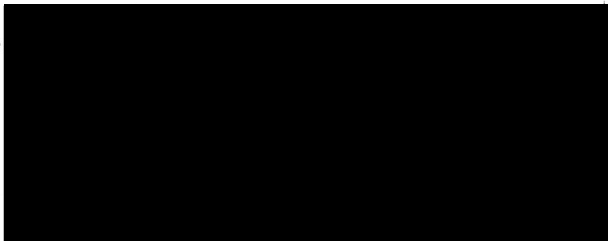


UN ROAD SAFETY FUND CALL FOR PROPOSALS 2020

APPLICATION FORM – STAGE I

Read the Application Guidelines carefully before filling in the Application Form. Do not modify the form's original format. Modified forms will not be accepted. Submission deadline is 31 Jan. 2021 (23:59 CET)

1. COVER PAGE

Project title	<i>Tuwurinde - Let's Protect the Head</i>
Participating UN Organization (s)	<i>UNECA [Lead Participating UN Organisation] & UNECE [Joint Participating UN Organisation]</i>
Implementing organization	<i>Ministry of Infrastructure (MININFRA)/Rwanda</i>
Other UN partners	-----
Other partner(s)	<i>University of Rwanda, Rwanda Utilities and Regulatory Agency (RURA), Rwanda Transport Development Agency (RTDA), Rwanda Standards Board (RSB), National Industrial Research and Development Agency (NIRDA), Rwanda Polytechnic (RP), Rwanda Biomedical Center/Ministry of Health (RBC/MoH), Healthy People Rwanda (HPR), Thomas Jefferson University (TJU), Dynamic Research Inc (DRI), Rwanda National Police (RNP).</i>
Beneficiary country(ies)	<i>Rwanda</i>
Country category	<input checked="" type="checkbox"/> Low-Income indicate % of total budget: _____ <input type="checkbox"/> Middle-Income indicate % of total budget: _____
Total budget including co-financing (in US\$)	<i>\$773,600</i>
Budget to be funded by UNRSF (in US\$)	<i>\$300,000</i>
Estimated start date	<i>January 3, 2022</i>
Estimated end date	<i>December 31, 2024</i>
Duration (in months)	<i>36</i>
Primary contact person Name, title, e-mail and telephone	<i>Alfred Byiringiro Transport Director General, Ministry of Infrastructure alfred.byiringiro@mininfra.gov.rw, +250 788 698 556</i>
Submitted by	ECA Name and title Signature: 

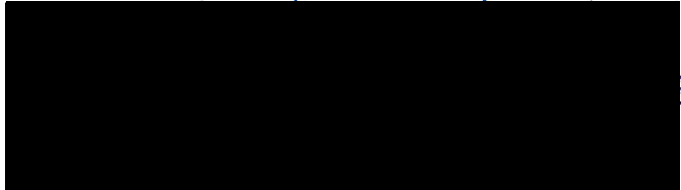
Date: 05 January 2021

ECE

Name and title:

Signature:

Date: 05 January 2021



2. PROJECT DESCRIPTION

2.1 BRIEF DESCRIPTION

In a sentence, state the objective (i.e., the overall intention) to be achieved through this proposed project.

Develop local powered two-wheeler (PTW) helmet impact testing/certification capacity to improve user head protection in crashes; the first step in legislating a Rwandan standard, using existing international regulation and ultimately local manufacturing that will generate revenue and eliminate supply constraints.

2.2 PROJECT SUMMARY

Provide a summary of the project by including the following: background and problem statement, proposed solution and approach in the targeted country(ies), its intended impact, linkages/synergies with ongoing initiatives, national strategies, SDGs, UN General Assembly resolution A/RES/74/299, possible scale-up/replication and finally, any noteworthy innovations (max 1500 words).

Background and Problem Statement: The World Health Organization (WHO) models report that Africa has the highest rate of road deaths at 26.6 deaths/100,000 population and **Rwanda has one of the highest rates at 29.7 road deaths/100,000 population.**¹ Powered two-wheeler (PTW) crashes cause 28% of global RTIs.¹ They make up over half of the registered vehicle fleet in Rwanda and they are involved in road deaths three times more often than any other vehicle.² 38% of road users in the capital city of Kigali are estimated to use PTWs, so it is not surprising that head injuries make up a large percentage of the road trauma statistics.³ These estimates are expected to increase and by the year 2030 the WHO predicts RTI will be the 5th leading cause of mortality in low income countries of which PTW crashes will make up a substantial portion.⁴ Head injury is the cause of up to 88% of PTW fatalities in LMICs.⁵ ⁶ Fortunately, we know that **properly used, certified motorcycle helmets reduce the risk of severe head injury by 69% and death by 42%.**⁷ (UN Regulation No. 22⁸ of the 1958 Agreement⁹)¹⁰

