



kopernik

Annual Report 2010

spreading technology/ improving lives

Letter from the co-founders

Dear Friends of Kopernik,

It's been almost one year since we launched Kopernik and our fledgling organization -- dedicated to improving lives through the spread of technology -- has grown so much. We're excited to share with you our achievements (as well as our challenges) and plans for the future in this, our first, annual report.

We started Kopernik because we saw a real need for the services Kopernik now provides. We spent much of the past decade living and working in developing countries, including East Timor, Indonesia and Sierra Leone. We worked with the UN in some of the world's poorest and most challenging places. We worked with people who live on less than a dollar a day, who regularly watch their children suffer of waterborne diseases, and who have no light at night because they are off the electric grid. But we felt that too little was being done to solve these problems. We were frustrated by the layers of bureaucracy that got in the way, frustrated at the numerous middle-men within the development industry and frustrated at the same old, ineffective ways in which poverty and other development problems were being addressed. We had a passionate conviction that there must be a better way.

We witnessed the transformative power of technologies that were being developed in the private sector -- like solar lighting and affordable household water purification devices -- brilliantly simple technologies that could save a child from dying of diarrhea, or transform the darkness of a hut into a place where children could study at night. But there was a fatal disconnect. The technologies were not reaching the people who needed them.

And so -- after a decade in the field we left our UN jobs and started Kopernik. We're excited about this model because we're addressing our frustrations with development assistance. We're cutting out the bureaucracy by connecting the donor, technology provider and technology seeker through our online marketplace. We are eliminating the middle-men of the development industry by working directly with the unreached communities -- the communities in the last mile.

We're introducing new ideas and innovation to solve development problems. We're connecting small manufacturers in the private sector with customers who in the past they could never have afforded to reach -- giving them new distribution channels across the developing world.

We're creating a dialogue between the users and producers of the technology -- so the users can tell the producers what they need and what needs to be improved.

The response from both technology seekers and technology providers has been extremely positive. We are more certain than ever before that Kopernik is addressing a real need. We have been fortunate with the financial support we have received since launching -- from individuals, foundations and corporate partners.

We have big plans for 2011 -- including a new and improved website, a new service line focusing on dissemination of do it yourself (DIY)/open source technology, extensive impact assessments, and of course getting even more technologies into the hands of people in need.

We're growing from strength to strength and as we do we hope you will accompany us.

We wish you a wonderful 2011.

Ewa Wojkowska and Toshi Nakamura
Co-Founders

Our achievements in 2010

We reached 21,550 people through the distribution of life-changing technologies in China, Haiti, Indonesia, Kenya, Nigeria, Timor-Leste and Vietnam.

We disseminated 2,900 technologies. These included solar lanterns, water purification units, rollable water containers (q-drums), efficient cooking stoves, energy efficient low cost computing devices (n-computing), solar powered hearing aids (solar ear) and obstetric kits for midwives.

We launched the See-D contest in Japan – a design competition that aims to address the immediate needs of the developing world by engaging Japanese engineers and designers.

We launched our Kopernik fellows program and deployed our first two fellows to Kenya and Timor-Leste. Kopernik Fellows spend at least two months with our local partner organizations, assist with project implementation, carry out surveys and develop new partnerships.

We were recognized on stage at the Clinton Global Initiative annual meeting for our commitment to disseminating do-it-yourself (DIY)/open source technologies.

We received financial support from various corporations, foundations and individuals that enabled us to do all of the above.

18 projects in seven countries were implemented through our local partners:

