosophy.

The Science for Nuns workshops have arrived at the nunnery at a very opportune time. There are already two geshe-ma graduates at the nunnery, with five more to appear for the geshe-ma exam next year. And the year after, ten nuns will travel to Dharamshala for the exams. Geshe Tashi (principal, Kopan Nunnery) predicts the number of nuns vying for geshe-ma degrees will increase steadily in the coming years. Having closely worked with and mentored nuns, he sees the need for younger nuns to have role models to emulate. Geshe Tashi pointed out academic diligence and dedication as qualities that set nuns apart from monks. It wouldn't be wrong to say that for them, from a purely scholastic perspective, a nun with a geshe-ma degree is a figure to look up to. On the short term, science is indispensable to the nuns as they pursue geshe-ma degrees. But the nuns themselves have pointed out the long-term impact of science on their lives: it can prove a useful knowledge base on which to build future relationships with lay people, and for nuns to contribute to life beyond the monastic setting. The Science for Nuns workshops would be contributing, perhaps in ways too subtle to assess immediately, toward helping nuns to take the first steps toward those partnerships and new roles.

I have had the privilege to attend two Science for Nuns workshops at the nunnery. By spending time amongst the nuns and through interviews I have been able to not only better understand the nuns but gauge, albeit to a very small degree, the impact of the science lessons on them. I always interviewed the nuns between classes. Though this was hard on the nuns because of their busy schedule, it meant that I was free to observe the nuns during lessons. This opportunity has allowed me to observe not only changes in them as a learner group but also see growth on an individual level. One of my earliest frustrations as a researcher was getting the nuns to agree to do interviews. Even when they agreed, after much cajoling by their peers, some of them were very reticent. "I think the same as her" was a common response they gave to my questions, hiding behind their peer's answers. So it has been a delight to see some of the most laconic nuns slowly start to raise their hands in class and share their ideas or pose questions to the teachers.

Major Findings

1: The nuns see serving the wider world as an extension of their duties and evolving role in society.

The science workshop is the latest chapter in the evolving and expanding roles of the nuns. There have been great changes at the nunnery, like including subjects like science, English and Nepali in the curriculum. Frequent exhortations from His Holiness the Dalai Lama to become active contributors to society have encouraged the nuns to think of ways to serve the wider world. The emergence of nuns who have become renowned through their altruism is another source of inspiration. In addition to this is the personal motivation to implement their Buddhist training. All of the workshop participants are senior nuns in terms of their monastic education. As students who have studied for years in an institution whose ultimate goal is to create people who want to serve others, there is in them a wish to engage with society. The ultimate goal is the same: helping people.

Although their desire to contribute stems mostly from their belief in kindness as a guiding principle, some nuns also expressed that they need to work outside the nunnery to change people's attitudes towards nuns' roles in society.

“It’s true that in the past a nun’s role was limited to performing rituals and praying. Today, largely due to His Holiness’s efforts, nuns are able to step out of the nunnery walls and do more than just perform rituals. Learning science in itself is a great example of how a nun’s role has evolved. This wouldn’t have happened in the past. Learning science or English or Nepali is acquiring a medium to share what we know with the wider world. Nuns have been contributing to society in many different ways. Take the example of Ani Choying Drolma. She sings and uses the money she earns from her performances to run an orphanage. She has even built a kidney hospital. And she’s not the only one doing such work. She’s well-known because she sings. But there are many nuns who are doing wonderful work but remain unknown. There’s even a nun from here who studied to be a nurse and is now working in a hospital. She goes to work in her robes.”

“Nunneries have gone from restricting nuns to memorizing texts to teaching English and science. When I first came to this nunnery, English wasn’t taught. Science was not even in our imagination. Today, nuns learn computer science and use the Internet here. They use social media. They have a better understanding of the world. Together

with that, the scope of a nun's contribution to society is expanding. That is how it should be."

"Before the earthquake of 2015 lay people thought nuns were only good for praying. In the aftermath of the quake, nuns went to remote and dangerous places to deliver relief materials. People's perceptions changed after that. Doubters realized that nuns can contribute in tangible ways too."

"During teachings His Holiness often encourages monks and nuns to leave their remote villages and travel. He suggests that when we are in a culture or a country different from ours, we should pay attention to how people there help each other. I think that is a wonderful thing to learn. To help others, in any way possible, is a good thing. Nuns can teach the laity community about honesty, harmony, and helping others. Inner peace is scarce in the twenty-first century. That is what we nuns can help people to attain."

"Dharma teaches us that we can't do things alone. We need to stand united, to help each other. We can befriend others. Our dharma training teaches us to always think the best for others."