Figure 1



Motorcycle taxis in Kigali, Rwanda. October 2020

Rwanda is an exceptional low-income country where there is **nearly 100% PTW helmet compliance.** However, the helmets sold are not required to be certified to any standard of protection, and no quality control is enforced in their construction. Independent lab impact testing of various helmets purchased in Kigali found them to fail catastrophically, unable to mitigate forces that have been shown to induce serious head injuries.¹¹ **What if these non-standard helmets, despite universal use, are failing to prevent head injuries and road deaths in Rwanda?** Indeed, an analysis of road traffic crashes in Rwanda found that the injuries suffered in PTW crashes were much more likely to be severe or fatal compared to other vehicles.¹²

One reason that no helmet standard is required is that the Rwanda Standards Board (RSB) lacks the equipment and expertise needed to perform impact testing of helmets sold in the country. The very first steps of building institutional capacity and knowledge sufficient to support local manufacturing of helmets begin with installation of necessary equipment for testing in the RSB. **This proposal illustrates the potential benefits of achieving proof of concept of a 'Made in Rwanda' solution that will build academic capacity, generate a new revenue source, promote African independence from foreign imports while saving lives and preventing injuries.**

Proposed Solution and Intended Impacts: In Kinyarwanda, the native language of Rwanda, *tuwurinde* will be interpreted as 'let's protect the head' with the helmet referenced per the logo. **Tuwurinde can**

improve lives by developing a revenue stream through manufacturing and export of made-in-Rwanda helmets that will decrease road traffic injuries across the African continent. Our specific objectives that will yield the associated impacts:

1. Build the capacity of the institution in charge of standards through installation of helmet impact testing equipment in accordance with UN Regulation No. 22 requirements and establishment of a national helmet testing centre:
 - a. to ensure that only effective head protection is sold to users, saving lives and reducing head injuries over the long term.
 - b. to serve as the coordination point for academic investigations and testing of innovative materials that could lead to completely new 'made in Rwanda' helmets.
2. Implement behaviour change and sensitization campaigns for PTW users to encourage appropriate helmet use, the benefits of certification to international regulation UN Regulation No. 22 and the need to replace helmets after crashes:
 - a. to ensure that PTW helmets are used properly in order to offer the best chance of protecting the user in the event of a crash
3. Support legislation of a PTW and bicycle helmet safety standard and certification protocols:
 - a. to unite a previously disjointed consortium of ministries around a shared goal and demonstrate methodology by which to cooperate on road safety more effectively.
 - b. to establish the foundation needed to design and implement helmet regulation and enforcement policies.
 - c. to begin evaluation of local helmet manufacturing capacity and identify gaps in need of further development and resources.
 - d. to generate a new source of revenue through fees paid by retailers for certification of helmets that are not UN Regulation No. 22 approved but currently sold in Rwanda that can begin to sustain a road safety fund.



Linkages and Synergies: The Ministry of Infrastructure (MININFRA) is responsible for policy and legislation related to road safety and will be responsible for the highest level of leadership of this high-priority project seeking UNRSF support. The Rwanda Transport and Development Agency (RTDA) and the Rwanda Utilities and Regulatory Agency (RURA) are the implementing partners of the MININFRA while the Rwandan National Police (RNP) serve to enforce road safety laws once enacted. Healthy People Rwanda (HPR), a member of the global alliance of road safety NGOs, has worked on road safety in Rwanda for many years and has a wide breadth of associates with significant experience in road safety management, encouraging safer road users through behaviour change and improving the post-crash response. The RSB is linked to each of these institutions of Government through their responsibility for suggesting the appropriate standards in need of legislation, regulation and enforcement to ensure the safety and prosperity of the Rwandan people.

Motorcycle taxis are pervasive throughout Rwanda, well organized, led by their cooperatives and regulated by RURA. Strong enforcement of helmet laws by police, supported by cooperative leadership, has generated a progressive environment of shared commitment to improving safety and service delivery in the industry. Within this framework, helmet quality assurance has the potential to tremendously reduce PTW related deaths and injuries over the long term. More immediately, testing fees collected from helmet importers can become a new source of revenue. As this initial investment begins to grow a new helmet certification and manufacturing industry, we can use profits to sustainably fund road safety initiatives in Rwanda. Improved PTW helmet quality and the road safety agency coordination efforts directly address sustainable development goal (SDG) targets 3.6 and 11.2 and fall well in line with UN General Assembly resolution A/RES/74/299.

Scale-up, Replication & Innovations: The high-income world has successfully improved the safety of their roads, but we have no data to support the notion that African roads and road users will respond to identical interventions. Therefore, we aim to disrupt established paradigms, capitalizing on local

leadership and expertise. In the past 20 years road deaths have increased by almost 50% on the African continent, despite dedication of hundreds of millions of dollars aimed at decreasing death and disability here.¹³ **No low-income country successfully decreased road deaths between 2013-2016, supporting our rejection of traditional road safety improvement strategies in favour of high-risk/high-reward approaches that small, organized Rwanda is uniquely well-positioned to achieve.**¹ Indeed, Rwanda has demonstrated its ability to achieve where other countries have failed, a primary example being universal motorcycle helmet compliance. Once proof of concept has been achieved in Rwanda, our approach can be modified to apply in different African contexts and scaled up. In the meantime, Rwanda can export Tuvurinde helmets to the rest of the continent, with a pan-African spirit that aims to bring everyone up.

