

## A Comprehensive Strategy For Development In Poor Rural Communities

### 农村贫困地区发展概略

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What we have seen in observing and documenting pockets of poverty in various places around the world is that ecological degradation and grinding poverty go hand in hand. In order to address one it is necessary to address the other as well. Now because of global disruptions to ecosystems (e.g. climate change) we can see that poverty and degradation somewhere is poverty and degradation everywhere.

我们从在世界不同地方考察并记录的林林总总的贫困中所见到的是生态退化与折磨人的贫困携手而行，提到一个就不得不也提到另一个。现在，由于对生态系统的破坏是全球性的（例如：气候的变化），因此可以说在某地看到的贫困与生态退化实乃无处不在的贫困和生态退化。

This means that there is a rationale for the transfer of sufficient capital and technical support to address these issues not because we simply want to help for the poor but because this is the most efficient and cost effective way for human beings to address a wide range of problems including: biodiversity loss, fresh water stress, desertification, loss of soil fertility, poverty, disparity, population growth, conflict and climate change.

因此，要调拨足够的资金和技术支持来解决这些问题的理由就不只是因为我们想要帮助穷人，而是因为人类要解决广泛的问题，这是最行之有效的办法。这些广泛问题包括：生物物种的消失、淡水匮乏、沙漠化、土壤肥力丧失、贫困、不平等、人口增长、冲突及气候变化等。

#### *Specific measures:*

##### 具体措施

3 fundamental challenges must be overcome *initially* to transition the chronically poor from subsistence livelihoods, Water, Food and Energy. Once these have been engaged there is a wide range of need to move toward a sustainable trajectory.

首先，要克服来自三个方面的挑战，水、食物和能源，在基本生存方面摆脱长期的贫困。当基本生存有了保障时就会有走可持续发展道路的广泛需要。

**Energy-** with assistance from Uppsala University and Dr. Schauz in Germany we are seeking to design community based methane generation with gas being used to store energy and then following sulfur removal going direct to co-generation of heat and electricity for micro grids that serve only local communities. This is much more efficient than the national grid and provides jobs, direction and the energy for broadband internet access needed for non-traditional education (also needed by the external researchers and development professionals).

**能源**——在乌普萨拉 ( Uppsala ) 大学和德国舒茨 ( Schauz ) 博士的协助下，我们拟设计供农村社区用的沼气设施，用气体来储存能源，然后，脱硫后直接同时生成热能和电能供给只为当地人使用的微型电网。这种微型电网不仅比全国电网更有效，而且还能提供更多的就业，提供更多的发展方向，还可以为非传统教育方式所需要的（外围研究人员和专业发展人士也需要的）宽带互联网提供能源。

**Compost** - by using the methane generators residue from an aerobic digestion and going through one additional step - mixing the materials with dried leaves, shredded newspapers, sawdust or other cellulose materials and allowing aerobic digestion and worms to process everything we will have the fastest and best organic fertilizers available for agricultural and ecological rehabilitation.

**堆肥**——用沼气池气体消化后所剩的沼渣，经过进一步处理，即把沼渣和干叶、碎报纸、锯末或其他纤维物质混合，让其发酵并让蚯蚓把混合物进行加工，我们会获得可用于农业和生态恢复的最快的也是最好的有机肥料。

**Sanitation** - merging sanitation with energy production means that we can gather all human waste and all animal waste for methane production thereby solving the sanitation issue and producing energy. If we also separate urine we can produce low cost nitrogen fertilizer to increase productivity. We can take it one extra step and remove the odor in order to increase the acceptance. This also provides jobs and is very supportable because of the need to produce food locally. Increased locally produced organic fertilizer from compost and urine separation represent cost-effective, necessary parts of development.

