

ROAD SAFETY EDUCATION AND AWARENESS PROGRAM: A MASSIVE RURAL OUTREACH INITIATIVE

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ABSTRACT

India facing a road epidemic has observed certain initiatives in recent times to curb the growing menace on roads. To this effect, Rajasthan has initiated a comprehensive program to curb road crashes and resulting fatalities and injuries. The Rajasthan Road Sector Modernization Project (RRSMP), funded by the World Bank, is underway with the objective of improving road connectivity, strengthening road sector management capacity and enhancing road safety. The Road safety education and awareness program under road safety component aims to educate the rural masses of the entire State on road safety norms, rules, road behavior and pre-hospital trauma care.

Through this program three targeted groups of rural Rajasthan, namely the villagers, school children, truck/bus drivers are being sensitized. Through this initiative, one day awareness program in all the 9755 Gram panchayat Head Quarters (HQs) (local self-government organisation at the village level) and 295 Panchayat samitis (local government at the intermediate level), road safety training at 700 Schools and Bus/Truck driver training program at 495 locations in the State is being done. This program also focusses on capacity building of certain NGOs and therefore these NGOs have been engaged for its implementation.

One of the significant aspects of the campaign is the selection and training of atleast 10-15 volunteers in each Gram Panchayat for the sustainability of this program resulting in more than One lakh volunteers. This program is one of its kind with a magnitude not attempted anywhere in the country so far.

KEYWORDS: Road safety education and awareness program, RRSMP Project, NGOs, Rajasthan, India, World Bank.

I. INTRODUCTION

Road traffic injuries (RTIs) and fatalities continue to add to the growing burden of diseases worldwide making it a global road trauma pandemic. Approximately 1.24 million people die every year on the world's roads, and another 20 to 50 million sustain non-fatal injuries as a result of road traffic crashes (15). They are the leading cause of death for young people aged 15–29 years, taking a heavy toll to the most productive year's age group (3). Over 85% of the deaths and 90% of disability adjusted life years (DALYs) lost from road traffic injuries are in low and middle income countries. The DALY is an indicator of the time lost by an individual in living with a disability and the time lost due to premature death (6). Looking at the grim scenario it is expected that, by 2020 road traffic crashes will have moved from ninth to third place in the world ranking of the burden of disease and will be second place in developing countries (9).

India which falls under the low and middle income country group shows a dismal picture with dubious distinction of being at the top for road crashes fatalities and injuries. Every four minutes there is a fatality on Indian roads with grievous injuries happening every minute (10). To curb this growing epidemic, governments around the world have shown tangible results with substantial reduction in road traffic

injuries (RTIs). One of the most important differences between developed and developing nations is that over the last 10 years, the number of deaths taking place actually fell by about 10% in Western Europe and North America, while in the Asia/Pacific and Latin America regions road deaths continued to rise (6).

The fact that some countries have succeeded in bringing the road fatalities and RTIs down reflect the policies targeting the coordination between three elements of transportation system (namely the vehicle, the roadway environment, and the road user) initiated by the political will (15;6). The governments around the world have shown their political commitment to make the world's roads safer (15). However, in India it is during the recent times that the need of road safety was felt. An attempt to develop road safety policy was initiated by Ministry of Highways and Transport, Government of India at the insistence of World Bank in 2003 and the political commitment has been seen growing ever since (6). Stricter penalties and significant changes lately in the Motor Vehicle Act, 1989 (which is an Act of the Parliament of India regulating all aspects of road transport vehicles) reflects the same (12).

Raising public awareness is one of the most important strategy in increasing understanding of and support for legislative and enforcement measures (15). Therefore, a comprehensive four –dimensional approach to road safety namely, engineering, enforcement, education and emergency care needs to work in tandem (14). India which has 1% of world's roads ironically contributes 10% of road fatalities. The total Indian road network of 47 lakh kms, is segregated into 1) National highways (70934 kms), 2) State highways (1,63,896 kms); 3) PWD roads (10,05,327 kms); 4) Rural and other roads (27,49,805 kms), with major share falling under the rural road network (6). A recent report on road safety in India by National Institute of Mental Health and Neurosciences (NIMHANS) observed that "much of the debate on road safety is an urban phenomena whereas rural India is yet to be connected and engaged" (4). Considering the fact that 80% of road crashes and 88% of road crash deaths occurred in rural areas during 2015 (4), it is important to educate, aware and sensitize the Indian rural population on road safety.