Project	Country	Technology
Obstetric kits for midwives	Haiti	Maternova obstetric kits
Fuel efficient stoves for rural Indonesian women	Indonesia	UB-3 biomass stoves
Clean and reliable light for indigenous communities	Indonesia	Barefoot firefly solar lamps
Green light for forest communities	Indonesia	Barefoot firefly solar lamps
Reduce dependency on kerosene for forest communities	Indonesia	Barefoot firefly solar lamps
Combating desertification through solar lighting	Inner-Mongolia, China	D.Light S10 Kiran solar lanterns and Barefoot firefly solar lamps
Clean light for poor women in rural Kenya	Kenya	K-Light solar lanterns
Biomass briquette project	Kenya	DIY briquettes
Clean light for students in rural Nigeria	Nigeria	K-Light solar lanterns
Give a brighter future	Timor-Leste	D.Light S10 Kiran solar lanterns
Light up Oecusse (phase 1)	Timor-Leste	D.Light S10 Kiran and S250 solar lamps
Saving trees through biomass briquettes and stoves	Timor-Leste	UB-3 biomass stoves and DIY briquettes
Corn sheller project	Timor-Leste	DIY corn sheller
Safe drinking water for Oecusse	Timor-Leste	Solvatten solar safe water system
Computers for Beonsila Cooperativa	Timor-Leste	N-computing
Relieve the burden of carrying water for the women of Timor-Leste	Timor-Leste	Q-Drum
Lights for midwives	Timor-Leste	D.Light S250 solar lamps
Giving kids the gift of hearing	Vietnam	Solar-ear solar powered hearing aids



A selection of life-changing **technology**

UB-3 Biomass Stove

A gasifier stove with a pre-heating and counter flow burning mechanism to complete the combustion. The stove uses solid biomass as fuel – this can include wood shavings, leaves, plantation residue or corn cobs. Compared to traditional three-brick/stone stoves, the biomass UB-03 stove can save up to 80% of fuel while producing almost no smoke during operation.

In 2010 Kopernik distributed 100 of these stoves in Oecusse, Timor-Leste and 350 in Semarang, Indonesia.



D.Light Solar Lights

The D.Light S250 is a dual purpose solar light and solar mobile charger. Its' bright white light illuminates a room similarly to a 3 to 5 Watt CFL lamp, and is up to 50% more energy efficient. It provides 10 times more light than a kerosene lantern.

The D.Light Kiran S10 is a bright and durable replacement for kerosene lanterns. It provides even space lighting for the home, workplace, or on the go. With an integrated solar panel and multiple-setting handle, the D.Light S10 is extremely flexible and convenient to use.

In 2010 Kopernik distributed 850 Kiran S10s and 295 S250s to Timor-Leste and inner Mongolia.

Barefoot Firefly Solar Lamps

The Firefly 12 Mobile is a LED lamp that can be charged with the sun via a solar panel and also charges your mobile phone. It is 5 times brighter than a kerosene lamp and provides for 4.5 hours on a high setting and 50 hours on a low setting.

In 2010 Kopernik disseminated 735 Firefly solar lamps in Indonesia and Inner Mongolia.



Solar Ear



A digital Behind the Ear Hearing aid, plus rechargeable hearing aid battery, plus solar battery recharger. Rechargeable battery and solar charger can be used in any existing hearing aid.

Kopernik has disseminated 60 sets of the solar ear to a children's school for the deaf in Vietnam.

Obstetric Kit

This is a 'next generation' midwifery kit meant for trained professional midwives in low resource settings. It contains the following items related to preventing postpartum hemorrhage: a solar powered headlamp, a rotary mobile phone charger, a silicone cup w/ special markings to measure blood loss, a reminder protocol for Active Management of the 3rd stage of labor, a WHO Hemoglobin kit to test for anemia. The pack is reusable.

Kopernik has supported the distribution of the obstetric kits in Haiti.



Q-Drum

The Q-Drum is a durable, donut shaped plastic container which when full holds 50 litres of water. The idea of the Q Drum originated in response to the needs of rural people in developing countries who have a problem carrying adequate quantities of potable water from a reliable source. This is a burden which is generally bestowed on the women and children of each community. In Africa for example, many debilitating back and neck injuries are a result of women carrying heavy loads on their heads.

Kopernik distributed 30 Q-Drums as part of a pilot project in Timor-Leste.



Solvatten



Portable household unit for treating and heating water. Uses only solar energy, no other energy source, chemicals, spare parts or other supplies required. Treats 10-30 litres per day, depending on climate and weather. SVI-10 indicator shows when the water is safe.

Kopernik distributed 54 Solvatten units in Timor-Leste.