**公共卫生**——把公共卫生与能源生产联系起来，意味着可以把所有的人类粪污和动物粪污用于沼气生产从而解决公共卫生问题并产生能源。如果还能把尿液分离的话，则可以生产低成本的氮肥以增加生产力。如果采取进一步除味措施还可以使这种产品更容易被接受。此举不仅也可提供就业，而且对食物本地化生产也是非常有助益的。从堆肥中和尿分离中增加当地自制有机肥是低成本高效率发展的必要组成部分。

**Water** - the issue of water has been mainly considered from the point of view of flow rates. This is incorrect and should be rethought to be infiltration and retention as work in China, Africa and around the world shows. What I am proposing is that the communities with external assistance provide water for everyone - ending the cycle of carrying water for mainly women and children - and then put people to work re vegetating in order to infiltrate and retain all water that hits the area. This depends on infiltrating 100 % of the water that falls. If the rainfall infiltrates where it comes down it infers complete vegetation cover and accumulated organic matter. This also requires understanding the physical dynamics during and after rainfall.

**水**——水的问题大多是从流速的角度来考虑的。这是不对的，应该从浸润和保持的角度来重新思考，这一点在中国、非洲和世界各地均有共识。我要建议的是每个人都有外援供水设施——不要再让人们特别是妇女们和儿童们运水——然后，让人们从事植被再造以便使当地所有降水得以浸润和保持。这取决于降水的百分之百的浸润。如果雨水在降落的地方浸润就意味着完整的植被覆盖和不断积累有机质。这还要求对降雨期间和雨后的自然动力学的理解。

**Food** - What we have seen in relation to yield is that certain fundamental conditions need to be met relating to soil moisture and a nurturing environment. Based on these observations areas that differentiated and designated ecological and economic land and allowed tree and grass cover in the ecological land changed the soil moisture and relative humidity regimes. By maintaining ecological land biodiversity and accumulation of organic matter changes microbiologic communities, soil organic matter, nutrient cycling and fertility. We have seen that you must have soil moisture and fertility in order to be self sufficient in food. That is the baseline.

**食物**——我们已经看到的是，在产量方面需要具备一定的与土壤水分和生机盎然的自然环境有关的基本条件。从我们在划分出了生态田和经济田的地区考察的那些地方来看，在允许草木覆盖的生态田土壤水分和相关湿度含量已经改变。通过维护生态田的生物物种和有机质积聚能改变微生物群、土壤有机质、营养循环和肥力。我们已经看到要达到食物的自足必须保持土壤的水分和肥力。这是起码的条件。

If agriculture is set up to be integrated with many perennial crops and intercropping with an understanding of what is being called “conservation agriculture” techniques such as no-till that do not expose soils to wind, sun and water to reduce erosion and soil degradation an important phenomenon kicks in. That is that in severely degraded land “*it is possible to increase productivity by decreasing the amount of land in cultivation*” by increasing soil moisture and fertility. When fully understood this also puts a community on the path to sustainability as the function of infiltration and retention of rainfall and accumulation of organic matters can be restored.

如果是在懂得“保护性农耕”技术（比如免耕技术不让土壤暴露受风吹、日晒和雨淋以减少土壤流失和退化）的基础上把许多多年生作物和间作相结合来搞农业的话，就会出现一个重要的现象，那就是，在严重退化的土地上，藉增加土壤水分和肥力“是有可能通过减少农耕土地的数量来提高生产力的”。当充分理解这个道理后，随着雨水的浸润和保留及有机质的积累等发挥作用，也可以使人们走上可持续发展道路。

It is also important that animal husbandry that uses pin feeding where the fodder is cut and carried to the animals rather than they destructively graze it is possible to increase animal protein without the destructive impacts.

畜牧业采取固定饲养方式同样重要。把饲料切碎后再去喂给牲畜而不是让它们破坏性地到处吃草，可以在不破坏水土的基础上增加动物性蛋白质。

**Conservation** – By designating ecological land the community takes the first steps toward a sustainable future. This will accumulate positive results as functionality returns in the same way as degradation caused the accumulation of negative results. There is much to consider about conservation and it is both active and passive. Communities must actively refrain from behaviors and impacts that disrupt the ecological land. They must also passively stand back and let nature determine which species are most suitable so that there will be biodiversity surviving into future generations.