"Our guru [founder of the nunnery] and others who support him in various ways continue to provide a place for us to learn with the hope that one day we nuns will contribute to the world outside the nunnery. He expects that if nothing else we become good human beings. Even if I don't excel academically, I can still help people, directly or indirectly. If I can't put into practice the knowledge I accumulate through education, my education is futile. The most valuable lesson that we, as students of Buddhism, can teach others is to ask them to be kind to others."

"We can definitely offer more to society than praying and performing rituals. There is even a nun from our nunnery who has trained as a nurse and is now working in a hospital. With the right kind of training, we could partner with professionals in various fields."

"Our education at the nunnery is a long one. So the time we can devote to work outside the nunnery is limited."



2: Nuns identified leadership roles that they could assume in order to solve problems in the lay community. They saw the respect that nuns are accorded in society as a potential foundation to build upon.

The nuns felt that because of their unique training and outlook, they had something to offer to lay society. When asked about potential leadership roles that they could take on in lay society, the majority of nuns said that they would like to work to transform people’s narrow, individualistic perspective into one that takes into account the interests and well-being of others. The nuns wished to inspire change in the hearts and minds of people so the people themselves would work to improve their societies.

Mentoring people to become more responsible and altruistic was an important role, but we also wanted to know if the nuns saw roles for themselves that would involve more involvement with communities. So the nuns were asked to imagine a situation where they had the support of experts from various fields and ample funding to address social issues. In a country where embezzlement routinely wrecks projects, the nuns believed that they could use the prestige and trust that comes with being a nun to bring people together and get them involved in solving problems. Leveraging their position of trust in society to rally people to have dialogues

and to help avoid squabbles, to ensure transparency, to build networks, and to advise people were some of the potential roles the nuns identified for themselves. Some nuns were very specific about their roles. They envisaged collaborating with experts from scientific backgrounds to address issues of health and environment by devising practical steps.

“We can change motivations, from keeping the self at the center to thinking about others. We can help lay the groundwork for helping a community.”

“We nuns might not be able to change the world, but monks and nuns can take on leadership roles in their communities. What they bring to the table is a different perspective.”

“Lay people have several responsibilities. They have a sense of belonging to people they are related to. They are not concerned in the same way about people outside that circle of kinship or friendship. It’s natural for them to be biased toward family and friends. Nuns can be more effective as leaders because compared to lay people they are not bound by relations. So they don’t discriminate.”

“The most valuable lesson we, as students of Buddhism, can teach others is ask them to be kind to others.”

“There is a lot of hatred in the world today. We nuns could contribute to the solution to this problem by evoking compassion in the hearts of people.”

“If a nun becomes a doctor she will not only be motivated by financial gain or prestige. She will work to serve. One thing nuns can do as leaders is teach people to go beyond ‘I’ and ‘me’ and start thinking about the welfare of others. Working with people becomes easier when this thinking prevails.”

“From our Buddhist training, we can help people attain inner peace. That will involve training people to nurture positive thoughts and avoid negative ones. They will need to be taught how to do this and the reason for this practice. Then help them apply that in their actions, try to get them to do good deeds with the realization that that sets in action a chain of events that brings about beneficial results. This positive outlook is what is lacking most in the world today.”

“Nuns can win people’s trust more easily. Lay people believe in nuns’ integrity. We can build on that trust. We can use that status nuns command in a society to change people’s ways of thinking, make them more ethical.”

“People mistrust other lay people. They think they are corrupt. They believe nuns would never embezzle funds meant for the welfare of the public because they are bound their vows. It’s easier for nuns to win people’s trust.”

“We can be organizers. We also inspire more trust because we are nuns. When a group of lay people show up in a village, they arouse suspicion, even if they have the noblest intentions.”

“After a nun completes her formal training in the nunnery they can travel to remote places to help. The nun can simply become a person who brings the villagers around a table for discussions. For example, villagers can sit and identify their problems. The same can be done in a town or a neighborhood in a city. A nun can be a buffer against egos clashing. Nuns should encourage people to try and experiment. After that, they can themselves judge their actions. This process will generate ideas and a spirit to bring about improvements.”

“We can team up with individuals who have already served their communities. This team can serve as an example to people to work together.”

“Nuns can work as monitors. For example, we can look into a school in a remote village and identify its problems. This we would do in coordination with the parents and the local community. After the problems have been identified, we can approach people or organizations that have the resources to help the school.”

“People in my village [in the Tsum Valley] have to walk for three to four days to get to the road that connects them with Kathmandu. They face a lot of hardships because of this. I could use my scientific knowledge to contribute to my village’s development. Even though I can’t do things on my own, I could help by advising the village administrators.”

“Connections that people in my village have and people who want to help financially can be used to form a team. Such a team would also include people who know about health and other sciences. People who are trained in science can be useful too. I’ve heard that there are some girls from our village who are nurses. So people like them can be involved in building networks. Discussions with such people can lead to collaborative efforts.”

