

# Final Report to HI Canada



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## **1. General Background**

Spinal Injury Rehabilitation Centre (SIRC), a project of Spinal Injury Sangh Nepal is a nonprofit making, nongovernmental, charitable organization founded in 2002 AD with the goal of providing holistic rehabilitation to the people who suffer Spinal Cord Injury. SIRC has been providing rehabilitation services to patients with spinal cord injury from all over Nepal. On April 7, 2015, the centre celebrated 13 years of existence and its commitment and service to needy people. The centre provides specialized rehabilitation treatment to the patients.

### **1.1 Aftermaths of Earthquake**

The deadly earthquake that hit Nepal on the 25<sup>th</sup> of April, 2015 left many people dead and many more injured. Collapsing roofs, walls, and boulders were the main causes of SCIs. As an immediate response to the earthquake, several SIRC medical teams worked in the field to assess and aid victims who had sustained Spinal Cord Injuries (SCI).

The second major earthquake on May 12, 2015 has further increased the number of earthquake victims with spinal cord injury (SCI). It has been estimated that around 400 individuals sustained SCIs, of which 200 sustained these injuries in and around the capital city, Kathmandu. To facilitate the treatment and rehabilitation of SCI victims, the Spinal Injury Rehabilitation Centre has upgraded its facilities to accommodate the increased number of patients at this time of crisis. This up gradation of facilities required the centre to increase the number of items of equipment in the nursing, physiotherapy, occupational therapy and wheelchair departments of the centre including the canteen.

At the time of need, various national and international organizations have helped the centre with regard to up gradation of the facilities thereby assisting the delivery of comprehensive rehabilitation to the earthquake survivors who have undergone SCI.

## **2. Support from HI**

Spinal Injury Rehabilitation Centre has received the support of 24111.21 Euro in its bank account (CAD 34693.21 / NRs. 2696357) from HI Canada. With this fund, the centre has been able to meet immediate expansion needs while catering to the increased number of people with spinal cord injury and their care taker. From the 51 bedded facility, we expanded up to 150 beds as we experienced increased number of patients with spinal cord injury. With the increase in spinal injured patients and their caretakers; this project has assisted us in meeting the food cost of some of the patients and their immediate care giver. Some urgent supplies such as mattresses were purchased. In order to meet the needs of

increased number of patients, we hired additional staff. The wages of some of these staff members (mainly physiotherapists, nurses and psychologists) have been covered by this project for the period of six months. Likewise, partial costs of various international experts have been included under this project. These experts visited the centre and trained our staff from various departments. Their presence has been instrumental in teaching our staff efficient handling of patients and managing the workload in such a critical time. The quality of the service was maintained with their guidance, monitoring and supervision despite the major influx of patients.

### 3. Financial Breakdown

1 Canadian dollars = NRs. 77.72 (as of Aug 11, 2015)

S.No.	Particulars	Unit	Rate	Amount (in NRs.)	Amount (in Canadian dollars)
<b>1</b>	<b>Food cost of patients and caretakers</b>				
	Food cost of 20 patients for two months (20 patients X Rs. 600 per day X 60 days)	20	600	720000	9264.02
	Food cost of 20 caretakers for two months (20 caretakers X Rs. 600 per day X 60 days)	20	600	720000	9264.02
<b>2</b>	<b>Supplies</b>				
	Mattress	20	5000	100000	1286.67
<b>3</b>	<b>Temporary staff hired for six months</b>				
	Nurses (4 nurses X Rs. 15000 per month X 6 months)	4	15000	360000	4632.01
	Therapists (4 therapists X Rs. 18000 per month X 6 months)	4	18000	432000	5558.41
	Psychologist (2 psychologists X Rs. 16000 per month X 6 months)	2	16000	192000	2470.41
<b>5</b>	<b>Cost of International Expertise- Food (F), Accommodation (Acc), Air Ticket (A)</b>				
	Dr. Apichana Kovinda (Acc)		21000	21000	270.20
	Prof. Dr. Taslim Uddin from Bangladesh (Acc)		7020	7020	90.32
	Yeasir Arafat Alve, Occupational Therapist from CRP, Bangladesh (F and Acc)		47455	47455	610.59
	Alphonse Nokrek, Wheelchair Technician from CRP, Bangladesh (F and Acc)		47455	47455	610.59
<b>6</b>	<b>Sponsor conference cost</b>				
	ISSICON sponsorship for Esha T. Dhungana (Executive Director) - (A and F)		22700	22700	292.07

