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Gama Sibanda

Scientist & Engineer

"Anything to do with nature, treat it as a library or a fountain of knowledge that will one day, if it doesn't help you personally, will help someone solve a big problem for humanity and you might just benefit from that."

Advice from Gama

Gamelihle Sibanda grew up in rural Zimbabwe, moving to the city as a teenager. While Sibanda is formally trained in civil engineering and biomimicry, he recalls that as a kid he was always a student of nature. Prior to his training in western science, Sibanda was introduced to indigenous science. For example, he recalls that his grandfather was able to tell when it would rain based on the timing of flowering of a particular plant, without fail. When he was young, Sibanda would spend hours studying ants and their colonies and influencing their behavior. He learned how to cure many of his ailments with plants. A headache would send him to nature to find the plant to cure him.

By the time he started his formal schooling at the age of seven, Sibanda already knew much more about the practical application of science and the natural world than he felt the classroom could teach him.

In 2008, Sibanda was able to reconnect with nature through biomimicry. It was then that Sibanda first learned of biomimicry as a discipline. He quickly applied to join one of the early cohorts of students dedicated to biomimicry, and shortly thereafter earned his certification as a biomimicry professional. Since then, Sibanda has worked as a spokesperson for biomimicry in Africa and abroad, and as a teacher and consultant for developers and entrepreneurs seeking to solve problems with biomimicry.

Sibanda understands nature and how to use it. One way that Sibanda likes to think about solutions is to focus on how we can use nature as a benchmark in our designs. When a group of developers wanted to erect offices, homes, and roads on the outskirts of a growing city, the municipality halted the project. The construction was denied because the city feared that the increase in paving in the region would lead to an increase in flooding, due to a decreased infiltration of rainwater through the ground. Sibanda was part of a team of biomimics who provided advice on how to achieve approval for construction from the municipality.

Sibanda and the team calculated how much rainwater, prior to development, was absorbed through the ground, evaporated back into the atmosphere, or run-off into nearby waterways. The team's suggestion to the developers was to manage the same amount of water that nature currently manages. In other words, to use nature as a benchmark for the design.

Sibanda is not only a scientist and an engineer — he is also a poet, an actor, a constant student, and a father. He emphasizes that he is always "learning laterally" and across disciplines.

Sibanda's advice to the next generation of biomimics is to use nature like a library, and to think of the natural world as a center for knowledge and discovery. Sibanda believes that humans ought to openly share our knowledge and resources with one another. He argues that everything in nature is like an open-source library, so perhaps humans should rethink the way that we privatize our ideas and create intellectual property. It is clear that Sibanda's applications of biomimicry are extensive and incredibly creative. His ideas range from flood prevention techniques for developing cities, to rethinking resource and knowledge sharing in our society. It seems that if nature is a library, Sibanda is the perfect translator for it's ideas.

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