**保护**——通过指定生态田，农村向可持续发展的未来迈出第一步。随着自然能力的恢复，必然形成良性循环，正如生态退化造成了恶性循环一样。有很多保护方法可以考虑，有所为，有所不为。社区必须积极制止破坏生态田的行为和倾向。同时，他们还必须被动退让，让自然决定哪些物种是最合适的，这样就可以为子孙后代保留生物多样性。

**Education** – Given the urgent need for both poverty eradication and large-scale ecosystem rehabilitation, traditional forms of education may need to be supplemented with something that has become much more technically feasible in recent years. This is using *internet* based resources with facilitation to allow all to study to whatever extent that they wish. This can be combined with equivalence testing to assign the level if degrees are required or can simply be

knowledge that enhances the lives of the people. I would call this inquiry and by making the facilities available to young and old alike in communities it will be possible to engage the entire community into the inquiry of exactly what they need to raise out of poverty, to restore and conserve nature for the enhancement of their community.

**教育**——近年来，由于消除贫困和大规模生态恢复的双重迫切需要，传统形式的教育可能需要一些技术上更加可行的东西加以补充。这就是利用网络资源的便利让所有人学习他们所希望学到的东西。若需要学位的话，这还可以与相应的水平测试相结合，另外，还可以只是传播知识，丰富人们的生活。我要呼吁做这种探索，通过为社区的年轻人和老年人提供便利条件使所有人都有可能来参与探求，为了他们家园的发展，他们究竟需要怎样样做来摆脱贫困、恢复并保护自然。

*External Technical Assistance* – I would recommend using retired professionals and recent graduates from the host country and around the world. This will bring new thought into communities and help increase understanding across cultures, between ethnic groups and help bridge social and economic divides.

**外部技术援助**——我建议应该聘请本国的和世界各地的退休专业人士和刚毕业的学生。这会把新思想带到农村并帮助增进对不同文化、种族团体之间的理解，同时架起连接社会的和经济的桥梁。

*Design and Construction of new infrastructure* – Once the community has moved away from subsistence agriculture it is very important for them to consider and to understand where they are going. This will require thinking about areas that they may have never considered. The book we have translated called “The Community Planning Handbook” can be useful in directing the communities attention to the many different issues needed to consider and the potential role for citizens to participate.

**新的基础设施的设计和建造**——一旦农村摆脱自给自足的农业，村民们必须考虑和明白他们下一步的方向。这需要他们思考一些他们可能从来没有考虑过的领域。我们翻译的《社区规划手册》一书有助于引导村民意识到需要考虑许多不同的事情和公民应该承担的责任。

The strategies of having external technical assistance from development professionals, retired professional volunteers and recent graduates from the host country and from abroad can help to provide ideas. When this is used together with “Participatory Assessment” it is possible to engage the entire community in designing its future.

上面提到的这种从本国和外国在职专业人士、退休的专业人士志愿者和刚毕业的学生得到外部技术援助的策略能有助于提供更多的主意。当这一策略与“参与性的评估”一起使用后，就有可能使整个社区参与制定自己的未来。

Sanitation, Communications, Energy, Education, Healthcare, Administration, Service, and much more all join agriculture and conservation as possible livelihoods.

公共卫生，通讯，能源，教育，医疗，行政，服务以及更多方面，所有这一切都与农业和保护结合起来，并且作为可能的生计。

**Value added to local products** - Research into product development – This can begin with local agricultural products in an industrial kitchen/design laboratory. This should be built to high standards so that it can meet sanitation and food safety codes. It should have the ability to process vegetables, meats, fruits, mushrooms, and any other local produce. Jams, jellies, condiments, dehydration, canning, freezing, prepared snack foods, drinks, all can be researched in this facility. If this facility is developed to the highest level it could also research extraction of essential oils.

**增值当地产品**——产品研发，这个可以从当地农产品着手，在一个产业化的厨房或者设计实验室中开始。这需要制定高标准，以便符合卫生和食品安全法规。它应该有能力加工蔬菜、肉类、水果、蘑菇，以及任何其他当地产品。果酱、果冻、调味品、脱水食品、罐头、冷冻、零食，饮料等等都可以在这一设施中研究。如果该设施可以发展到最高的水平，它还可以进行提取精油的研究。

One way to test products would be to have a restaurant and a store connected to this facility. If no one likes the product and no one buys it then the team should go back to the drawing board. If however the product becomes a favorite of the potential customers you might have a hit. Once a product has been identified then a business plan that describes resource requirements, personnel requirements, manufacturing, packaging and marketing should be made and the product moved out on its own. At this point the research team begins the process with other commodities.