2.3 PROJECT DESIGN

List expected project results (i.e., expected outcomes, outputs and activities). These results must be measurable and logically connected. Highlight key implementation partners. Include estimated time schedule and budget.

Description	Partners	Indicators for success	Start and end dates	Budget
Outcome 1: Reduced PTW head injuries and associated deaths	RBC/MoH, HPR, RNP, TJU	change in interval rates of recorded PTW deaths and head injuries over 3 years	Sept 2021 - December 2024	\$773,600
Output 1.1: UNR22 certified PTW helmets are used in Rwanda	RURA, RNP, RSB, HPR	random checks of PTW helmets in use and for sale to verify >90% presence of the certification seal	Achieved by Sept 2022, M&E	\$X ¹⁴
Activity 1.1.1: PTW helmet standards legislation, regulatory and enforcement frameworks drafted and consultations initiated	RURA, RNP, RSB, HPR, DRI	1. Cabinet approval of the legislation to designate PTW helmet standards	Sept 2021 - December 2024	\$X
Activity 1.1.2: Proper PTW helmet focused sensitization and behavior change campaign		2. Change in results from direct observations of helmet use pre/post campaign activities	Dec 2021 - Nov 2023	\$X
Activity 1.1.3: UNR22.05 standard helmet testing equipment and installation ordered, hiring, training and verification of staff competencies at the RSB (output to be co-financed)		3. equipment installed and staff competency verified	Jan-Dec 2022	\$200,000
Output 1.2: Newly established road safety innovation and research hub launched to build foundation for the Tuvurinde helmet	RURA, RNP, RSB, HPR, DRI, UR, NIRDA	road safety hub functioning	Achieved by June 2022, M&E	\$X
Activity 1.2.1: RSB helmet testing equipment installed, staff hiring and training completed (co-finance)	RURA, RNP, RSB, HPR, DRI, UR, NIRDA	1. equipment installed and staff competency verified	Jan-Dec 2022	\$200,000
Activity 1.2.2: sensitization of academia and the public to the new resource & purpose		2. at least 20% of sensitized individuals and institutions engaged in first year of operation	Jan 2022 - Dec 2022	\$X

Activity 1.2.3: perform local manufacturing capacity evaluation and African market analysis for PTW helmets		3. Completion of Tuvurinde market analysis	Jan 2022 - Dec 2022	\$X
Output 1.3: Positive revenue generated through PTW helmet standard certification in line with adopted legislation	RURA, RNP, RSB, HPR, DRI, UR, NIRDA	the newly established road safety fund initiated	Achieved by Sept 2022, M&E	\$X
Activity 1.3.1: PTW helmet standards legislation, regulatory and enforcement frameworks adopted	RURA, RNP, RSB, HPR, DRI, UR, NIRDA	1. Verification of each functional component through direct observations.	Sept 2021 - Dec 2024	\$X
Activity 1.3.2: Sensitization of retailers and PTW helmet consumers		2. random checks of PTW helmets in use and for sale to verify interval increases in the presence of the certification seal.	Mar 2022 - Dec 2024	\$X
Output 1.4: Generally improved quality of PTW helmets used properly in Rwanda through improved regulation and enforcement	RURA, RNP, RSB, HPR, DRI, UR, NIRDA	Direct observations and video footage evaluation, % of helmets meeting definition of damaged and/or improperly used	Achieved by June 2024, M&E	\$X
Activity 1.4.1: PTW helmets put on the market, complying with standards legislation, regulatory and enforcement frameworks fully enforced	RURA, RNP, RSB, HPR, DRI, UR, NIRDA	Direct observation conducted	June 2022	
Activity 1.4.2: Sensitization of PTW helmet users and baseline observations collected		Baseline survey conducted	July 2022	
Activity 1.4.3: Repeated sensitization of PTW helmet users and interval observations collected		Sensitization campaigns conducted	July 2023	
Output 1.5: Increased capacity of relevant Rwandan institutions in road safety management to maximize impact of new helmet standards	MININFRA, RSB, HPR	<i>Review of annual reports from concerned institutions</i>		\$X
Activity 1.5.1: Identify local stakeholders to be trained in PTW helmet UN R.22 identification, use and benefits	MININFRA, RSB, HPR	Identification of stakeholders conducted	May 2022	\$X
Activity 1.5.2: Perform baseline evaluation of UN R.22 helmets knowledge, attitudes and practices for selected private companies and governmental institutions	MININFRA, RSB, HPR	Baseline evaluation conducted	June 2022	\$X
Activity 1.5.3: Deliver trainings for the selected private companies and government institutions	MININFRA, RSB, HPR	Capacity building plan elaborated and knowledge sharing conducted	November 2022	\$X

Activity 1.5.4: Evaluate post-training and longitudinal knowledge, attitudes and practices relative to UN R 22 PTW helmet's use impact on road safety	MININFRA, RSB, HPR	Post training evaluation conducted	July 2023	\$X
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2.4 APPROACH AND EFFECTIVENESS

Explain why you consider this approach (scope/timeframe etc.) to be the most effective way to reach the project's objectives and outcomes. Outline why the country(ies) need assistance. (max 1,000 words).