Rajasthan is ranked as 5th on overall road traffic fatalities amongst all the states in India (8). However, a 4.2% decrease in road crashes with 7.8% less RTIs (road traffic injuries) and 0.4% decrease in road fatalities over 2015 have been reported by the police in 2016 with credit to the continuous road safety education and awareness programs going throughout the state (5). But to a great extent, these activities and campaigns are confined to the urban population. As 75% of the population in Rajasthan is rural, the state government devised a plan to make inroads into the rural areas and sensitise the large chunk of population living in its villages. In this massive outreach initiative, all stakeholders and various departments in the state government of Rajasthan and the community have been involved to work towards achieving this goal.

A statewide continuous program on road safety awareness and education, looking at the rising road fatalities and injuries, was felt as the need of the hour. This is one of its kind initiative where road safety education and awareness campaign is sensitizing the rural masses. Various on-ground activities, with use of both modern and traditional media like street-theatre, film shows, school-level programmes with the support of the village-level administrative setup (*Gram Panchayats*) is being implemented as a part of this campaign. The target audience for the campaign includes the villagers, school children and drivers of heavy vehicles (truck, bus). It has been observed that 30%–40% of crashes and injuries could be reduced through education and awareness programs targeted to masses at large (13). Also, imparting road safety education to children is good for the country's growth helping them in making safe drivers (14). The bus and truck drivers were also included to be trained as part of this campaign looking at the fact that heavy vehicle are frequently involved in collisions. Statistics show that motorized two-wheeler colliding with cars, trucks and buses constitutes 41% of fatal crashes followed by cars colliding with heavy vehicles (trucks and buses) at 14% (7).

This road safety education and awareness program falls under the purview of the Public Works Department (PWD), Rajasthan as a part of Rajasthan Road Sector Modernization Project (RRSMP)

funded by the World Bank. This project is working with the aim of improving rural connectivity, enhancing road safety and strengthening road sector management capacity of the state. The road safety management component is an integrated approach which also includes road safety education and awareness campaign covering the entire rural population of the State.

The preparation of this program started in April 2016 and aims to commence by December 2018. The key objectives of this programme includes sensitizing the masses on:

- Importance of road safety and risks associated with unsafe driving
- Social, economic, psychological impact of road crash injuries and fatalities
- Good practices including the use of helmet, seat belts, observing traffic rules, and understanding of traffic signs, etc.
- Road users' driving behavior, and how to adopt good road safety habits and attitude.
- How to be a Good Samaritan and extend a helping hand to road crash victims
- First-aid and hands-on training on pre-hospital first aid and trauma care including Cardio Pulmonary Resuscitation (CPR) for road crash victims
- Identifying and training road safety volunteers.

On completion of this program, around 15,000,000 people in villages and semi-urban areas, 100,000 school children and around 50,000 bus/truck drivers would have been sensitized. One of the significant aspect of this campaign is the selection and training of atleast 10-15 volunteers in each *Gram Panchayat* for the sustainability of this program resulting in more than 1,000,000 volunteers.

This article further highlights the methodology, sustainability and evaluation of the road safety education and awareness campaign.

II. METHODOLOGY

The road safety education and awareness campaign has been designed so that it covers the entire state of Rajasthan which is the largest state in India in terms of its geographical area (1). For the implementation of this program, besides the government officials, a team of active non-government organisations (NGOs) in road safety, were engaged after due diligence and evaluation. With vast geographical spread of Rajasthan, having seven administrative divisions namely Ajmer, Bharatpur, Bikaner, Jaipur, Jodhpur, Kota and Udaipur (2), each division was selected as a zone to implement this programme.

Six NGOs were ultimately shortlisted with good experience, having sufficient manpower and resources to implement this campaign in each Zone. All the Information, Education and Communication (IEC) material to be used for the campaign including powerpoint presentations, video films, banners, posters and other material were audited and structured to ensure uniform delivery of the message.

The preparation of this campaign rolled out in April 2016 with training programme for every NGO's staff, followed by a pilot programme which every NGO conducted in its respective zone during October-November 2016. The pilot programme was closely monitored by the Project management consultancy (PMC) and post-event debriefing helped the team further streamline and update the IEC (Information, Education and Communication) material for ease of understanding of the proposed message. The capacity building of NGOs coupled with periodic review and training is the strength of the programme. A perception survey by each NGO was also conducted in which challenges and modification required if any in preparation of the "Model awareness program" (MAP) were identified. Under the supervision of PWD (Public works department) and PMC (Project management consultancy), a common MAP (Model awareness program) was prepared. The campaign in each of the zones was launched in April 2017 for dissemination of the the model awareness program.