“If I had the help of experts and the funds to run a project, I’d start something from the grassroots level. In Nepal’s case, I’d look at problems in rural areas.”

“There is a worrying trend of daughters-in-law mistreating their husband’s parents. This is because of ignorance. They don’t have proper guidance. We could send teams of nuns to these places and counsel the locals to behave more compassionately.”

“We could work with a university’s science department to create an effective waste disposal system, one in which the refuse is segregated into bio-degradable and non-degradable items.”

“Plastic is a big problem. We can start by cleaning the plastic in an area. We follow that up with a awareness program that teaches people about the long-term problems created by plastic and ways to combat the problem. This would create a group of people who can in turn create awareness on the issue. That creates a wave of awareness. Eventually, people might stop using or mindlessly dumping plastic.”

“There is trash everywhere on Kathmandu’s streets. People might contract diseases because of this. This is because the people responsible for this issue are not doing their duties. To solve this problem, we could put trash cans in places and teach people about disposing of waste in a proper manner. We could hold workshops on waste disposal and management. This would be a small step toward building momentum to gradually bring about a bigger change.”



3: SFN workshops are viewed as bridging between the desire to help and the ability to help empower people with skills to solve their own problems.

Last year's workshop opened the doors to science for most of the participants. Out of 58 participants in last year's workshop, only three had ever learned science before. By the end of that workshop, nuns had a better understanding of science. Although most nuns knew of partnerships between Buddhism and science, they hadn't begun to see how *they* could fuse their Buddhist knowledge with the basic science that they were absorbing through the workshop. During interviews this year, I found that the nuns' ideas for Buddhism-science partnerships were becoming comparatively clearer. They had begun to identify issues and specific qualities from science and Buddhism that could be combined to address those issues.

When asked if they felt they could apply what they learned from the workshops to do something to help the lay community, the nuns were positive, although they had varying levels of self-belief. The desire in nuns to offer succor to people who are in need is strong but many confessed that they didn't know have the skill set to help effectively. Mindful that doling out money or buying things for the poor would only start a cycle of dependency without actually addressing their problems, the nuns expressed the need to first become capable of helping. For many nuns this meant acquiring knowledge and skills that could be used to improve lives. They see the SFN workshops as a platform to learn in order to help. Nuns expressed that the workshop helps develop knowledge and skills needed to be more active participants in the lay community, and that they wished to use that knowledge to teach new skills. According to the nuns, using or passing on what they know is how they can address issues such as health, unemployment, mental illness. The nuns were interested in helping in a way that would ensure long-term benefit and sustainability. They wanted to build capacity, not create dependency. The common goal was to become conduits that carried scientific knowledge – and thereby its many benefits – to those who were strangers to it.

“Science can help us decide the best solution to a problem in any area, just like a doctor knows what to do in order to cure a patient. For example, planting trees in an arid area. Scientific knowledge can tell us which species of trees to plant there, the ones that grow fastest.”

“If I have the knowledge or skills, I can help. If we don't have the necessary skills, just the desire to help will not suffice. I believe through the workshops I will learn more and I will eventually be able to offer whatever help I can to those in need.”

“Poor people don't have skills. We can train them to make small objects, for example, gift boxes, which they can sell to make a living.”

“I’d like to solve problems related to poverty. I’d like to feed the hungry, help unemployed people find work, send children who can’t afford schooling to school. I want to teach skills to people who don’t have any skills. I don’t want to hand out money. I’d use money to pay for trainings for people, so that they can then use the skills they learn to earn a living.”

“If you hand out money to the poor, you plant expectation in them. Instead of continuing their habit of living on charity, we could teach them ways to earn a living. We could help them with seed money to start a small business. They could then use their profit to continue the business. That could help them climb out of poverty. It’s important to identify their ability. Once that is done, we can decide if we have some work that suits their capacity. Or we could refer them to professionals who are better able to help them.”

“If I had the opportunity to learn more science, I’d like to study biology, about life. Then, I would teach what I know in far-flung places.”

“I want to learn the things taught in this workshop more deeply. The better I understand a scientific topic the better I can explain it to someone who knows even less than me. There are so many things – blood circulation, the eyes, the respiratory system, digestion, disease, oxygen and carbon dioxide – that I can teach others about and which would help them tell the difference between what is good and bad for them and thus live healthier.”

“I want to learn about the brain so that I can help people who have mental afflictions return to their original state of well-being.”

4: Participating in the SFN workshops has helped nuns overcome their internal obstacles like low confidence.