Our approach leverages existing, uniquely Rwandan opportunities to save lives rapidly by ensuring, through impact testing, that only high-quality PTW helmets are sold in Rwanda. Over the first few months HPR will tap experienced consultants and convene appropriate stakeholders to help inform the helmet legislation that the MININFRA will develop to guide the RTDA, RURA and the RSB in their implementation plans. The RSB will receive technical assistance in helmet standards consideration and testing of helmets sold in Rwanda for their impact performance. Integration of this process with local University engineering departments and the National Industrial Research and Development Authority (NIRDA) will build academic capacity to potentiate innovation and evaluation of local helmet manufacturing resources. Concurrently, HPR and the RNP will lead efforts to engage the public in helmet safety issues that have not previously been focused on. Once the RSB national helmet testing center is established, it will instantly provide a resource for the evaluation and certification/approval of helmets currently for sale in Rwanda. Integrating helmet testing with academia promotes local innovation and development that could move Rwanda towards innovative approaches to local manufacturing capacity according to globally established standards. As capacity develops, the sale of helmets in Rwanda will be limited to those able to be certified by the RSB to the selected standard. Revenue generated from certification testing will sustainably fund public safety programs. Because the equipment used to evaluate motorcycle helmets is the same as for other forms of head protection, the helmet testing centre could also expand its capabilities to include bicycle helmets, industrial helmets, police helmets and other forms of head protection. Once Rwanda can assure consistent availability of affordable, high-quality PTW and bicycle helmets additional safety improvements can be regulated and enforced such as required helmet fidelity checks and replacement after an impact, further increasing the potential for Tuwurinde to prevent injuries.

Rwanda is an excellent setting to test innovative solutions and develop sound evidence to guide future investments and road safety interventions. In the context of this potential, and the urgent need to intervene effectively to decrease road deaths in Africa, we request a full three years of support in order to implement our proposed solutions then monitor and evaluate their impacts and share our anticipated achievements through academic publications.

The actions of the government under the leadership of President Paul Kagame have grown the economy, decreased poverty, nearly doubled life-expectancy in 25 years and improved the quality of life for all Rwandans. His recent chairmanship of the African Union spearheaded many impactful policies and treaties to unite the continent in the spirit of Pan-Africanism, and rejection of the remnants of colonial occupations. We imagine that the effectiveness of the Kagame administration, an African solution to an African problem and the promise of long-term revenue generation and sustainability set the stage for success of this initial project that will save lives and prevent head injuries across the continent.

2.5 CONSISTENCY WITH GLOBAL FRAMEWORK PLAN OF ACTION FOR ROAD SAFETY

Shade the relevant cell(s) of the figure below in gray to indicate which aspects the project will focus on.

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Area Pillar	Legislation	Enforcement	Education	Technology	International Regulatory Support
	Road safety management				
Safe user	Traffic rules Drivers Cyclists Pedestrians	Lawful behavior ensured by police and inspectors	Awareness raising, training and examination	Supportive technology and equipment, rules reminders	UN RS legal instruments and resolutions, WP.1, SC.1, WP.15
Safe vehicle	Traffic law, Vehicle inspection standards	Certification and inspections by qualified inspectors	Awareness raising for users, training for inspectors	Supportive technology and equipment, compliance reminders	UN RS legal instruments and resolutions, WP.1, WP.29
Safe road	Standards for road design, construction, maintenance and signage	Audit, assessment and inspection by qualified teams	Awareness raising for road managers, users, and for inspectors	Forgiving and self-explaining road design, intelligent road systems	UN RS legal instruments and resolutions, int. standards WP.1, SC.1
Effective post- crash response	Standards for data collection post-crash response and investigation	Oversight of rescue services, investigators investigating crashes	First aid and rescue service training, investigators training	Supportive technology and equipment	Consolidated resolution, int. standards, WP.1, SC.1

2.6 BENEFICIARY GOVERNMENT(S) ENDORSEMENT

Please confirm, if the project was requested and/or discussed with beneficiary government(s). Attach the relevant request or endorsement by the beneficiary government(s) to your application. For successful projects, budget funds will only be transferred when a letter of support from the relevant national counterpart(s) is received by the secretariat by the end of the second stage of the application process.

The MININFRA is submitting this application. The project was widely discussed and agreed upon between Government institutions dealing with road safety and standardisation namely Ministry of Infrastructure, Rwanda Standards Board and Rwanda National Police. Appendix A is a letter of support from the RSB to verify their readiness to add helmet impact testing capacity at their agency. The annex C is the letter from MININFRA expressing the support for the project proposal.

X Received

Under discussion

Comments:

3. PRIORITIES OF THE 2020 CALL FOR PROPOSALS

3.1 EXPECTED IMPACT

Explain the likely impact of this project on road safety in the project country(ies) demonstrating the linkage of project results towards a reduction of road fatalities and serious injuries. Justify how the results of the project will be sustainable. (max 750 words).