N-Computing

N-Computing virtual desktops share the excess power of standard PCs and make computing simple and affordable. Money is saved by sharing the cost of a single PC among multiple users. And users feel like they each have their own PC while they simultaneously share common applications—including web browsers, e-mail, office suites, and multimedia. Every user has their own keyboard, screen, settings, applications, and data files, so their experience is just like it would be if they were working at an independent PC.



Notes from the field: A visit to our partner organization in Kenya

By Catherine Lee

The Sisari Women Initiative Group (SWIG) is a self-help organization serving marginalized and vulnerable women in rural Western Kenya. In a region characterized by high prevalence of HIV/AIDS and a deep-rooted practice of polygamy, a female spouse is at constant risk of being left to fend for herself whether due to becoming widowed or neglected due to a new, younger wife. Once she is unhinged from the relationship with her husband, she will lose basic rights such as that to own property.

In mid 2010, SWIG began to distribute K-Light solar lanterns provided through Kopernik support to its women. Prior to this, the families of SWIG members relied almost exclusively on kerosene lamps. The women agreed to contribute a reduced price of the K-Light, approximately 22 USD, in monthly installments over a four-month period. The collected funds will be used to purchase additional solar lanterns by SWIG.

An overwhelming majority of the women of SWIG are happy with their solar lanterns. For many it is one of their most valuable assets. One woman excitedly demonstrated how the lantern works, all the while handling it with such care as if it was prized china. Most women reported using the K-Light everyday, as long as the weather has been sunny and the lanterns have had a chance to charge.



Interviews with eighteen beneficiaries revealed various forms of impact. Replacing kerosene lamps with the K-Light in effect has killed two birds with one stone. Firstly, the average daily expenditures on kerosene have been reduced, though not eliminated. The kitchen, which is separated from the main home, was an example of where kerosene continued to be used. Nonetheless, the women reported that the expenditure reductions have allowed them to increase household spending on food and schooling fees such as stationery and uniforms. The women were saving on average 10 USD per month, which is no small number in these parts and certainly exceeds the average monthly payment they have to make for the cost of the lantern. Secondly, the K-Light eliminates the health risks posed by the use of kerosene. Several women reported that they or members of their family had suffered from allergic reactions, nausea, and even failing eyesight from the use of kerosene lamps, but that those problems were no more.

The women also offered suggestions for improvement to the K-Light. Recurring proposals included a longer cable to allow the lamp to stay indoors while it is being charged (they quoted the manual which instructed them to keep the lamp out of direct sunlight); light which is able to travel farther, possibly by altering the angle of the reflective metal cone; and an indicator for the level of charge remaining.

Notes from the field: Do It Yourself Technology in Timor-Leste

By Michael Woon

The corn sheller is one of my favourite technologies ever, and the design simply brilliant. The sheet metal design was originally devised by Marco Villagarcia Gutierrez. D-lab has since developed his design further. Using a jig made from a bit of scrap or stock metal, one can make hand-held corn shellers using sheet metal at an amazingly low cost: the only input for each sheller is a piece of sheet metal.



In Timor, maize is a staple food and people shell maize by pushing kernels off with their thumbs (not for the soft-handed: the last time I did this, in poor light, I got a blood blister without realising), or by putting it in sacks and beating them with sticks (slow and laborious). A hand-held sheller can shell maize several times faster, and save a family hundreds of hours of labour per year. Imagine having an extra hour every day. I would like that!

I'm confident about corn shellers: not accounting for start-up costs (which are smaller than for charcoal), it's possible to make a sheller (could sell for 50 cents) with just five cents worth of sheet metal. That's a profit of 900%!!

The training we organized for making the corn shellers started at nine in the morning. The chief of Maquelab, the aldeia where we held the training, came by to check it out and he seemed really happy and pleased. Maquelab is about ten or fifteen kilometres west of Oecusse town, but my feeling could be wrong: it feels like a long way because of how bad the roads are, and if it rains, a river delta we have to cross to get there floods and makes it impossible to go. We decided to hold the training in Maquelab to simplify transport for the trainees: instead of bringing ten people to Oecusse town, four of us would go to Maquelab.

By the time we were in full swing, trainees were climbing over each other to use tools and to get their chance to make their own sheller. Excitement is a great indicator of interest. Many of them demonstrated a very complete understanding of the tools and construction, and some of them even added in their own personal touches.