	ISSICON sponsorship for Chanda Rana (Rehab Incharge)- (A and F)		22700	22700	292.07
	<b>Total Expenses</b>			<b>2692330</b>	<b>34641.41</b>
	<b>Contribution from HI Canada</b>			<b>2696357</b>	<b>34693.21</b>
	<b>Surplus</b>			<b>4027</b>	<b>51.81</b>

## 4. Briefing on the Activities Carried Out

### 4.1 Food cost of patients and caretakers

Our centre has been providing 4 healthy meals daily to the patients for their proper diet intake. We provide them with the varieties of protein food like eggs, milk, meat both chicken and goat, cereals, beans etc. The foods with calories and protein help patients to heal the wounds speedily and also cure pressure sore. Following information shows the breakdown of meal to our patients:

- In the breakfast, we regularly serve eggs, milk, tea, beans, and bread to patients.
- For snacks, we provide them juice or black tea, biscuits, chowmein, wai wai fry, pasta, beaten rice, rice pudding etc.
- Similarly, for the lunch and dinner, patients are provided with rice, daal, different vegetable curry like potatoes, beans, cabbage, cauliflower, spinach, pumpkin etc and pickle.

Same meal is not provided every day, the food items are served in rotation. Since, patients need to take a lot of water and liquid we are providing juice, black tea during day time. We believe that good food and good health go hand in hand. So we are providing the nutritious and healthy food to our patients that contain carbohydrate, fiber, minerals, protein and vitamins.



One of the patients having lunch at SIRC

Muscle size is reduced after a spinal cord injury; the ideal body weight may be less than before. It is very important for SCI patients to have ideal body mass index. Therefore, we have a nutritionist here at the centre, Mrs. Sushila Sharma, who is helping patients to identify the proper food need and determine the ideal body weight. Along with feeding healthy and nutritious food, the kitchen staff also focuses on the cleanliness and sanitation of the kitchen. We serve the same food for patients, caretakers and staff of SIRC.

Under this project, we have covered the food cost of 20 patients and their 20 caretakers for the period of two months i.e.

Food cost of 20 patients for two months:  $20 \times \text{Rs. } 600 \times 60 \text{ days} = \text{Rs. } 720000$

Food cost of 20 caretakers for two months:  $20 \times \text{Rs. } 600 \times 60 \text{ days} = \text{Rs. } 720000$

## 4.2 Supplies

While expanding the facility we had to purchase various supplies – medical and administrative in order to cater to the additional patients, their caregivers and staff. Under this project, we have purchased mattresses for the patients. For patients at high risk for skin breakdown or who currently have skin breakdown; a proper mattress is mandatory. So, in order to reduce the complications of pressure sores, we have purchased some mattresses under this project's funding.



Patient resting on mattress

## 4.3 Temporary staff hired for six months

We hired additional staff to meet the needs of the increased number of patients with spinal cord injury. The staff members hired was therapists, nurses and psychologists. The addition of staff helped us in meeting our urgent need of human resources while achieving efficiency and timely completion of tasks and activities for the high volume of patients. Hiring of additional staff led to enhanced service quality.

The salary expenses of four nurses, four therapists and two psychologists were covered with this project for the period of six months.



Dressing of patient by nurses



Psychologist with her patient



Physiotherapist providing daily therapy to patients

#### 4.4 Cost of International Experts

After two massive earthquakes, we needed international experts at the centre to train our existing staff and those newly-hired on treating patients following the emergency period. To meet this need, we invited international experts to our centre to share, teach and guide our staff related to their area of expertise in the field of spinal cord injury. Many foreign medical teams volunteered to come and assist us with the work of caring for the many spinal cord injured people who came to us. We did not provide financial support for these teams from stronger economies, who were financially self-supporting. However, we had help from a small number of people from other South Asian countries who could not have attended without this financial support, provided at modest cost. We partially covered the costs of flight/ accommodation/air ticket of these experts.