By December 2018 this massive awareness campaign intends to cover 9,755 Gram panchayat Head Quarters (HQs) (local self-government organisation at the village level) and 295 Panchayat samitis (local government at the intermediate level), 700 Schools and Truck/Bus drivers training program at 495 locations throughout the State. For sustainability of the programme, each NGO is also supposed to identify volunteers in every village and train them so that even after this program, they can continue to educate the people at their respective village/community.

The methodology of the campaign further consists of:

IIa. Preparation of Model awareness program (MAP)

- Scheduling of the event
- Mapping of the zone
- Timings and location of the event

IIb. Implementation of the program

- Team structure
- Training of Trainers
- Advance publicity
- Main event

IIc. Monitoring and management of the campaign

IIa. Preparation of Model awareness program (MAP)

The model awareness program was prepared on the basis of the feedback from the pilot program. The information, education and communication material (IEC) was mutually prepared by the NGO's and standardized by the PMC (Project management consultancy) and PWD (Public works department). The education material for exhibition and distribution which included posters, banners, pamphlets and brochures were especially customized in local language on various road safety topics, emergency response system and pre-hospital trauma care for road crash victims. The audio/visual presentation was also made as per the target audience being addressed, i.e. the villagers, school children and bus/truck drivers. The presentation included various aspects of road safety, first aid trauma care, golden hour and good samaritan practices. Documentary on road crash victim families and a road safety film, made separately for each district (33 districts) has also been produced for this purpose. The content of the material emphasizes on the emotional appeal among the masses so that they feel self-motivated to follow traffic rules and regulations.

The following key road safety issues being addressed in the MAP (Model awareness program) were included on the basis of discussions with the stakeholder departments i.e. Public works department, Transport, Police, Health and Education Departments:

- Road safety scenario
- Overspeeding, Overloading, Overcrowding
- Road Driving Behaviour: Use of Mobile; Drunken driving
- Usage of safety gadgets, viz, helmets, seat belts, reflectors on motorised and non-motorised vehicles
- Knowledge on road signs and traffic rules
- Good samaritan practices; first aid and trauma care; Cardio pulmonary resuscitation (CPR)
- Road safety oath in their local language

In order to make this event educational and entertaining, street plays (*nukkad naatak* in local language), puppet shows (*katputli* in local language), road safety songs (adapted as per the folk songs in local language) are also made as part of the event. In school programs, various debate and painting competitions whereas health and eye check-up camps for the bus/truck drivers are being organized. Small prizes like road safety caps, t-shirts and momentos are also kept as prizes to keep the audience hooked and motivated. The knowledge assessment of the program is also being done through pre and post assessment questionnaires distributed to the public in order to know how much they have understood the issues addressed in the program.

Scheduling of the event

The scheduling of the event for the entire zone was done during the preparation of the MAP (Model awareness program). Table 1 shows a specimen of one of the zones sharing details of the schedule they will follow covering all the districts. The details of the location, contact details of individuals concerned and other stakeholders is also shared by respective NGOs a month prior to the actual event. Monthly progress report (MPR) by each NGO is also submitted duly to the PWD (Public works department) and PMC (Project management consultancy) department.

TABLE 1 Abstract of Schedule for one-day program

S.No.	Name of District	Panchayat samiti	Gram Panchayat	Scheduled period (from-to)
1	Barmer	17	489	1 April 2017 to 12 July 2017
2.	Jodhpur	16	466	15 July 2017 to 18 October 2017
3	Pali	10	321	23 October 2017 to 23 October 2017
4	Jalore	8	274	29 December 2017 to 16 Feb 2018
5	Sirohi	5	162	22 February 2018 to 27 March 2018
6	Jaisalmer	3	140	2 April 2018 to 27 April 2018

Mapping of every Zone

The mapping of every zone is kept in a way that one-day campaign starts in one district and moves to the other district after completion of all of its GPs (Gram Panchayats) and PSs (Panchayat Samitis). Usually after completion of one district, a 3-4 days rest period is kept for the teams. Figure 1 shows a specimen of the route finalization of Barmer District, Jodhpur Zone marking the route of Panchayat Samiti to be covered.