I hope this bodes well for the trainees to take this up as a little job on the side. They'll earn a bit of cash, but equally importantly, they'll put a great time-saving tool into the hands of farmers all around (I hope) the district.

Our challenges

In this, our first year of operations, there were several things that didn't work so well, and we've learned from this experience. Our challenges included:

Quality of technology: Some of the technologies distributed have had higher than acceptable defect levels. The feedback from the end users on the faulty products will be openly shared through our website so that future tech seekers and donors are well aware of which products have had negative (or positive) reviews.

Import taxes: Customs duties are unpredictable and on several projects, the duty cost far exceeded the amount we budgeted for this purpose – in these cases Kopernik has had to wear these costs. As we implement more projects, we are building up a knowledge base of import taxes and will be in a position to better reflect these costs up front.

High monitoring costs: Because our projects are servicing last mile communities, the cost of impact assessments and monitoring visits is high. We want to conduct rapid impact assessments for as many projects as we can but due to the project locations which are typically in hard to reach areas – the cost of conducting such assessments has proven very high. We're creating a special fund for fellows to conduct these assessments and building partnerships with academic institutions to share costs and finance these trips.

Website: We recognize that our current website needs a lot of improvement and we have built a new site, to be launched in early 2011. The new site responds to feedback we have received from our users and we believe it's much more user friendly than the current one.

Plans for 2011

We have big plans for 2011. In addition to increasing the number of technologies disseminated through Kopernik and improving the lives of even more people, we will:

Launch a new, improved website: We will launch a more user-friendly, intuitive website, with increased functionality and more services.

Expand our fellows program: we will deploy 10 fellows to conduct rapid impact assessments, ensure timely implementation of projects, provide regular updates through blogs and build new partnerships with local organizations.

Sell selected products through our website: We have received a large number of requests from people in developed countries who want to experience the products that Kopernik features. We will put in place a function on our website to be able to purchase selected products directly from our site. Profits from sales will go to strengthen Kopernik operations.

More sustainable distribution model: We will implement a more sustainable distribution model. We are strong believers in not giving things away for free (except in certain circumstances such as post disaster or in the area of public health) and believe that market mechanisms work and so we're piloting a range of models and pricing schemes to see which are most effective in sustainable adoption of technology. In 2010 we already piloted several variations of financing that allow for the impact of a donation to be multiplied – some examples include:

1. An Indonesian organization is selling stoves at full cost on an installment basis and the funds collected are pooled in a revolving fund managed by a women's cooperative.
2. An organization based in inner Mongolia has sold solar lanterns at full cost on an installment basis. The funds are being returned to the investor who will reuse the funds to purchase additional lights for another location in a neighbouring village.
3. A Timorese organization is selling solar lanterns at a locally affordable price (50% of cost) and will use the funds collected to purchase additional lights.

This year we want to do even more. The distribution models are proposed by our local partners – based on their local expertise and understanding. We will study the effectiveness of these methods.

Impact assessments: Ultimately our aim is to directly improve the socio-economic productivity of the poor so that they can escape the poverty trap. In addition to the rapid impact assessments conducted through our fellows program we will conduct several in-depth impact assessments of selected projects. We are partnering with top academic and development institutions to do so.

The people behind **Kopernik**

Board of Directors



Ewa Wojkowska (COO)



Toshi Nakamura (CEO)



Linda Gottlieb



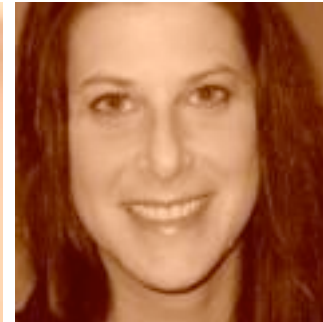
Guy Janssen



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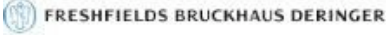



Core Team

Dominic Saunders
Nurhaida Rahim
Adam Kennedy
Scott White
Sayaka Watanabe
Takuro Haraguchi