Following provides the description of the international experts with information on training provided to our staff and benefits received:

##### 4.4.1 Dr. Apichana Kovinda

Dr. Apichana Kovinda, MD, Associate Professor, Department of Rehabilitation Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand visited SIRC for a week. SIRC has covered her accommodation cost. The major objectives of her visit at SIRC were to:

- Provide mentorship and engage in collaborative work with SIRC doctors, nurses and physiotherapists.
- To guide SIRC urology nurses on Cystometry.

The main contribution from Dr. Apichana and her team was Cystometry training to the nurses' team of SIRC. They also helped us in performing accurate neurological examinations when the centre was overwhelmed with number of spinal cord injury patients in the disastrous earthquake.

They provided collaborative support to the doctors and nurses and reinforced what is being done well, and offer suggestions/teaching in areas where more experience is needed or helpful. Dr. Apichana and her team also taught the (often inexperienced) newly and locally recruited physiotherapists on stability and strengthening of the core muscles after spinal cord injury.



We thank Dr. Apichana and her team for helping individuals with SCI to take a giant leap and updating us with knowledge and skills.

#### **4.4.2 Prof. Dr. Taslim Uddin**

Prof. Dr. Taslim Uddin, MD, Associate Professor, Department of Rehabilitation Medicine, Dhaka University, Bangladesh visited our centre in order to assist us in the emergency period. He supported us with following:

- On 3rd day after earthquake he organized pre- disaster workshop and plan at department of PM&R at Dhaka's Bangabandhu Sheikh Mujib Medical University (BSMMU) with regard to supporting SIRC at the time of need.
- Arranged meetings with Bangladesh Association of PM&R to help SIRC.
- Provide mentorship and engage in collaborative work with SIRC doctors, nurses and physiotherapists
- Helped to raise funds, and brought medications and items of equipment for SIRC.
- Conducted daily ward rounds of SCI inpatients and management of associated musculoskeletal injuries of SIRC patients.
- Conducted teaching sessions for doctors, nurses and physios whenever necessary.
- Allowed Dr. Raju Dhakal and Dr. Jas Bahdur Gurung to come to Nepal at that critical time.



**Prof. Dr. Taslim Uddin (Third from Left) during one of his daily medical rounds at the earthquake patient ward.**

We thank Dr. Taslim for his generous support and updating us with knowledge and skills. It was an honour to work with him.

#### **4.4.3 Md. Yeasir Arafat Alve**

Md. Yeasir Arafat Alve, Lecturer in occupational therapy, Bangladesh Health Professional Institute (BHPI), Centre for Rehabilitation of the Paralyzed (CRP), Savar, Dhaka visited SIRC for a month period. SIRC has covered his food and accommodation cost.

His major objectives and responsibilities at SIRC were:

1. To provide support on activities of daily living and evidence based practice in occupational therapy department.
2. To provide training on report writing, documentation, assessment and evaluation in practice of occupational therapy.
3. To help in capacity building of newly hired staff in the occupational therapy department.

He carried out following activities at the centre:

- Provided occupational therapy services to all the patients with spinal cord injury.
- Observed and guided newly recruited staffs.

➤ He also helped develop this occupational practice routine:

Day	09.30 am-10.30 pm	10.30 am - 11.30 pm	11.30- 12 :	12:00- 12:30	Lunch	13:00- 14:00	14:00- 15:00	15:00- 16:00
Sunday	Support to peer group therapy		Shopping & leisure	Feeding observation		Patient and care giver education	Farming/g ardening	
Monday	Hand therapy with tetraplegic	Individual therapy session	Wheel chair mobility and propelling training	Ongoing professional development activities		Individual therapy session	Transfer skills for tetra	Individual therapy session
Tuesday	Hand therapy with tetraplegic	Individual therapy session	Wheel chair mobility and propelling training			Individual therapy session	Transfer skills for tetra	Individual therapy session
Wednesday	Hand therapy with tetraplegic	Individual therapy session	Wheel chair skills			Individual therapy session	Dressing skill	Individual therapy session
Thursday	Hand therapy with tetraplegic	Individual therapy session	Advanced w/c skills			Individual therapy session	Grooming session	Individual therapy session
Friday	ADL Practice	Individual therapy session	w/c skills training			Individual therapy session	Bathing observation	Shopping, cooking ,halfway home activities

➤ Capacity building activities:

Continuous professional development activities were conducted and lesson plans were developed with the head of department including:

1. History of occupational therapy (OT)
2. Difference between occupational therapy and physiotherapy
3. Role of OT in SCI
4. Activities of daily living
5. Modification of devices
6. International Classification of Functioning, Disability and Health (ICF)
7. Spinal Cord Independence Measure (SCIM) version III
8. Evidence based practice
9. Patient transfer skills

10. Home and environment accessibility

11. Splinting and cognitive assessment

Achievements of the staff:

- Developed skills in different level transfers and advanced wheel chair skills
- Learned about culturally oriented occupational practice
- Improved assessments and documentation
- Reviewed home and environment accessibility.