Assuming a stable population of 12 million and road death rates modelled by the WHO at 29.7/100,000 population, we can anticipate **3,564 annual road deaths in Rwanda**. These numbers are modelled by the WHO based on 2016 data, and RNP reported road deaths are about 10% of this value in previous years. Assuming recorded injuries and deaths per specific source follow the same discrepancy, **each year we can expect 14,240 injuries and 1590 deaths due to PTWs.**⁵

Helmets are used 100% of the time, and when standardized and used properly they have been shown in other settings to decrease deaths by 42% and serious injuries by 69%.¹⁰ It's possible that the current nonstandard helmets do provide some protection, we will estimate they effectively prevent death and serious injury 50% of the time based on our independent testing of a convenience sample of helmets available for purchase in Kigali. Assuming that a full year is required to build necessary capacity and policies needed to remove all non-standard PTW helmets from the Rwandan market, we may see **an additional 668 lives saved and 9,825 severe head injuries prevented after 2 years of enforcing a standard of PTW helmets sold in Rwanda and encouraging proper use.**

We imagine this initial effort to establish PTW helmet testing capacity will, in time, result in the ability to innovate and manufacture the Tuvurinde helmet locally for export. A UN Regulation No. 22 type-approved helmet would be able to be placed on the market of some other 50 countries around the globe without need for further testing/certification. If successful, **Tuvurinde will be an affordable, high-quality, made-in-Rwanda product that can be imported by other African countries at lower costs than more conventional helmets imported from other parts of the world.** This will support a Rwandan road safety fund to ensure sustainability of numerous road safety initiatives and as Tuvurinde is exported to other African countries with large numbers of PTWs on the roads this initial investment will prevent more head injuries and save more lives.

3.2 LINK WITH MANDATE OF PARTICIPATING UN ORGANIZATION(S)

Explain how this project fits within the programme of work of your respective UN organization(s). Please also outline your organization's experience in relation to the issues targeted in this proposal and in this country(ies) (max 750 words).

UNECA, as a regional arm of the United Nations operating at regional and sub-regional levels, has the mandate of promoting the economic and social development of its Member States, fostering intra-regional integration, and promoting international cooperation for Africa's development. ECA derives its mandate from Economic and Social Council resolution 671 A (XXV) by which it was established. Further, ECA's operational activities are in line with priorities and vision articulated in the United Nations Sustainable Development Goals (SDGs), African Union's Agenda 2063, the New Partnership for Africa's Development Programme ("NEPAD") and the internationally agreed developmental goals;

The Private Sector Development and Finance subprogramme of ECA will lead the Implementation of this project. The subprogramme seeks to achieve sustained economic growth and transformation in Africa in the framework of the 2030 Agenda and Agenda 2063 through leveraging the private sector's role and resources. The subprogramme aims to increase the share of private sector finance in the African economy, first, by improving the enabling environment for business, harmonizing regulation and advocating in favour of Africa's private sector at the national, regional, and global levels; second, by working with Governments to ensure that the basic infrastructure to boost the competitiveness of the private sector and the necessary energy, infrastructure and services are in place and are efficient, affordable and sufficiently well-structured to attract the private sector.

Safety is a major component of the work of the subprogramme. This project is therefore relevant because its ultimate goal is local manufacturing of two-wheeler helmets that will generate revenue and eliminate supply constraints. In essence, the project has safety and economic benefits as it will not only improve user head protection in crashes but also generate revenue for local manufacturers.

ECA approach to Road Safety is based on SDG 11 (SDG target 11.2), the African Road Safety Charter, Africa's post-2020 Road Safety Strategy and UN Resolution A/74/L.86 that requests WHO and UN regional

commissions, as well as other relevant UN agencies, to continue the activities aimed at supporting the implementation of the road safety-related targets in the 2030 Agenda, while ensuring system-wide coherence.

UNECE

The Inland Transport Committee (ITC) of UNECE adopted at its 82nd session (Geneva, 25-28 February 2020), effective 1 April 2020, the ITC Recommendations on Enhancing National Road Safety Systems (ECE/TRANS/2020/9), on how to strengthen regulatory support in road safety and enhance national systems. The World Forum for Harmonization of Vehicle Regulations (WP.29) is a subsidiary body of the ITC of the UNECE. The objective of the WP.29 is to initiate and pursue actions aimed at the worldwide harmonization or development of technical regulations for vehicles, aimed at improving vehicle safety and protecting the environment. WP. 29 administers three UN agreements – 1958, 1997 and 1998 and provides the legal framework to allow Contracting Parties/member countries to establish regulatory instruments concerning motor vehicles and equipment. The regulatory framework developed by WP.29 allows the market introduction of innovative vehicle technologies, while continuously improving global vehicle safety. As the custodian of the UN vehicle safety regulations, UNECE is well placed to advise and provide expertise to countries on the benefits of vehicle safety regulations, as well as provide any technical assistance required to help countries effectively implement any vehicle regulations.

