Gregory Vaughan celebrated when his team won a 2-year, 308-million-peso (US$168,000) grant from the Colombian government to study the Andean crop achira (Canna indica). The plant is mostly ornamental now, but native South Americans once cooked its tubers for food. The researchers wanted to know more about its nutritional value, whether they could re-introduce the ancestral way of cooking and whether the plant could be used to supplement or replace purchased rice, potatoes and animal feed.

But Vaughan, a contract researcher in agronomy at the Pedagogical and Technological University of Colombia in Tunja, discovered early this year that he was missing something. In his grant application, he had forgotten to include funds for nutritional analyses on several varieties of C. indica. “It’s not that big of an experiment, but it will end up being pretty expensive,” says Vaughan. “We don’t have the budget to do those tests, and without them, we won’t get the data we need.”

Vaughan calculated that the team needed about 2.7 million pesos, or $1,500, to complete the testing. The plants’ growth cycle meant that they had to be harvested in March, and the tests had to be done immediately thereafter, so the team needed money quickly. Rather than tackle another grant proposal, Vaughan decided to turn to crowd-funding: asking members of the public to donate to the project. “I’d read about people who needed expensive medical procedures and were able to get them paid for,” he says. Ultimately, he chose to make his appeal through Indiegogo, a crowd-funding website that hosts a variety of campaigns related to science, medicine and technological development among other projects, and which he found accessible and easy to browse.

The campaign was open to donations for about two and a half weeks. In that time, it raised more than $2,000 — surpassing its goal by one-third. The team is now able to complete its tests and, with the surplus money, is creating a fund to support economic-development projects based on C. indica.

Cash on demand

With careful planning and tuned expectations, researchers can supplement their project support with donations from the public.

BY KAREN KAPLAN

CROWD-FUNDING Cash on demand

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ONLINE PHILANTHROPY

Vaughan is one of a growing number of researchers seeking crowd-funding. The practice has exploded in recent years, especially as success rates for research-grant applications have fallen in many places. Although crowd-funding campaigns are no replacement for grants — they usually provide much smaller amounts of money, and basic research tends to be less popular with public donors than

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Danae Ringelmann

outreach, says Jai Ranganathan, an ecologist at the University of California, Santa Barbara, who co-founded SciFund Challenge, a crowd-funding site targeted to scientific projects. At least six months before launching a crowd-funding campaign, scientists should begin blogging and tweeting about their research; creating a Facebook page and posting updates about their work; and uploading videos to the blog, Facebook and YouTube. “Engage the networks you have — ‘Hey, I’m doing this thing,’” says Ranganathan. “Let your network know: use every channel you’ve got.” Once they have launched the crowd-funding campaign, he adds, researchers should step up their outreach using social and even conventional media outlets: he recommends sending out short press releases and calling newspaper and magazine editors and bloggers. “Two things matter — the size of your existing audience and their commitment,” he says. “You have to build the crowd.”

“We did an all-out media bonanza blitz,” says Will Ludington, a molecular and cell biologist at the University of California, Berkeley, and co-founder of uBiome, a citizen-science start-up that sequences the genomes of the microbes in customers’ bodies. It uses the results to look for correlations between microbiome composition and human health, lifestyle, diet and behaviour. The company ran a successful campaign on Indiegogo to get support for the sequencing research and funding for the citizen-science platform. It sent out hundreds of press releases to media outlets and cold-called reporters, editors and bloggers. The approach worked — the campaign was featured in technology magazines including Wired, as well as local publications. uBiome raised some $350,000 in three months — 3.5 times the goal and more than enough to support the team’s sequencing research and start-up.

The ART OF PERSUASION

Most crowd-funding campaigns include rewards to encourage people to donate. uBiome, for example, sent people who gave $79 a kit to take a sample of their microbes, which they could send back to the company for sequencing. Different incentives should be offered for donations of varying amounts. “Any donation above $20 gets a shout-out on my blog — ‘So and so is a devoted grade-school teacher and preserver of antiquities,’” explains Vaughan, adding that the donors will also be acknowledged in his study when it is published. For $500 or more, he says, he will give a donor a guided tour if they visit Colombia.

Of course, crowd-funding should not be viewed as a substitute for peer-reviewed grants. It involves no rigorous merit review, so research that it supports might not carry the same weight with the research community, including tenure committees, journal editors and reviewers of future grants, says Maria Zacharias, a spokeswoman for the US National Science Foundation in Arlington, Virginia. Furthermore, she adds, grants from funding agencies generally provide multi-year support, not the one-time bounty of crowd-funding.