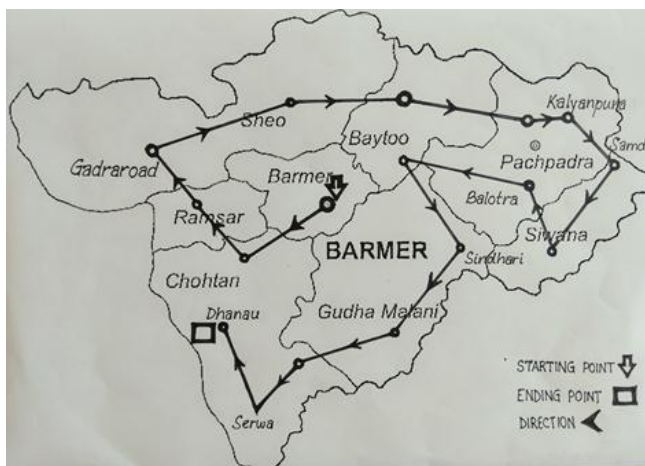


FIGURE 1 Specimen of route map of one district of Jodhpur zone

Timings and location of the event

The timings of the event at *Gram panchayat* and *Panchayat samiti* (HQs) are kept looking at the feasibility of the villagers. During the pilot phase of the campaign, it was found that maximum public gathering was possible during the evening. At morning, the villagers went to fields for work while womenfolk were busy with their household chores. It was only during the evening that they could take out time for outdoor activities. The event could not be managed in enclosed spaces, therefore, outdoor places like *village choupals* (raised platform under the banyan tree where community meetings are held), ground, temple or any other place where public gathers frequently is chosen. For school children program, the event is held during the school hours by coordination with the school authorities. Location for Truck/Bus driver training is also kept flexible and kept in agreement with the Truck/Bus driver unions preferably near the highways alongside eating and resting place for them (*dhabas* in local language).

IIb. Implementation

The implementation of the campaign is being carried out by coordination of the entire team on and off field with the PWD (Public works department), PMC (Project management consultancy) and other stakeholder departments. Each NGO has a team stationed at zonal headquarters coordinating with their teams who are on field. The successful implementation of the program depends upon the team structure, training of trainers (TOT), advance publicity and the main event.

Team Structure

The team structure comprises of a team leader, road safety expert, first aid trauma management expert, senior social scientist, educationist, event organiser and media expert. Some NGOs also keep a back up team in order to replace any one team or team member in case needed. The field programs are being carried out with deployment of all the teams in one district at a given time. The teams on completion of one district further move on to the other Districts. There are separate teams for one day awareness program, training to truck drivers and schools children. Figure 2 shows the team structure of respective NGOs.

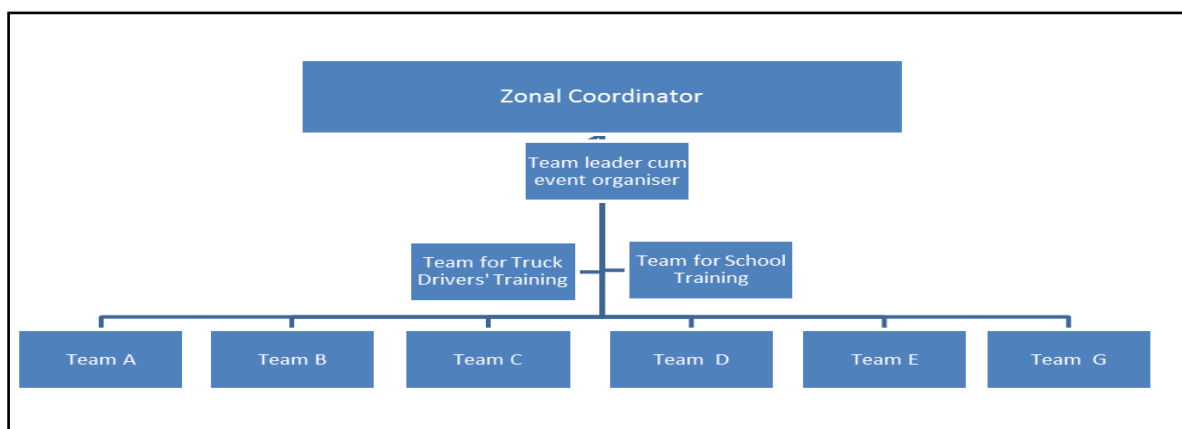


FIGURE 2 Team structure of respective NGOs

Training of Trainers (TOT)