The traditional style of teaching in monasteries is excessively teacher-centric. It’s designed to facilitate the teacher to dictate rather than providing opportunities for students to put forth their views. A large part of the training is also rote learning, which leaves little room for original thinking. (The daily debate sessions are an opportunity for individual interpretation of classical texts.) As a result, most nuns have trouble speaking in public, even when those present are their peers. This lack of confidence was also explained by Geshi Tashi, the headmaster of the nunnery, as having its roots in the historical practice in Tibetan Buddhism of limiting nuns to praying and performing rituals. That system is no longer in place, but nuns are still diffident, he says. They need more prodding and opportunities to get them to come out of their shells. When they do come out of their shells and begin expressing themselves freely, it’s an exciting and educative experience. Some of the findings in this report are testimony to the nuns’

intelligence and inspiring visions for humanity. They also reflect the uniqueness of their perspective on a given topic. SFN workshops are a platform for the nuns to participate more actively in class and to present their opinions. This is an exercise in honing their latent skills of speaking and overcoming personal obstacles like low confidence and shyness.

“Our education as nuns focuses a lot on the mind. Our knowledge of our bodies, however, is very limited. Through the SFN workshops we have learned about our bodies. Slowly, we are learning what is good and what is bad for us physically. This knowledge is very handy to us. We can share it with people who don’t know about the human body and health. This can benefit them.”

“I’ve got many ideas through this workshop. One of the things is to learn by doing, practical learning. I gained the confidence to share my opinions with a group of people and to share my knowledge with others. I’ve learned to ask questions. I learned that through scientific knowledge I can do many things. For example, if I learn about the science of agriculture I can impart that knowledge to farmers.”

“I’m reticent by nature. I don’t speak up, even when I’m among friends. We spend most of our time in the nunnery. We don’t have enough interaction with the outsider world, so our confidence is low. On the first day of this year’s workshop, when I was asked what I’d like to ask our teachers I became nervous. But I managed to speak. Since then my confidence has grown steadily. I realized that I need to speak if I am to become more confident.”

“Every new experience is knowledge. Thus, this science workshop has given us knowledge.”

“What this workshop has taught me is that learning Buddhist dharma alone is not enough; we need to learn science as well. Knowledge of both Buddhism and science helps one to understand the world in a deeper way. It enables you to learn from history and anticipate the future. I’ve learned that at the heart of science is an effort to experiment and verify the results of experiments.”

5: The nuns see the cultivation of kindness, love, compassion, and a sense of shared responsibility for all sentient beings as a prerequisite to building a just, prosperous and peaceful society.

There is a common awareness in the nuns that all positive change rests on a foundation of non-material values like kindness, love, compassion and altruism. Though they don’t promote these qualities as cure-alls, they believe that they lead to better understanding and sincere effort. While the nuns acknowledge the contribution of money, technology, and infrastructure in

raising people's standards of living, they are wary of pursuing them at the expense of human values. Without love and compassion, the nuns warn, wealth and technology become implements for serving individual needs. Unchecked, they might create gulfs between people instead of uniting them. The nuns felt the lack of concern for the welfare and needs of others was a global problem, and addressing it one of the most urgent needs of human society today.

Another area where the nuns see the need for ethical training and a genuine concern for the welfare of others is politics. In a country where politics is synonymous with corruption, the nuns believe that inculcating compassion would be at least a step in the right direction.

When the nuns were asked about their hopes for the youth of Nepal and elsewhere, they voiced the need to create an environment and culture in which young people pursued knowledge and nurtured love, compassion and altruism in equal measure.

“You can put together a team of scholarly nuns and brilliant scientists and give them huge funds to work with, but they can't achieve anything without good intentions and positive thinking.”

“There should be a sense of responsibility in everyone. In the absence of ethics and compassion, even something good, like science, can degrade into a self-serving medium.”

“Just like we need stilts in all the corners to rig up a tent, so we need everyone in society to share responsibility in order to uplift it.”

“Splitting of political parties and factionalism within political parties has eroded the unity between groups. This has led to weak governments. Perhaps a basic understanding of Buddhism, especially the tenet of interdependence, could make a small contribution towards changing the minds of politicians who only think of themselves.”

“Love and compassion are qualities that I'd like to teach our politicians. A loving and compassionate politician is more likely to make an effort to understand people's problems.”

“People need to be honest in whatever they do. If people are honest, there can be significant development. There is an excess of ego, an obsession with one's own needs. People who are egotistical often think that they are the only ones who need life's comforts. People need to be educated in compassion and humility. People need to be put themselves in the shoes of others.”

“Even if we had the expertise and funds to help impoverished places, the first step would be to inculcate qualities like honesty and compassion. That is where we Buddhist nuns can help. We can help others understand the concept of karma.”

“I notice that people are too self-centered today. They are only driven by individual interest. The desire to work together for the common good is lacking. The people in Kathmandu work so hard to build houses for themselves, but no one wants to build roads that benefit everyone. Later, those poor roads pose several problems for everyone.”

“The most valuable lesson that we, as students of Buddhism, can teach others is to ask them to be kind to others.”

