

AmphibiCare: Providing Medical Supplies and Urgent Care to South Sudan

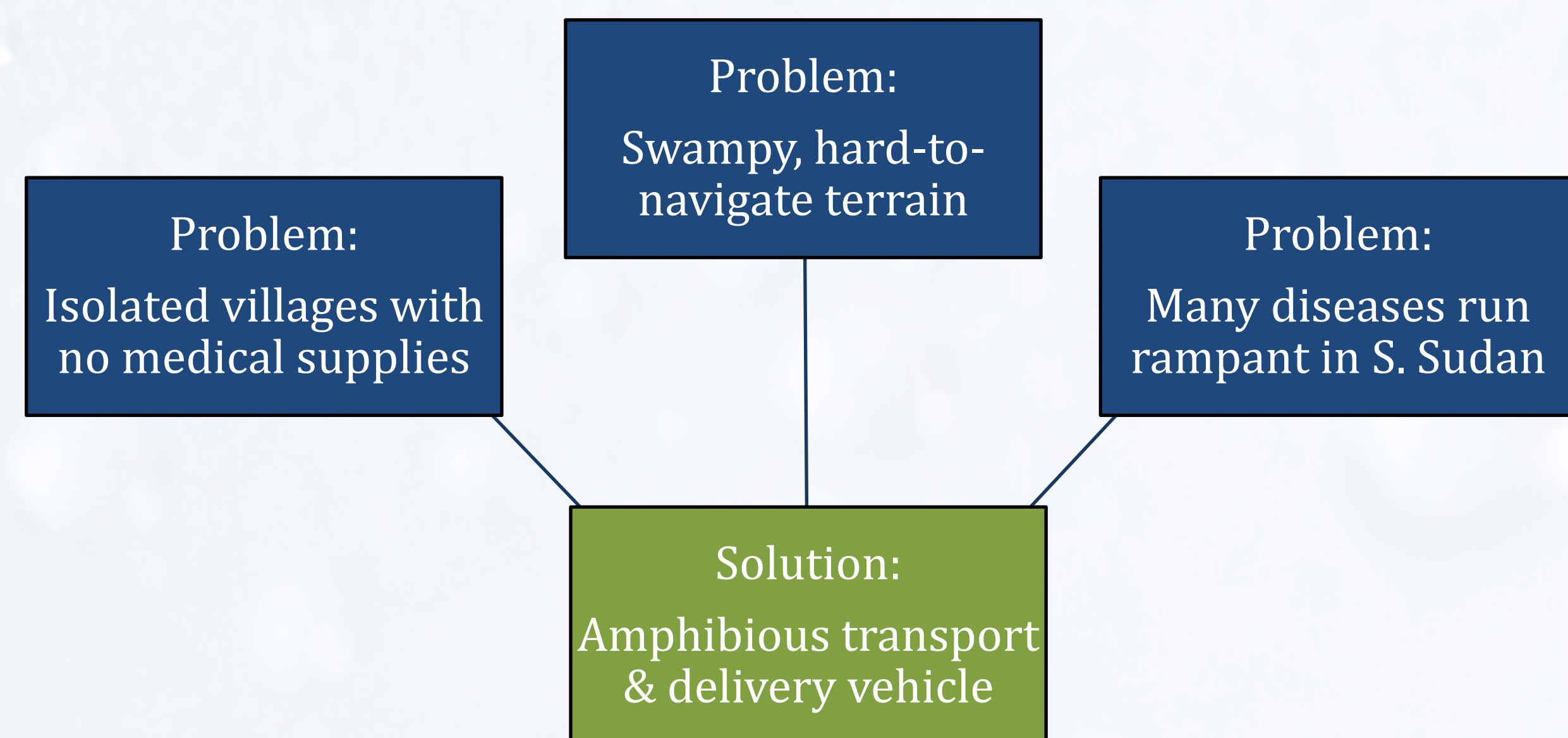
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Abstract

South Sudan with its swampy, desolate terrain, has only 50 km of paved roads making it hard to travel and distribute medical supplies to remote areas, which are susceptible to numerous diseases. We have designed a prototype, all-terrain vehicle, that can overcome these harsh terrains^[4]. Our prototype was able to traverse simulated terrain similar to that found in South Sudan^[2].

Project Goals/Objectives

- Modify an existing vehicle to navigate terrain of South Sudan
- Use vehicle as method of distribution of medical supplies, as well as an ambulance for urgent cases



Methods/Process

Design a prototype all-terrain vehicle for use in South Sudan:

- Mostly swampy terrain around the White Nile, thus prototype is based off the amphibious AquajEEP
- Can carry passengers, medicine, and supplies for vector control
- Easily maintainable by locals (self-sustaining)



Prototype scale model



Prototype scale model – waterproofing of underbelly shown here

Conclusions

- A full sized version of our prototype is recommended for the area around Juba
- A donor vehicle to modify would be most cost-effective
- Implement IVM and deliver required supplies to isolated villages with the prototype

Acknowledgments

Special thanks to Jill Rulfs and Helen Vassallo.

Results/Outcomes

- Prototype able to effectively move over land and water similar to that of South Sudan
- Using IVM, drops of up to 90% in malarial transmission rates have been recorded^[1]
- Huts with ITN killed up to 98% of mosquitos in some situations^[3]

References

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