After the MAP (Model awareness program) was finalized, separate sessions by each NGO was kept for training of trainers. In this training program, the team members were trained on the presentation they had to deliver. This program which lasted from 5-10 days acquainted the members with the audio/visual presentation, street play script (*nukkad naatak*), logistics, coordination with the stakeholder departments, reporting process and like. After the end of the TOT (training of trainers), every team was asked to conduct a pilot run of the program in their respective zones. Train the trainers programme was delivered

by zonal coordinator, team leaders of every NGO and by the trained PMC (Project management consultancy) officials.

Advance publicity

The success of the whole program in any GP (Gram panchayat) or PS (Panchayat samiti) head quarters (HQs) rests on how well the advance publicity the team does at their respective areas. The team meets the *Pradhan/ Sarpanch* (Head of PS/GP) one month to fifteen days in advance of the event at their place. Their support and involvement help attract audience in large numbers. Concerned PWD (Public works department) officials of that area and other stakeholder departments are also communicated by the teams well in advance. A day prior to the actual event and on the day of the event, announcements in the village are done through loudspeakers and on vehicles carrying banners of the event. To attract the audience, at times, team members move around the streets beating drums, or playing popular music and performing dance inviting the village folk to the event. The media expert of the team takes care of the publicity in print and electronic media as they happen. These are regularly updated and shared with the PWD, PMC departments. The news goes a long way in informing, educating and attracting the audience at their respective GP and PS head quarters.

Main event

The main event of Gram panchayat, School or Bus/Truck driver training program follows as per the structured format given in the MAP. The teams taking care of the logistics, coordination with the stakeholders, advance publicity and carry out the main event. Program at GP (Gram panchayat) and PS (Panchayat samiti) HQs (Headquarters) is preceded by a volunteer training program. The teams equipped with screen, laptops, speakers and other related equipments give audio/visual presentation, display road safety exhibition, perform street plays and play documentary and film on road safety. Table 2 represents the status of ongoing road safety education and awareness program at different zones as on 16th October 2017.

TABLE 2 Statuses of Road Safety Education and Awareness Program as on 16-October-2017

Sr. No	Zone	No. of Panchayat samitis	No. of Panchayat samitis Completed	No. of PS On going/ Partially completed	No. of PS and GPs in Zone	No. of PS and GPs Completed	No. of Schools to be trained As per draft MAP	No. of Schools Completed	No. of Bus/ Truck Trainings	No. of Bus/ Truck Trainings Completed	Number of Volunteers Trained in GP's
1	Ajmer	41	5	4	1390	246	100	16	60	6	2276
2	Bharatpur	27	1	8	991	182	100	11	60	2	2218
3	Bikaner	30	6	6	1158	329	100	41	60	20	3356
4	Jaipur	52	6	2	1951	199	100	1	75	7	2312
5	Jodhpur	59	20	8	1877	819	100	51	90	30	9110
6	Kota	25	2	10	821	286	100	11	60	2	4538
7	Udaipur	61	13	14	1862	678	100	31	90	22	7102
Zone Total		295	53	52	10050	2739	700	162	495	89	30912

Iic. Monitoring and management of the campaign

The monitoring and management of every event is being done by PWD (Public works department), PMC (Project management consultancy) officials on daily basis. For the convenience of everyone, Whatsapp groups (instant messaging service application) for each zone has been created where details of every event along with photos and videos are updated daily. The team leader of every team on field sends the details in a standardized format. The PWD and PMC officials also visit the teams on field to check their status and performance. Verification of the event is done by the PWD officials of that area and the *Sarpanch/Pradhan* of the village. Through social media (Facebook), performances of each NGO is also getting regularly updated and monitored.