一种测试产品的方法就是将一个餐厅和一个商店连接到这一研究设施。如果没有人喜欢其产品也没有人购买其产品，那么研发小组应该回到设计阶段。然而，如果该产品成为潜在客户的所爱，就会取得很大的成功。一旦产品被接受，那么就需要制定一份包括所需资源要求、人员要求、生产、包装和销售的业务计划，产品自然可以销售出去。到此，研发小组可以开始对其他商品的研发。

**Marketing** - connection to local, regional, national and world markets – Once products have been identified then they need to be connected with markets. This becomes a separate and important part of the development trajectory away from subsistence as it links the local community to larger markets up to and including world markets if it has the ability and the ambition. Certain products like essential oils could be important in that they are extremely valuable, easy to ship and are sold on international markets for cosmetics, food and other industries. Reaching this level with professionalism will help local communities build modern and sustainable businesses. I would suggest certain partners such as *Weleda*, which makes all natural products and that has a social conscience. This type of company can help the community to meet the technical requirements.

**营销**——可以联系本地、区域，全国和世界市场。一旦产品被接受，它们就需要与市场连接。这是一个不同的发展轨迹，也是一个远离了自给自足的重要的发展轨迹，因为它把本地与更大的市场相连接，如果有能力和志向甚至还可以

和世界市场相连接。某些产品，如精油，可能具有重要意义，因为它们极具价值，易于运输，在国际市场销售供给化妆品、食品和其他行业。如果能达到专业水平就可以帮助农村社区建设现代的、可持续发展的生意。我可以推荐某些合作伙伴，如Weleda公司，该公司生产全天然产品，并且有社会良知。这类公司可以帮助社区达到技术要求。

**Health Care** – This becomes both a social responsibility and an area for sustainable employment.

**保健**——这已变成既是一种社会责任又是一个提供持续就业的领域。

**Scientific Monitoring** – As this strategy is implemented it should be fully documented and scientifically monitored to see its strengths and weaknesses. Where it is effective it should be duplicated and where it is weak it should be strengthened.

**科学监测**——在这个策略实施过程中，应当全程纪录并进行科学监测，以得出其长处和弱点。有效的措施要推广，薄弱的环节要加强。

In ecology each species seems to have a specific niche and have a specific contribution to play in the overall organism that is life.

在生态学中，每一物种似乎都有其特定的适当位置，并且在整个生物体即生命中有其特别的贡献。

Sustainability to me means that it is possible to participate in an activity without reducing the ability to continue that activity in future generations. In development I think that it is necessary to have a comprehensive strategy that emulates nature as much as possible. Each part fits together with the overall goal of reaching sustainability.

可持续性，我认为就是，可以从事某一活动而并不减少后代们继续从事该活动的的能力。在发展中，我认为应该有一个全面的策略来尽可能地模拟自然。每一部分都必须符合实现可持续性发展的总目标。

There is much to consider but now it is possible to see that the wealthy wherever they are in the world and the poor living in marginal and degraded lands all share the same fate. The future for both groups, rich and poor; will be determined by the same thing, functional ecosystems on a planetary scale. This means that the world can no longer afford to leave the poor to pull themselves up by their bootstraps but must engage to end poverty and restore ecosystem function everywhere immediately or face predictable and catastrophic consequences.

我们有太多要考虑的问题，但是现在可以看到，世界上任何地方的富人和住在贫瘠而退化的土地上的穷人，所有人全都面临同样的结局。穷人和富人，这两个群体的未来，都将取决于相同的东西，那在整个星球范围内起作用的生态系统。这意味着，世界再也经不起让穷人自我挣扎，而必须立即行动起来消除贫困并恢复各地的生态系统的功能，否则，将面对可预见的、灾难性的后果！

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