

WP2: Road safety management & data

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(INCLUDING A LOT OF COWORKERS IN WORK PACKAGE 2, E.G. ENOCH, JAQUELINE, DANIEL, ALIAKSEI, JENNY).



The study is part of the AfroSAFE project, Work package 2

The primary objective of the AfroSAFE project is to make a significant progress in propagation of the Safe System in African countries.

By exposing local practitioners and decision makers to state-of-the-art knowledge and practices within road safety management based on Safe System principles.

As well as supporting them by sharing necessary knowledge, tools and methods for road safety improvement—adjusted to the African conditions and in tight cooperation with the local actors.

WP2: Comparative analysis of road safety management

WP2 Involves: Case comparison of African countries (Tanzania, Ghana, Zambia) with EU countries with record of excellence in traffic safety and practicing Safe Systems principles (Norway and Netherlands, Sweden).

Focus: What can the African countries learn from the Safe System implementation in the European countries? Which principles are realistic and feasible to implement?

What is Safe System?

Safe System is based on four fundamental principles (based on experiences from top performers and occupational research, e.g. Haddon matrix):

- 1) It is human to make mistakes; the traffic system must be designed to tolerate (unintended) errors made by the road users
- 2) The traffic system must be designed so that the external forces in accidents do not exceed the human bodies' tolerance for biomechanical impacts
- 3) The responsibility for traffic safety must be shared by those who design, build, manage, and use roads and vehicles, as well as the providers of the post-crash care and emergency response
- 4) All system components must be strengthened to multiply the protection effect; if one component fails, road users should still be protected.

The Safe System approach is generally summed up in six pillars, describing how road safety work should be organized:

- i) Road safety management:** Multi-sectoral partnerships and lead agencies to develop and lead national RS strategies, plans and targets; research-based monitoring of implementation and effectiveness.
- ii) Safe infrastructure:** Inherently safe and protective road networks, especially for the most vulnerable (e.g. pedestrians, bicyclists and motorcyclists) road users.
- iii) Safe vehicles:** Standards, consumer information and incentives to accelerate the uptake of active and passive vehicle safety technologies.
- iv) Safe speed:** Speeds within the boundaries of biomechanical tolerance.
- v) Safe road users:** Enforcement and supplementary measures (e.g. public awareness/education) targeting high-risk behaviors.
- vi) Post-crash response:** Appropriate emergency response, treatment and rehabilitation for crash victims.

Aims:

- 1) Develop overviews of the road safety situation (accidents types and trends) and road safety challenges in each case country.
- 2) Describe for each case country, the existing (formal and informal) system for road safety management
- 3) Compare European vs. African countries, focusing on alignment with Safe System principles.
- 4) Provide recommendations for revision of existing national road safety programs, in line with Safe Systems principles.

Methods:

- 1) Accident data: Develop overviews of the road safety situation (accidents types and trends) and road safety challenges in each case country.
- 2) Collect data on national systems for managing traffic safety - document analyses & focus group interviews with experts in each country.
- 3) Compare analyses of the relationship between national road safety challenges and systems for dealing with them.
- 4) Compare alignment with Safe System principles

Methods:

- 5) National overviews and analyses will be validated and developed at workshops in each country, with key stakeholder representatives.
- 6) Final analysis: researchers examine:
 - a) alignment with Safe Systems principles,
 - b) constraints and opportunities for applying Safe Systems in national RS management systems in each country.

What is the road safety management system (RSMS)?

A complex institutional structure that involves cooperating and interacting bodies which support the tasks and processes necessary for the prevention and reduction of road traffic injuries (Muhlrad et al 2011).

The main actor: public roads administration, which is the lead agency and cooperates with other administrative bodies at different levels, and different types of RS stakeholders.

The RSMS output is the implementation of specific RS strategies, such as Safe System.

Constraining and enabling factors of RSMS implementation:

The extent of implementation of RS policies can be analyzed in light of constraining or enabling factors:

- 1) A political will at the higher level
- 2) A climate/ vision shared by the road safety actors and the road users
- 3) Resources (scientific, funding, professional)
- 4) Technological possibilities.

Factors influencing implementation of RSMS strategies in LMIC?

Literature review: three important barriers to Safe System implementation in LMIC:

- 1) Reliable crash data is often missing. Without this, targeted measures are very difficult to implement.
- 2) Traffic-institutional influence is too low. Without proper influence, overseeing the traffic safety work, influencing policies, and guiding research cannot be done.
- 3) Insufficient supporting infrastructure regarding the health care system, GDP, and corruption complicates implementing the safe system approach.