III. SUSTAINABILITY

The campaign when initially tabled in front of the World Bank was said to be a 'very ambitious' project. It indeed is and the major challenge faced is the sustainability of this state-wide campaign. In order to address this, a volunteer training program is held at every GP (Gram panchayat) and PS (Panchayat samiti) HQs (Headquarters) as described earlier in the methodology. When *Pradhan* and *Sarpanch* of respective GP and PS are contacted, request is also made to suggest 15-20 names of villagers who are proactive and would like to get road safety training. List is shared and volunteers are trained on road safety and first aid and trauma care with hands-on training for CPR (Cardio pulmonary resuscitation). After successful training, these volunteers are also given a certificate. Details of each volunteer is recorded and kept intact by the NGO which is shared with other stakeholder departments especially the Transport department of the state who is in parallel also running sessions on road safety in each district. This ensures that the training imparted is carried forward in one or the other manner by similar initiatives of other departments as well.

IV. EVALUATION OF THE PROGRAM

The evaluation of the campaign is being gauged qualitatively and quantitatively though it is still under process. Quantitatively, the baseline and impact assessment survey is being done to assess the impact of road safety education and awareness programs. This survey is being conducted at ten different locations in each Zone where awareness programs have not yet been conducted and impact assessment surveys shall be conducted after every five months at the locations where awareness programs have been conducted. A four hour observational study at designated location in every zone has been identified and the following behavioral issues are being assessed. These issues are selected based on the perception survey carried out by the NGOs. These are very common issues where violations are observed:

- Not wearing helmet while riding a two-wheeler
- Overloading
- Vehicle coming in wrong direction
- Not wearing seat belt
- Not putting reflectors on vehicle
- Wrong overtaking
- Usage of mobile phone while riding/driving
- Use of zebra crossing

The report of baseline survey shall be submitted by all NGOs along with the report on completion of 25% awareness programs and the reports of impact assessment surveys shall be submitted on completion of 50% ; 75% and 100% awareness programs respectively. The baseline and impact assessment surveys shall help us in evaluating the resultant impact of the road safety education and awareness programs being conducted throughout Rajasthan.

Qualitatively evaluating the program, there have been some interesting discoveries. The womenfolk who are mostly seen in a *ghoonghat* (veil) are coming out of their homes and participating in the programs. This is being made possible through the women team members who approach and encourage them to attend. In one of the events it was a pleasure to watch woman in her 70s coming forward and learning the CPR (Cardio-pulmonary resuscitation) method. In a way the women are also feeling empowered. There are multiple benefits of participation of women of the village. As women in the household have more emotional impact on the members of the family, sensitizing them helps to reach out to all the family members automatically. Their convincing power not only influences the behaviour of existing drivers but they can mould future generations too effectively.

Other than participation of the women, this program has been majorly successful in removing the fear and hesitation among the masses at large on helping road crash victims. Earlier, many people were hesitant to come forward and help road crash victim due to the fear of being harassed by the police and medical staff. But with the recent "Good Samaritan Law" applicable all over India, the program has been successful in carrying forward this message to the masses that were earlier ignorant about it.

There were certain incidents where team members of NGOs witnessed a road crash and helped the victim to safety. Many volunteers join the team and help them in the preparation of the event; some of them even assist them in the next GP (Gram Panchayat) and PS (Panchayat Samiti) event. Children are so enthralled with this new knowledge and their active participation in the event is a treat to watch. Training children who are the future drivers of the country helps inculcate the necessary knowledge on traffic rules and regulations and imbibe the significance of road safety and why following rules is so important.

The documentary shown at every village of their respective districts leaves an everlasting impression on their minds. The documentary narrates the stories of families who lost their loved ones in a road crash. Road safety oath taken by every participant in the audience helps to reiterate the importance of road safety.

Objectively, the data collected through pre and post assessment questionnaires and baseline on-road observation study of the key issues is being done by each NGO. It is in the process, will be evaluated and concrete results shall show up.

V. CONCLUSION

This program is a part of Indian government's commitment to 50 percent reduction in road crashes by 2020 (9). This unique initiative aims to sensitize the masses on road safety issues and to break mindset of hesitation in helping road crash victims. Becoming a "Good Samaritan" and helping road crash victims is therefore an important message of this program. The volunteers are also being trained in trauma care and basic life support (BLS) so that they can provide help and care to road crash victims. These volunteers work as road safety crusaders spreading the message in their local community, contributing significantly towards sustainability of this program. Through this initiative, the government intends to carry on and spread road safety education with other similar campaigns through other stakeholder departments even after the successful completion of this program in December 2018. The road safety education and awareness program of this enormous magnitude has not so far been attempted in the country, and would be a model for other states in the country to follow.

VI. ACKNOWLEDGEMENT

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