“Loving doesn’t only mean a person performing an act of love for countless people. They can just show love to one person and that creates a circle of love that spreads from one person to another. We don’t have to be everywhere; we can simply be examples.”

“The first step toward solving a problem or improving a situation is understanding. When there is understanding unity follows.”

“I think there isn’t enough love between people these days. There is an excess of arrogance. It would serve society well if people learned to cultivate love in their hearts. That would make people more mindful of others. People who are rich materially would enrich their hearts through love and compassion.”

“It’s not necessary for people to learn from Buddhism. A human being’s life is always bound to other human beings: work entails interaction with humans, you travel and you meet humans. So if human don’t get along with each other, no one can succeed. Buddhism is not necessary; all you need is a pure heart and consideration for the well-being of others.”

“A doctor obsessed with making money cannot fulfill his duties as a doctor. A good heart is as important as the training a doctor takes.”

“To solve our society’s problems we need to be united. We need to understand that a country belongs to as much to the future generation as to the present. This is where our children and their children will live in the future. So we all have a responsibility to build a better country. However, there is a lack of understanding and trust between people. This is because of ego. Everything revolves around ‘I.’”

“One thing I feel the youth of today needs to learn is compassion.”

“Young people today strive for academic excellence when they are at college. Then, they chase after success and money so that they can be rich, have big houses. This focus on individual well-being needs to change. They need to think of other, less fortunate, people as well. They should share the benefits of their education. One way to do that would be to help develop villages.”

“Education and mind-training should go hand in hand for the youth of today. There should be an environment for young people to practice what they learn.”

“Young people need to think beyond religion. It would be very beneficial if young people learned how to love others.”

6: The nuns have a keen awareness of community problems and are passionate about helping the neglected and most vulnerable members of society.

Anyone who spends time with the nuns comes back buoyant with small acts of kindness. As you spend more time with them, as I had the chance to do, you realize that their kindness is a direct result of their mindfulness and keen observation. It is this same quality that makes them specially attuned to the plight of the most vulnerable people. Nuns report a wish to help remote and poor communities by transferring knowledge and skills that would improve their health and resilience. Living on the fringes of Nepali society are the homeless, orphans, school dropouts, the elderly, people living in poverty, and those with mental illnesses. With no substantial government assistance, many of them are left to fend for themselves, often ending up on the streets, surviving by begging. Asked to state ways that they would like to contribute to lay society or who they would like to most help in lay society, the nuns repeatedly cited these people as the ones they would most like to help.

“I’d like to help old people who don’t have a place to live, perhaps by building an old age home. We could also give them Buddhist lessons so that they are happy. This would help those old people who are simply awaiting their deaths. Some of them are very unhappy because their own children deserted them. We can teach them to understand the nature of unhappiness.”

“The drainage here is poor. When it rains, the streets become water-logged. People suffer because of that. Whenever there is heavy rain, water flows into the area behind our nunnery [east] and enters people’s houses. The houses are simple shed-like structures. The people there suffer a lot because of that.”

“There are so many children who have dropped out of school because they failed one exam. I’d like to work with such children to help them learn skills like carpentry and tailoring. That way they can at least earn a living even if they don’t want to go back to

school. As a nun I can't train them but I can encourage them to pursue something that interests them. I can help them come up with ideas. A nun has unconditional love to offer. We don't have responsibilities toward family or relatives like lay people do."

"There are many homeless people in Kathmandu. They need help. Also, there are many street dogs."

"If I had the money and support of experts, I'd do something for people who are suffering or neglected, like orphans and homeless people."

"I would team up with experts in various fields to teach village children, so that an educated, trained population would be created in the villages. When they grow up, the children would be able to take on the responsibility of solving their villages' problems."

"I'd like to help create organizations and communities in as many countries as possible so that physically disabled and poor people have a place to get help."

"I'd like to help the poor. The source of drinking water is quite far from my village. People have to walk for an hour to fetch water. I'd like to build a pipeline to bring water to homes."



7: The nuns have a predilection for working to improve people’s health, and identified two approaches – education and service delivery enhancement – to achieving it.

Since almost all the nuns at the nunnery grew up in the countryside, they have firsthand experience of the hardships of village life in Nepal. It is no surprise therefore that the commonest response from nuns in response to the question about the area they would like to work most in was neglected and underdeveloped rural communities. More specifically, they wished to help improve people’s health.

Broadly, there were two ways nuns hoped to alleviate health problems in remote regions. The first was by improving infrastructure. This meant helping setup hospitals or, where there are already local health centers, enhancing their capacity and services so that they can better serve the locals. The nuns continually reminded me about the dire situations in many villages where a sick person often had to walk or be carried by others for a couple of days to get to a hospital. The second approach was educating locals on the basics of health and sanitation. There were also some nuns who expressed the need to target efforts towards building inner strength together with external resources like better and bigger hospitals. It must be noted that this last idea was expressed in addition to the other two forms of intervention, almost as an aside. This

was interesting in that although the nuns saw the importance of a strong mind, they knew that improving people's health relied more on the other two approaches they outlined.