UNECE has extensive experience in assisting countries in Africa to implement vehicle safety regulation, among others, through ongoing projects of the UNRSF."

3.3 SYNERGIES

Explain how this project maximizes synergies (i) with other past or ongoing road safety projects in the country or beyond; (ii) with national priorities and strategies; (iii) other development challenges and issues (max 1500 words).

Tuwurinde is expected to benefit Rwanda and the rest of the continent as a novel, evidence-based, sustainable solution to the problem of high mortality and substantial disability among African PTW users. Additionally, it will enhance knowledge and capacity to manufacture standardized helmets that will not only create badly needed jobs but generate revenue to sustain a road safety fund to continue increasing the number of road safety initiatives possible in Rwanda. Besides exportation of a made in Rwanda helmet, the skills associated with helmet certification and design innovations that will be generated by this project can be transferred to other African countries and support development of their own PTW helmet standard certification industries.

This project brings together public institutions and non-profit organizations which have been taking the lead in road safety behaviour change programs and are responsible for legislating, regulating and enforcing policies to assure the safety of Rwanda's roads. MININFRA has been working tirelessly to develop, rehabilitate and maintain an efficient and integrated national transport infrastructure network, including roads since 1962. Within its cross-cutting mission that includes all aspects of road safety, the ministry is experienced with policy development in all relevant spheres, including helmet use and standards. The RSB has been developing and verifying national standards for over seven years and will link with Dr. Smith of DRI, a world-renowned expert in helmets and who engaged in a nearly identical project 20 years ago in Vietnam. The RNP has been enforcing road safety laws for decades and is experienced with leading behavioural change programs.

In 2019, Healthy People Rwanda (HPR) partnered with several governmental agencies, including the RNP, to develop a year-long, nationwide road safety campaign "Gerayo Amahoro" which translates as "Arrive Safely" in the local language of Kinyarwanda. This campaign has become a movement that has engaged leaders across levels, religious leaders and celebrities. While the goal of this campaign was to ensure that all road users are sensitized to basic road safety issues and incite behavior change, it has driven policy change and revived the road safety agenda as a whole. The campaign was slightly abbreviated thanks to

the Covid-19 pandemic but we are planning for an in-depth evaluation of the knowledge, attitudes and practices of the targeted road users to determine the impacts of Gerayo Amahoro. This planning process has facilitated many substantial discussions with the RNP leadership that have led to shared understanding of the limitations in existing data sources to quantify and describe the causes of road traffic injuries and deaths. These are the same limitations that require the WHO to model road death statistics from Rwanda and have been sources of contention in the past. In light of these conditions, RNP interest in academic approaches to road safety in Rwanda has deepened, specifically seeking evidence-based methods to improve safety that apply to the local context. This Rwandan NGO and Dr. Krebs will work with MININFRA to facilitate the proposed project from the development process through monitoring and evaluation of the project outputs. Their local integration and connections will help to assure this process results in real change. Additionally, HPR sits outside of the different institutions of the Government otherwise responsible for various aspects of this project, and thus can serve as a supporting body to provide assistance as part of this project.

Tourism is a huge part of the economy in Rwanda, and the government directs substantial investments to modernizing, making comfortable and assuring the security of the country in promotion of tourism. A poor road safety record can adversely impact tourism and thus the economy through decreased revenue. The government has also demonstrated that they are committed to equitable development in Rwanda with initiatives aimed at ending extreme poverty and offering universal healthcare while generating a business-friendly climate. Roads are used by all members of a society, and specifically **improving the safety of vulnerable road users is a highly equitable intervention**. Second only to Mauritius among African countries, Rwanda has simplified and maximized efficiency of registration, and is routinely cited as one of the least corrupt countries and an excellent place to do business.^{15 16} The African Continental Free Trade Agreement (AfCTFA) eliminates many trade barriers on the continent and within this proposal will be leveraged to control costs, improve profits, and ultimately save lives by making high-quality, affordable helmets more accessible around Africa.¹⁷ Outputs of Tuwurinde include a new **revenue source, job creation**, ending supply constraints/import dependency, **helmet price reduction** and excellent **continental export potential via AfCFTA** in line with governmental policy of promoting 'Made in Rwanda' products.

Rwanda has a proven success record in maintaining the impact of interventions like motorcycle helmet use laws through effective enforcement of the law. One of the things Rwanda has previously done well, and that likely contributes to high compliance with laws like the PTW helmet requirement, is to institute new laws with a thoughtful and incremental approach. Poverty eradication takes time, and thus requiring regular helmet replacement post-impacts when the costs of new helmets remain prohibitively high due to shipping and importation taxes would be certain to fail. In sum, the Government of Rwanda, motivated to improve the safety of their roads in line with several different priorities, is well poised to make sure that investment in developing PTW helmet certification capacity is fruitful.

3.4 COVID-19

Does your project connect with the changing priorities of governments as a result of the COVID-19 pandemic with respect to building back better and safer mobility? (max 700 words).