In general, all of these factors are considerably worse off in low-income countries.

How can we assess alignment with Safe System Pillar 1:
Road safety management? We use a list based on Varhely (2016).

- 1) Define the burden and nature of road casualties
- 2) Gain commitment and support from decision makers
- 3) Establish road safety policy
- 4) Define institutional roles and responsibilities
- 5) Identify road safety problems
- 6) Set road safety targets

Assessing alignment with Pillar 1:

- 7) Formulate strategy and action plan
- 8) Allocate responsibility for measures
- 9) Ensure funding
- 10) Implement measures with known effects
- 11) Monitor performance
- 12) Stimulate research and capacity building

The road safety situation in the participating countries:

| | NO | SE | NL | GH | TZ | ZA | EUR | AFR |
|---|---------------------|---------------------|------------------|-----------|-----------|-------------|------------------------|-------------|
| Road fatalities | 80 | 210 | 582 | 2890 | 18054 | 2163 | 291 | 7702 |
| Million population | 5,5 | 10,4 | 17,5 | 32,8 | 63,6 | 19,5 | 11,1 | 38,6 |
| Killed mill. capita | 15 | 20 | 33 | 88 | 284 | 111 | 26 | 200 |
| Killed road users | Car driver 64% | Car driver 60% | Cyclists 36% | MC 32% | MC 33% | Ped. 49% | Car driver, cyclist | MC, ped. |
| Monetary valuation of statistical life | 32.2 mill NOK | 40.5 mill SEK | 6.5 mill Euro | no | no | no | Yes | no |

Main results: Alignment with Pillar 1 Road safety management

The European countries' road safety management systems are mainly in line with the Safe Systems principles.

Not surprisingly, as Pillar 1 largely is based on what these countries do (+e.g. Haddon Matrix).

Thus, in the European countries there is a relatively good alignment between formal aspects of RSM (plans, strategies) and informal aspects (the actual implementation).

Main results: Alignment with Pillar 1 Road safety management

While in the African countries, there is a discrepancy between formal aspects of RSM (plans, strategies) and informal aspects (the actual implementation).

Ghana has a good plan, strategy, targets and indicators, but targets are not met. The strategy is not being fully implemented.

Why is there a discrepancy between plans and implementation?

In Ghana:

- 1) The activities in the road safety action plan are not implemented sufficiently
- 2) The action plans have no unique/dedicated budget for the activities. Instead, actions listed in the plans are to be funded with the operational funds of the agencies.
- 3) Road safety activities are not adequately funded.
- 4) This also includes road safety research.

Why is there a discrepancy between plans and implementation?

In Zambia,

- 1) The institutional capacity of road safety agencies and stakeholders is too weak.
- 2) Emergency response and medical care for accident victims is insufficient.
- 3) Funding of road safety activities, either directly or indirectly, by all the road safety stakeholder organisations, is far from adequate.
- 4) Road safety research is underfunded and not used systematically.

Why is there a discrepancy between plans and implementation?

- 1) In Tanzania, there is lack of a systems-based approach to road safety, which has been the key barrier to road safety improvements.
- 2) The policies and targets are old, not systematic and must be updated.
- 3) Weak institutional setup and management is another major limitation.
- 4) All in all, there is a lack of one responsible body to ensure all safety measures are monitored.
- 5) Too often the efforts to improve road safety have tended to be adhoc and on a trial-and-error approach.
- 6) Road safety research is underfunded and not used systematically.

Summing up:

- Thus, we see that the factors found in previous research also are important for us, e.g.
 - Lacking funding for road safety (poor economies)
 - Lacking institutional robustness
 - Insufficient data on accidents
- How important are more underlying, basic factors, e.g.
 - Political will to support and fund road safety?
 - Will in the population to pay taxes to support road safety?
 - Institutional robustness?
 - Lacking enforcement and corruption?

Summing up:

- What can we achieve with our project?
- How can we use «the tools in our toolbox» to help reducing the discrepancy between plan and implementation?
- What is the way forward now? Reference group meetings in the countries to discuss the results and

Main outputs WP2:

WP2 will identify constraints and opportunities for improved road safety management in African countries.

WP2 will make a participative review and provide recommendations for revision of existing national road safety programs, in line with Safe Systems principles.

Report: 2.1 State of road safety management in selected African countries—review and recommendations.

WP2 will review sources, ways of collecting and types of data relevant for traffic safety work and propose a comprehensive system for road safety data collection and management at national level.

Report: 2.2 Road safety data and national road safety strategies—review and recommendations.

Thank you for your attention!



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