"If I had help from experts like nurses and doctors, I'd try and build a hospital in my village. Or at least procure the vital supplies for the existing health post. I'd also teach people about nutrition."

"I wish I had studied medicine. If I had, I could have helped so many people. I have been to hospitals many times. My friend is in the hospital at the moment. Hospitals do help people, but only if they pay the bills. I would have been able to offer my services for free to a needy person if I was trained to work in a hospital."

"We can teach people the dos and don'ts of health and sanitation."

"I'd like to learn from or train to be a nurse. The hospital is a setting I would like to work in. Perhaps we could look after the sick and also help them to build inner strength. In times of suffering, the body hurts but people can use their inner strength to stay happy."

"In my village there isn't a good health center, so having mobile health camps would be nice. Also, there aren't toilets in every house. Building toilets would be a good thing to do. Spreading awareness on health and sanitation would be another way to help. People there need to walk for three hours to get to the nearest hospital. There is a dirt road, but you have to cross a river. My father was recently swept away by the river while trying to cross it. Fortunately, some people were able to save him."

"Training the locals in basic health care would be very effective because people there don't have much idea about health. Nutrition is another area where there is next to no awareness."

"There have been cases of people damaging their livers from long-term alcohol consumption. There is a need to counsel them. Previously, people made alcohol at home, which was less harmful. Now they consume alcohol that comes over the border [from Tibet]."

"The health facilities available in Tsum are inadequate to treat serious illnesses and emergency situations, like a complicated pregnancy. One option is to take the patient to the nearest town, which is a couple of days' walk away. The other option is to charter a helicopter to Kathmandu, which costs an astronomical sum for a poor villager. This latter option will entail taking a loan, further burdening the patient's family with yet another problem."

8: Science and Buddhism can join forces to arrive at better understandings of brain, mind and emotions, which can then serve to improve society and other aspects of human life.

In an effort to know more about the nuns' views and ideas on topics that couldn't be discussed during class because of temporal constraints, we got the nuns to do a couple of writing tasks during the workshop. This proved tremendously fruitful. Since it guaranteed anonymity (the nuns weren't required to write their names on the pieces of paper on which they wrote their responses) even the most reticent nuns expressed themselves freely, something they didn't do in class. I had repeatedly approached some nuns for interviews over the course of last year's and this year's workshops without being able to convince them to agree. So the information generated through the writing exercises was priceless to me.

For one such writing exercise we asked the nuns to think of topics or ways for teaching where science and Buddhism could partner. The nuns identified connections between social problems and individual emotional health. For example, they saw anger as a major cause for violence. Many nuns pointed out that anger was an emotion that deserved more scientific study. By studying it, they reasoned, it could be better understood. This knowledge could be combined with the Buddhist take on anger to further explain the emotion. The more it was understood – how it arises, what damage it does – the more likely people would be to control it.

Although science and Buddhism vary on a great many things, the nuns saw the benefit of merging the two perspectives. By doing this, they believed they could arrive at a deeper understanding of issues. To them, the most important step in solving a problem or improving a situation was gaining as clear an understanding of it as possible.

“If we could provide scientific data or proof of how anger arises and the harm it does to a person, we could then try to curb it.”

“Perhaps a subject that is proving hard for science to find out about can be approached through Buddhist philosophy. Similarly, teaching Buddhism needs to move away from using quotations from texts and start making inquiries about the body and mind.”

“Buddhism and science can team up to study emotions, which could lead to a better understanding of the mind.”

“Try to understand more about the mind. If we do this, we gain more knowledge and thus can make better decisions.”

“Science can study the outer or bodily signs of anger. Buddhism can study its internal impact.”

“Try to figure out how we can better understand the brain in relation to learning. After that, we can improve or develop our brain’s potential.”

“We could research to determine if science can help us give up anger, attachment and desire.”

“One way to collaborate between science and Buddhism would be to get a great scientist to study Buddhism and a learned Buddhist scholar to train as a scientist. Then, after a while get the two to share their experiences with each other.

“Buddhists take a lot from science. For example, mobile phones and computers. They should also take scientific explanations for why anger arises. Then look at the Buddhist explanation for anger. Eventually, the two disciplines could try to find a way to manage anger.”

“Scientists and Buddhists can hold a conference or workshop on anger.”

“Buddhism and science could come together to pool their understandings of the brain to find practical solutions for social problems.”

Appendix 1: Recommendations

1. Using microphones or changing rooms so that teachers and translators are more audible to the students sitting at the back of the class

Due to the acoustics of the room, arrangement of the desks and the large class size, the teachers' and translator's mobility was limited. This meant that those sitting at the back had problem hearing. This issue was raised by several nuns who sat furthest from the white board. They suggested that using a microphone would solve this problem. Many of the nuns have poor eyesight. They felt that it would be easier for them to see diagrams and drawings if they were projected onto a screen or wall.