As a land-locked country Rwanda is accustomed to high import costs and supply-chain disruptions, but the Covid-19 global pandemic has worsened these conditions and highlighted the benefits of local manufacturing of critical items. Similarly, we know that the SARS-COV-2 virus most readily spreads through the air among groups of people in confined spaces, and so forms of transport like PTWs and bicycles have the potential to markedly decrease the spread of Covid-19 and similar pathogens. This project addresses both of these Covid-19 relevant conditions increasing accessibility to safe transport options outside of higher risk vehicles while decreasing supply constraints associated with shipping limitations. **Tuwurinde has the potential to improve the resiliency of the entire African continent.**

4. BUDGET AND PROJECT MANAGEMENT

4.1 indicative budget: See Annex I of Application Guidelines for description of UNDG budget categories. If this is a joint project with two or more participating UN organizations that will jointly implement activities, then Table 1: Budget Summary (multiple agency) from the Budget Form (Stage II) should instead be used.

	UNECA	UNECE	Totals
1. Staff and other personnel	11,350	64,000	75,350
2. Supplies, Commodities, Materials	0	0	0
3. Equipment, Vehicles, and Furniture (including Depreciation)	0	0	0
4. Contractual services	0	0	0
5. Travel	8,000	12,500	20,500
6. Transfers and Grants to Counterparts	178,520	0	178,520
7. General Operating and other Costs	0	6,000	6,000
Total project direct costs	197,870.00	82,500.00	280,370
7% Indirect Costs	13,850.90	5,775.00	19,626
Grand total	211,720.90	88,275.00	299,996

4.2 VALUE FOR MONEY

Why are the costs of reaching each output and outcome of your project justifiable? Is the project maximising the impact of each dollar spent? Will the project be leveraging any co-financing? (max 750 words).

Our expected outcome of this project is a reduction in PTW crash related head injuries and deaths that can be attributed to the various outputs of Tuvurinde. This outcome is achieved through the elaborated essential activities that will lead to exclusive use of high-quality PTW helmets, a hub in support of more innovative road safety initiatives and revenue generation that will ensure the sustainability of this project and fund future road safety projects. Because each activity and output is intimately linked to the desired outcome, and most of the support requested fund personnel over many months, it is challenging to designate a specific dollar amount to unique activities. The only unique aspect that can be valued are noted with bold values and sum to the \$168,000 required to purchase equipment, train and employ staff in order to perform helmet impact testing at the RSB. Adding only this minimum capacity is surely beneficial, but we strongly believe that the additional funds requested are essential in order to maximize the benefits of testing capacity, and empirically evaluate the success of this approach. Additionally, considering the data-supported estimate of 668 lives Tuvurinde could save in the requested three years of project, for the total of \$390,200, we think **the cost of \$584 per life seems like quite a bargain**. Consider also that these estimates apply only to Rwanda, but our goal is that the impact of this initial \$390,200 investment of the UNRSF will grow exponentially, saving lives all over the African continent.

Besides generating outputs with high value per dollar, **nearly half of the budget is supported through co-financing**. We negotiated a discount in the quote given the helmet testing equipment is being used by the government of Rwanda. HPR currently has funds to pay for a portion of an office space and will contribute this as co-financing. Dr. Krebs has negotiated with TJU so that she can be fully remote for the 2021-22 academic year while completing a Fulbright scholarship supporting development of emergency

medicine in Rwanda. Her full-time presence in the country obviates the need to provide salary support to other staff and consultants, thus the balance of her salary support in the first year of this project is co-financed by TJU. Finally, the Rwanda Biomedical Center (RBC) of the Ministry of Health (MoH) funds and operates an injury registry that will supply us with essential PTW crash outcome data in order to definitively show if our hypotheses related to decreased death and head injuries are correct.

4.3 IMPLEMENTATION ARRANGEMENTS

Explain roles and responsibilities of the parties involved in governing and managing the project, for example, the number of full-time and part-time staff. Identify the national agency/competent authority(ies) that will be engaged as well as civil society actors that will be partnered with. Outline any governance mechanisms that will be utilized or established. (max 750 words).

The MININFRA is the national institution of the Government of Rwanda formally submitting this proposal and takes responsibility for progress towards the outputs that will be achieved through collaboration with the local NGO HPR, TJU, RSB, NIRDA, UR, RP, the RBC/MoH and the RNP. The RTDA and RURA are the implementing partners of the MININFRA while the RNP serve to enforce road safety laws once enacted. The RSB is responsible for appropriate standards necessary to ensure the safety and prosperity of the Rwandan people and will establish a helmet testing laboratory.

Implementation, M&E and general project coordination - Further described in the synergies section, HPR has an MOU with the police to assist with road safety improvement. HPR incorporates a broad network of local road safety professionals that lead a variety of departments of medicine and engineering within the UR. Therefore, HPR will serve as an implementation partner of the MININFRA, responsible for primary project coordination and local aspects of M&E. Full time staff including project coordination support, a research specialist and an administrative assistant will be hired by HPR to increase their organizational capacity and the addition of M&E support from UNECA will serve to assure a sustainable resource exists in Rwanda to continue this work long after the UNRSF are exhausted. Dr. Elizabeth Krebs is an assistant professor of emergency physician at TJU with a long history in Rwanda, partially funded to be physically based in Rwanda in support of global health initiatives. She is well integrated with a good understanding of existing systems and institutions through years of volunteering in collaboration with HPR colleagues. A large focus of her work with HPR is to support her fellow volunteers, mostly young Rwandan professionals, in developing their own capacity for high quality research and project management, investing in for the success of future road safety initiatives. She played an integral role in this project design and will function within HPR to directly support the newly hired staff in design and implementation of M&E, the market analysis and all other tasks.