Yuichiro Yamada
Arshad Waheed
Gabriella Leite-Soares
Shan Riku
Jihoon Park

Gordon Little
Saori Imaizumi
Jill Lewis
Neo Morohashi
Michael Woon

Thank you to **our partners**

		
<p>Kopernik is part of the Exxon/Ashoka's Women, Tools and Technology initiative</p>	<p>Bakti helps connect Indonesian NGOs in Eastern Indonesia to Kopernik</p>	<p>Our commitment to disseminate DIY technology was featured on-stage at the CGI annual meeting 2010.</p>
		
<p>School of International and Public Affairs (SIPA) of Columbia University is sending graduate students to Kopernik project sites to assess impact.</p>	<p>Daiwa Securities Group provided funding to support Kopernik's energy and water related projects in Timor-Leste, Indonesia and Vietnam.</p>	<p>ETIC provided funding to support Kopernik's core operations, as well as a match making service with Japanese venture companies.</p>
		<p>GOTO Accounting & Tax</p>
<p>ExxonMobil provided funding to support Kopernik operations and to empower women in Bojonegoro, Indonesia.</p>	<p>Freshfields Bruckhaus Deringer provides pro-bono legal support to Kopernik</p>	<p>Goto Accounting and Tax office provides pro-bono support to Kopernik's transactions in Japan</p>
		
<p>Grow Design Work provided heavily discounted services to create Kopernik's animated video.</p>	<p>Hollywood Beauty Salon supports Kopernik activities in Japan</p>	<p>IDEA International created the Kopernik Japan logo and has provided an in-kind donation for a kopernik project and fund-raising campaign.</p>

Thank you to **our partners**

 <p>INOTEK YAYASAN INOVASI TEKNOLOGI INDONESIA</p>		
<p>Kopernik helps disseminate technologies born out of Inotek, an Indonesian based organisation that identifies and incubates Indonesian 'technopreneurs'</p>	<p>Japan International Cooperation Agency (JICA) is a supporting organisation of the see-d contest.</p>	<p>Massachusetts Institute of Technology's D-Lab class advises see-d contest participants on appropriate technology development</p>
		 <p>The Nature Conservancy Protecting nature. Preserving life.™</p>
<p>Motivation Maker provides support to see-d contest</p>	<p>Music Securities administers Kopernik's Japanese website</p>	<p>The Nature Conservancy Indonesia recommends potential Indonesian tech seekers to Kopernik</p>
		
<p>Nippon Foundaiton provides support to see-d contest</p>	<p>Kopernik works with the Recognition and Mentoring Programme (RAMP) and Institute of Agriculture in Bogor.</p>	<p>Russell Investment Japan provided funding to support Kopernik's energy and water related projects in Timor-Leste and Indonesia</p>
		
<p>Stanford university, through its Global Entrepreneurial Marketing (GEM) class, helped Kopernik develop a marketing strategy and materials.</p>	<p>SVP Tokyo provides funding to support Kopernik's core operations and professional advisory services.</p>	<p>Winroader, through its recycling business, Eco-Land, provides regular donations to Kopernik's project Winroader Japan</p>

Financial Summary 1 Jan – 31 Dec 2010

	USD
Revenue:	
<i>Project</i>	
Individuals	66,710
Corporations	68,960
See-D Contest	23,520
<i>Operations</i>	
Individuals	69,569
Corporations	55,749
Foundations	17,697
<i>Other</i>	22,712
<i>Total revenue</i>	<u>324,916</u>
Expenses:	
<i>Project</i>	
Product/shipping	64,604
Other	17,931
See-D Contest	22,463
<i>Operations</i>	
Salaries	18,219
Travel	18,422
Website	10,579
Communications	7,890
Legal	6,306
Facilities and Equipment	8,518
PR	8,240
Other	20,060
<i>Other</i>	20,128
<i>Total expenses</i>	<u>223,359</u>
Net Assets:	
Change in Net Assets	101,557
Net Assets at beginning of year	22,870
Net Assets at end of year	<u>124,427</u>
(Restricted) *	36,301
(Unrestricted) **	88,126
<i>Net Assets at end of year</i>	<u>124,427</u>

* Total donations for projects that are not yet fully funded

**Donations to support core operational expenses

Front page photo credits: Vestergaard Frandsen and D.Light Design