Note: Part of the problem the nuns face is not being able to copy the notes from the white board before the teacher moves on to the next topic. That is why sometimes the teachers had problem getting their attention. It would be useful for the teachers to point out (more regularly) that the nuns would be given time later to copy the drawings and notes.

2. Making the lessons more experiential by changing the classroom settings

A couple of nuns told me that due to the nunnery's rigorous routine they felt lethargic in class. They felt that it would be refreshing if some of the classes were held outdoors. The students could be made to investigate their surroundings, which would be more engaging and stimulating for their tired bodies and minds.

3. Incorporating field visits into SFN workshops

Having days off during this year's workshop, which was a recommendation made by many nuns after last year's workshop, was appreciated by all the nuns. They also thoroughly enjoyed the pilgrimage they and the faculty went on during the workshop this year. The nuns saw the benefit of stepping out of the nunnery's confines.

"We thoroughly enjoyed the excursion to Namu Buddha."

"We don't get to experience the world outside our nunnery even when we have holidays. So field visits would be great. The interactions we would have with people outside our nunnery would result in exchange of ideas, knowledge and better understanding between us."

"There must be so many science centers and scientists in Kathmandu. It would be nice if we visit those places."

4. Providing summaries of lessons

Being newcomers to note-taking during lessons, most nuns are unable to make notes fast enough to keep up with the teachers. To offset this disadvantage, they see the usefulness of handouts with summaries of the topic taught in a particular lesson.



Appendix 2: The Faculty's Experience

The teachers saw giving nuns an opportunity to share their knowledge of Buddhism as a way for striking a balance between obtaining and passing on knowledge.

"I would always like there to be lessons on Buddhism by the nuns." – *Tory Brady*

"I found valuable the chance for the nuns to share their knowledge, thereby setting up a more balanced dynamics of sharing and receiving knowledge. Having the nuns reflect on the teaching style – reporting what they liked about a particular Buddhist lesson given by their fellow nuns – got them thinking about pedagogy more. One of the nuns talked to us outside of class and remarked that she had noticed our teaching style. That conversation has never happened in all my time teaching in India." – *Julie Yu*

Mindfulness of another person's needs was a quality that the teachers learned from the nuns.

"The combination of both self-awareness and awareness of others is not common, especially not in the West. There was one activity where we asked them to bring small mirrors to class. Nuns in the past have said that they don't look at themselves at mirrors. Tory said that they are each other's mirrors. The nuns reflected back to Tory and me several times. They came up to us and asked if we were okay. It's like you don't need to check on yourself; there's a community to do that for you. I was listening to Geshe Tashi speak and I reached into my pocket for a pen, but I had forgotten to bring my pen. I thought I'd just pay attention. Just then two nuns offered me pens. The attention to the needs of others while taking care of oneself is special and rare. The self is not absent in them, but they are certainly not selfish. I haven't experienced that before in my life." – *Julie*

The teachers found a hunger for learning and desire to help society in the nuns. However, the nuns were also a bit stuck on the idea of formal training almost as a prerequisite to working outside their nunneries.

"Their curiosity, dedication to learning how to do things, and desire to help their community means there is no limit to what they can do." – *Julie*

"One limitation is that the nuns feel they need a rank to work in the community. Like they need to be geshe-ma or have gone to Emory University or some other program. I feel that they may not take on a leadership role without some kind of official step or training. But I wish they do, because there were some very able people in the class. But there has to be some opportunity for the nuns here. For example, the clinic here could

expand a little and start wellness nights. There has to be official leadership to start it. Then the nuns can take over.” – **Tory**

The teachers wished for smaller class sizes so that they could have more gratifying individual experiences, both for themselves and the students.

“There is a balance between wanting to have as many students get the opportunity to learn and having a class size where you can have individual relationships. When classes are smaller I’m much better at remembering names and getting a sense of individuals. With large class sizes, it’s harder to be responsive to everyone. You want to build on the enthusiasm but not take anything away from individual experience.” – **Julie**

“If there are lesser number of nuns, there is a chance for at least a couple of individual interaction. That allows us teachers to identify the strengths and weaknesses of students. The picture and names of the participants should be provided to the teachers on the first day of the workshop.” – **Tory**

Appendix 3: The Headmaster's Views on SFN

Geshe Tashi, the principal of the nunnery, has the unique experience of having worked both in a monastery and a nunnery. When he first joined the nunnery, science wasn't taught there, so he is in a unique position to measure the impact of science on the nuns. Excerpts from an interview with him:

Does learning science strengthen the nuns' education? How?