Helmet impact testing capacity and standard development - The first activities in this project include stakeholder engagement and drafting of legislation necessary to guide PTW helmet certification processes. HPR and the RNP will collaborate on the helmet safety sensitization campaign, building upon their shared experience with last year's Gerayo Amahoro road safety campaign. Once funds are availed the quote obtained for equipment will be acted upon. A full-time technician will be hired by the RSB in order to operate the testing lab as we anticipate high demand for services in the first years. HPR will be responsible for M&E of all aspects of this project while RURA becomes equipped to appropriately regulate all aspects longitudinally.

Colleagues from the RBC/MoH have implemented an injury registry at four hospitals in Rwanda that commonly treat most serious head injuries due to their imaging and neurosurgical capacity. The data collection form is attached as Appendix B and you can see that we can easily identify injuries related to PTW crashes. This resource will be capitalized on to monitor PTW crash outcomes on an interval basis. Combined with the direct observation data on helmet certification rates and proper use that will be collected by HPR, **we intend to show that the outputs of Tuwurinde are associated with a significant reduction in road deaths and head injuries in Rwanda.**

5. PROJECT SUBMISSION

ARE ALL THE FOLLOWING ELEMENTS INCLUDED AND COMPLETED IN YOUR APPLICATION?	
Section 1. Proposal Cover Page	<input checked="" type="checkbox"/> Yes
Section 2. Project Description	<input checked="" type="checkbox"/> Yes
Section 3. Priorities of the 2020 Call for Proposals	<input checked="" type="checkbox"/> Yes
Section 4. Budget and Project Management	<input checked="" type="checkbox"/> Yes
Letters of support from national counterparts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Any other annexes (depending on application)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A

References

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- ¹ World Health Organization. Global status report on road safety 2018: Summary. No. WHO/NMH/NVI/18.20. World Health Organization, 2018. (accessed October, 1 2019)
- ² National Institute of Statistics of Rwanda (NISR), Rwanda Statistical Year-Book 2018 & 2019, <https://www.statistics.gov.rw/publication/statistical-yearbook-2018> (Accessed on December 30, 2020)
- ³ Enumah, S., Scott, J. W., Maine, R., Uwitonze, E., Nyinawankusi, J. D. A., Riviello, R., ... & Jayaraman, S. (2016). Rwanda's model prehospital emergency care service: a two-year review of patient demographics and injury patterns in Kigali. *Prehospital and disaster medicine*, 31(6), 614-620.
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- ⁷ Liu, Bette C., et al. "Helmets for preventing injury in motorcycle riders." The CochraneLibrary (2008).
- ⁸ United Nations Regulation No. 22: Uniform Provisions Concerning the Approval of Protective Helmets and their Visors for Drivers and Passengers of Motor Cycles and Mopeds
- ⁹ United Nations. 1958 Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations
- ¹⁰ UNECE, The United Nations Motorcycle Helmet Study (2016)
- ¹¹ Yoganandan, Narayan, et al. "Biomechanics of skull fracture." *Journal of neurotrauma* 12.4 (1995): 659-668.
- ¹² Patel, A., Krebs, E., Andrade, L., Rulisa, S., Vissoci, J. R. N., & Staton, C. A. (2016). The epidemiology of road traffic injury hotspots in Kigali, Rwanda from police data. *BMC public health*, 16(1), 697.
- ¹³ "WHO reveals leading causes of death and disability worldwide: 2000-2019." December 9, 2020. <https://www.who.int/news/item/09-12-2020-who-reveals-leading-causes-of-death-and-disability-worldwide-2000-2019> (accessed on December 13, 2020)
- ¹⁴ Because each activity and output is intimately linked to the desired outcome, and most of the support requested fund personnel over many months, it is challenging to designate a specific dollar amount to unique activities. The highlighted amounts indicate the minimum funding to install appropriate equipment.
- ¹⁵ <https://moderndiplomacy.eu/2020/09/23/celebrating-the-least-corrupt-country-rwanda/> Celebrating the least corrupt country; Rwanda. (accessed on Dec 10, 2020)
- ¹⁶ <https://www.ktpress.rw/2019/10/doing-business-2020-rwanda-maintains-2nd-position-in-africa/> Doing Business 2020: Rwanda maintains 2nd position in Africa (accessed on Dec 10, 2020)
- ¹⁷ https://au.int/sites/default/files/documents/36085-doc-ga_cfta_en_rev15march.pdf African Continental Free Trade Area Questions and Answers (accessed on Dec 10, 2020)