“Crowd-funding works best as a top-up,” says Simon Vincent, head of personal awards funding for the charity Cancer Research UK in London. “It is an add-on, a new way of getting public engagement.”

Many campaigns require a great deal of effort to reach their goal, as Hagop Panossian, an engineer and president of the Analysis Research and Planning for Armenia (ARPA) Institute in Tarzana, California, discovered. In February, he launched a campaign on Indiegogo to raise $25,000 for a DNA sequencer, training and materials for researchers in Armenia. “This is a learning process for us,” says Panossian.

To pass on information about the campaign, he posted a link to it on ARPA’s website and e-mailed 6,500 contacts every few days with updates and appeals. His son tweeted about the campaign’s progress, and helped him to produce a video and post it on the Indiegogo page. Panossian managed to raise $27,515, but concedes that it was touch and go, in part because he could not extend his deadline under Indiegogo’s regulations for fixed-funding, or fixed-target, campaigns. It is not easy, he admits, to get people to pay up for a DNA sequencing machine. “If you’re raising funds for things that appeal to people’s hearts, like orphans, it’s much easier to get them to donate,” he says.

Even the spectre of cancer does not always open wallets far enough. Liz Scarff, a social-media strategist based in London, and co-founder of digital-communications agency Fieldcraft, ran a four-month Indiegogo campaign called iCancer to raise $2 million on behalf of a Swedish team seeking support for clinical trials on a virus that may be able to treat a rare neuroendocrine cancer of the type that killed Apple executive Steve Jobs in 2011. Scarff had no crowd-funding experience but got involved because a friend had been diagnosed with the cancer. The campaign, which ended in February, raised more than $250,000 including direct donations to the team’s university — admirable, but short of its goal.

Scarff and others are now independently targeting philanthropists in countries including the United States, the United Kingdom and Sweden to make up the balance. Next time, she says, she will seek smaller amounts in several instalments rather than going for the entire amount at once. “I would break it down into
chairs if I were to do this again for a science-based campaign,” she says. “It makes for smaller, more achievable goals, and it helps you to keep your story developing and evolving.”

Ranganathan agrees with this approach. “Don’t ask for more than $3,000–5,000 if you’re just starting,” he says. “People always look at the percentage you’ve raised as a sign of social acceptance — they’ll go to a crowded store first because there must be something going on there. If you’re only raising 2% or 3% of your goal, it will look terrible — for you and for the site.” Later campaigns can ask for more.

LEGAL HURDLES

There are other potential sticking points. Telling the world about a research project leaves ideas open to theft. And there are legal pitfalls. No specific laws govern donor-based crowd-funding, at least in the United States, but campaigners need to tread carefully with their pitch — or they risk a lawsuit for misrepresentation, warns Bryan Sullivan, business-law attorney at Early Sullivan Wright Gizer & McRae in Los Angeles. He says that campaigners should remain vague about how the appeal will allocate funds, so that they can use them for administration or other project expenses. And researchers should never imply that a result will be achieved. “You need to say, ‘We believe that our results could show …’ or ‘In our opinion, our results may …’” says Sullivan. “You cannot speak recklessly.”

Campaigners should also be aware that income from crowd-funding is generally taxable. Seasoned campaigners recommend that researchers who work at a university or research institute should set up donations to go through the institution, as a grant would. And US donors will not receive a tax deduction for their contributions unless the campaign is set up as a charitable organization.

For those able to build an audience, however, crowd-funding has great potential. Site executives say that it offers a glimpse into what the public wants to support — which could help to persuade funding agencies to sponsor certain studies. “The role of the researcher has been to write grant applications and get funding agencies to accept them. Now researchers can launch crowd-funding campaigns, which helps them evaluate their research,” says Ringelmann. “With that validation, researchers have more power to track their support and negotiate with large funding agencies.”

That can mean a significant impact on morale and enthusiasm. Researchers often feel as if they have more control of their funding destiny with crowd-funding than with a grant application, says Ringelmann. “If you run a successful campaign, you can show that traction,” she says. “This puts the decision-making back in the hands of the people, and that’s incredibly empowering.”

Karen Kaplan is associate editor of Nature Careers.