Geshe Tashi: It does because they learn how to research and check their findings because scientists check and re-check everything they find. Scientists pay attention to details. This is a good thing for our nuns to learn. Scientists also have a different teaching style, which they have brought to our nunnery. How to manage time during lessons? How to speak in public? How to share one's knowledge? These benefit the nuns immensely. The other teachers that teach the nuns here have a very monotonous style of teaching, mostly lecturing and writing on the board. That is not enough for the students because every student is different. They have different ways of learning. Some learn by listening, some by writing and others through activities like drama. So it's important that teachers use different teaching methods.

There have many positive changes in the nunnery over the years. How can it keep improving?

Geshe Tashi: Now we have many geshema nuns. They can help many people. Many young nuns can now receive a more rounded education as they learn Buddhist philosophy and science and maths. There are many young nuns who speak Nepali, so when they go on to become geshema they can help a lot of Nepalis. Schools in Kathmandu and elsewhere could benefit from having someone teach Buddhist philosophy. There are many Buddhist teachers but not many who speak Nepali. This is one of His Holiness's visions. There are so many Buddhists in Nepal, but they don't know anything more about Buddhism than prayer flags.

How do you see the nuns taking the science they are learning and doing something beneficial with it?

Geshe Tashi: They can help in many ways. They can learn to keep our nunnery clean, to maintain hygiene and health, to care for the environment. They can share their knowledge of health. Ninety-nine percent of our nuns are from remote areas, from poor families. Most are from Tibet and the border areas. People in these areas don't know much about health and hygiene. These kinds of science lessons are very helpful to them.

Appendix 4: Interviewing the Nuns

For the interviews with the nuns I used a questionnaire that Bryce and I, with inputs from other researchers, had designed. Although we decided on the areas that we wanted to probe, we decided to be flexible with the questionnaire: I would ask set questions for the first couple of interviews, but I wouldn't keep questions that were getting similar answers. We also didn't want to repeat anything that we had explored in questions during last year's workshop. I shared my findings with Bryce after every couple of interviews or let him in on the questions that were proving unproductive in terms of the range of responses. Basically, any question to which a high number of nuns gave the same response or answered with *I think the same as her [a fellow nun]*, I stopped asking. We also came up with new questions as we went along, some based on ideas that we wanted to explore, others inspired by a point raised in class by the nuns.

Even though I knew most of the participants from last year's workshop and although they saw me, asked for help during class, and bantered with me on a daily basis, many nuns refused outright my request for interviews. There was only reason for this: they were too shy. One remedy that worked was interviewing nuns in pairs. When pairing nuns, I chose one that was outspoken and another that was reticent. Attending the classes allowed me to tell the former from the latter. Interviewing in pairs helped me to convince some of the nuns who had originally declined to do interviews. They agreed when they knew there would be another nun present. And listening to their peer respond to a question made the other nun speak her mind, something I doubt they would do with the same consistency if they were interviewed alone.

I always checked the level of Nepali of the interviewees before selecting a pair for an interview. I wanted to avoid pairing nuns whose Nepali was too weak to respond to the questions. If one nun spoke Nepali fluently, she could act as translator, allowing the nun with weak Nepali to answer questions in Tibetan. The answers could then be translated into Nepali for me. This created a kind of screen between the nun with weak Nepali and me, preventing the uneasiness that some nuns felt at not understanding Nepali from making them clam up.

Time is not a luxury for the nuns. Between their daily duties as a nun and the workshop there wasn't much time for them to spare. So interviews had to be conducted during the only free time available: lunch breaks. Trimming the questionnaire down to the most vital questions and not repeating questions that were proving unproductive was important because the interviews couldn't be stretched indefinitely. As a result, after the first couple of interviews I began to focus on questions that were most likely to get the nuns to speak their minds as individuals.

Questions

- 1) Why did you become a nun? Was that your own decision or someone else decided for you?
- 2) Can nuns who have studied science contribute to lay society? How?
- 3) How would *you* like to contribute to lay society? Who would you most like to help in lay society?
- 4) What are some of the problems in the local community around here?
- 5) In your opinion, what are the world's biggest problems, ones that need to be addressed urgently? What is lacking in society?
- 6) Can nuns be leaders in lay society? What kind of leadership roles can nuns play in society?
- 7) Who are some of the people that you would like to team up with to solve social problems?
- 8) What are your hopes for young people? What should they do?
- 9) Has participating in these workshops brought about any positive changes in you? What has been the most significant impact of these workshops on you as a person?

“My hope for you is that you don’t close your notebooks and forget the science you have learned in this workshop but that you remember and continue to study science. That way you will be able to fulfill His Holiness’s dream. You will also have learned science not just for the sake of learning but to use it to serve the community by applying what you have learned.”

– the nunnery’s most senior nun and chief administrator, addressing the nuns in her speech made during the closing of the SFN workshop 2019