We are thankful to Mr. Alve for his excellent support. A good standard of theoretical and practical knowledge was shared. It was such a pleasure to work with the CRP team and wish him best for future endeavor.

#### **4.4.4 Alphonse Nokrek**

Alphonse Nokrek, Wheelchair and assistive device specialist, CRP, Dhaka University, Bangladesh visited SIRC for a month period. He was engaged in Wheelchair service department of SIRC and worked closely with our wheelchair technician. He helped our staff in making assistive devices. Following are the support activities that he provided to SIRC:

- Taught excellent skills on making devices from local resources.
- Helped in making Spinal braces such as Knight Taylor Brace.
- Provided knowledge on how to do welding for fitting and maintenance of wheel chair.
- Helped to make Knee ankle foot orthosis, walking frame from local materials.
- Helped in modifying writing devices of different types, foot drop splints and standing frames.

We thank Mr. Alphonse for his generous support and updating us with knowledge and skills.



Farewell picture of Alphonse and Yeasir with “Dhaka Topi” and “Khaada”

#### **4.5. Sponsor the International Spine and Spinal Injuries Conference (ISSICON) Cost**

The ISSICON conference was held at Le Meridian Hotel, New Delhi and Indian Spinal centre from 25th to 27th September 2015, organized by Indian Spinal Centre.

The major objectives of ISSICON 2015 were as follows:

- To facilitate dissemination of information regarding state-of-the-art technology and recent advances in management of spinal injury and other spinal ailments amongst medical and paramedical professionals from around the globe and particularly those from developing countries as well as India.
- To provide a scientific platform for presentation of work related to designing, evaluating and introducing recent advances in research related to such ailments.
- To develop effective models for human resource development pertaining to this field.
- To help develop a sustainable, equitable and reproducible national model for management of spinal injuries.

Over hundreds of national and international delegates attended the conference. It was an excellent platform to share the recent evidence in the management of spinal injuries, surgeries, cost effective assistive devices etc. Under this project, we covered food and air fare of Esha Thapa Dhungana, Executive Director and Chanda Rana, Rehab Incharge of the centre.



**Esha Thapa Dhungana, Executive Director, SIRC giving her presentation on earthquake response of SIRC**

The Executive Director, Esha Thapa Dhungana gave a presentation on SIRC's response during and after earthquake which was highly appreciated. It was an excellent opportunity to share and collaborate with other organizations globally, including a number of the foreign teams who had supported SIRC in its hour of need. It also proved to be a good platform to invite people for the 14<sup>th</sup> Asian Spinal Cord Network (ASCoN) Conference hosted by Nepal during December 2015, where we met our prior commitment to host this meeting and included a half-day program on the response to the Nepal earthquakes.

After ISSICON, Ms. Chanda Rana, Rehab Incharge had the opportunity to do three days observership at Indian Spinal Centre. She met with the faculty and observed various departments like physiotherapy department, occupational therapy department, peer counselor and the workshop department. She believes that she had a great learning session there and she has implemented changes based on this visit at SIRC.



She also had an opportunity to observe hydrotherapy session and learn various hydrotherapy skills for use in the SIRC therapy pool. She even visited different supplier of physiotherapy equipment and bought electrical equipment and assistive devices for the occupational therapy department plus some respiratory management devices.

## **5. Conclusion**

The support received from HI – Canada has been instrumental in meeting the immediate expansion needs of the centre after the massive earthquake. As stated above, the centre has received huge benefits from this generous support and it is grateful for this contribution. SIRC has been continuously striving to improve the health and lives of SCI people and it will try its best to improve the level and quality of services to the patients with spinal cord injury in the days to come. Thank you so much for your support and cooperation. It is your support that helps and strengthens us to do more for our patients and for efficient service delivery. Many thanks.