



# 应对气候变化，推动农村清洁工程

Tackling climate change, promoting rural sanitation projects



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# 应对气候变化 农村生物质利用与示范

Rural Biomass Utilization and Demonstration Project in Addressing Climate Change

全球环境基金小额赠款计划  
Global Environment Facility Small Grants Programme  
联合国开发计划署  
United Nations Development Programme  
杨凌环保公益协会  
YangLing Environmental Protection Public Service Association  
姜嫄文化研究协会  
Jiang Yuan Association for Cultural Studies



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## 全球环境基金小额赠款计划 >>>

The Global Environment Facility (GEF) Small Grants Programme (SGP)

作为全球环境基金资助项目的组成部分之一，小额赠款计划成立于1992年，由联合国开发计划署负责实施，联合国项目事务厅负责执行。小额赠款计划直接向非政府组织和社区组织提供资金和技术，支持他们保护和恢复自然，同时提高人们福祉和生计的活动。小额赠款计划支持的优先领域为：保护生物多样性、减缓气候变化、保护国际水域、防止土地退化以及消除持久性有机污染物和全球关注的化学品。目前，这个计划已经在全球125个国家支持14500多个社区项目。

As a corporate programme funded by the Global Environment Facility (GEF), Small Grants Programme was established in 1992, implemented by the United Nations Development Programme (UNDP) on behalf of the GEF partnership, and executed by the United Nations Office for Project Services (UNOPS). SGP channels financial and technical support directly to NGOs and CBOs for activities that conserve and restore the environment while enhancing people's well-being and livelihoods. SGP supports activities in these priorities - biodiversity conservation, abatement of climate change, protection of international waters, prevention of land degradation and elimination of persistent organic pollutants and chemicals of global concern. With presence in more than 125 countries, SGP has supported more than 14,500 community-based projects worldwide.

## 联合国开发计划署

United Nations Development Programme

联合国开发计划署是联合国从事发展的全球网络，倡导变革并为各国提供知识、经验和资源，帮助人民创造更美好的生活。联合国开发计划署在177个国家开展发展援助，通过与这些国家的合作，帮助各国应对全球和各国国内面临的发展挑战。联合国开发计划署与其广泛的合作伙伴一起帮助各国进行自身的能力建设。

在中国，联合国开发计划署致力于促进人类发展，赋予性别平等的权利，共同创造更美好的生活。作为联合国的发展机构，联合国开发计划署利用其丰富的国际经验，帮助中国寻求应对发展挑战的解决之道。联合国开发计划署在中国的主要重点工作是：减少贫困、包容性发展，法治和管理、能源，环境和气候变化。



(全球环境基金小额赠款中国项目  
NGO能力建设培训会)



UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. We are on the ground in 177 countries, working with them on their own solutions to global and national development challenges. As they develop local capacity, they draw on the people of UNDP and our wide range of partners.

In China, UNDP fosters human development to empower women and men to build better lives. As the UN's development network, UNDP draws on a world of experience to assist China in developing its own solutions to the country's development challenges. UNDP's main focus areas in China are: poverty reduction, inclusive growth, rule of law, governance, energy, environment and climate change.

## 姜嫄文化研究协会简介 >>>

(Jiang Yuan Culture Research Institute)

姜嫄文化研究协会经杨陵区文化教育局批准，杨陵民政局登记，协会以弘扬姜嫄农耕文化,建设后稷故里为继任的社会团体。

Jiang Yuan Culture Research Institute has been approved by Yangling Cultural bureau of education , and also has been registered in Yangling Civil Affairs Bureau. The main purpose is to advance and enrich the fine cultural heritage of the Jiang Yuan agriculture and construct the hometown of Hou Ji.

## 杨凌环保公益协会简介

(Yangling Environmental Protection Public Welfare Association)

杨凌环保公益护协会,英文缩写为: YLEP,成立于二〇一四年二月,协会是由杨凌示范区环境保护局批准,杨陵区民政局登记成立的,从事环境保护及公益实践活动的独立、专业、非营利的公益性社会团体。

YangLing Environmental Protection Public Welfare Association(YLEP) was established on February,2014. It was an independent, professional and nonprofit organization which focus on environment protection and social practice.



杨环协“美丽秦岭”植树活动  
“Beautiful Qinling” Tree Planting



杨环协为农科城国际马拉松赛提供环保志愿服务  
Volunteers in the Yangling International Marathon

## 项目背景 >>>

(Project background)

据发改环资[2011]2615号《“十二五”农作物秸秆综合利用实施方案》计算,2011年中国秸秆总产量约为9.2亿吨,其中25%左右约2.2亿吨剩余秸秆被任意焚烧,并产生大量二氧化碳和甲烷,严重危害人类健康。2010年,中国中部地区因秸秆焚烧引发火灾783起,经济损失35亿元之多,造成15个污染天,产生二氧化碳2.8亿吨。

Agriculture is an important source of greenhouse gases. According to the statistics, CO<sub>2</sub> and CH<sub>4</sub> emissions of agricultural sources account for 21%-25% of total greenhouse gas emissions. Gross product of straw in China was 9, 200 million tons in 2012, the amount of use was only 5, 800 million tons and converting into standard coal was about 4, 500 million tons which amounts to 8 Shendong Coal Field. If the straw was all used, the emissions of CO<sub>2</sub> could be reduced by 9, 500 million tons that was one-eighth of the emissions of CO<sub>2</sub> in 2008. Thereinto, about 25% of residue straw (around 2, 200 million tons) were arbitrarily burned and abandoned, which generated large amounts of CO<sub>2</sub> and CH<sub>4</sub>, and severely impair human health. In 2010 the central region of China emerged 783 times of fire due to straw burning resulted in about 3.5 billion Yuan of economic loss, 15 pollution days and producing 2, 800 million tons of CO<sub>2</sub>. Although the government bans incineration and generalizes straw comprehensive utilization , the incineration never ceases. The survey found that straw recycling and reuse needs more than 20 Yuan per mu and the money can not directly produce benefits. Because of less expense and the lack of awareness, some villagers think that straw burning can solve their problems.





## 项目简介 >>>

应对气候变化，农村生物质利用与示范项目是由联合国开发计划署（UNDP）负责的全球环境基金小额赠款计划(GEF/SGP)支持姜源文化研究协会和杨凌环保协会在陕西省安康市汉滨区共同实施的。

项目组织农户收集废弃秸秆，一方面利用秸秆生产旅游纪念品，在旅游景点出售及发展电子商务，另一方面利用废弃秸秆等制备成生物燃料替代木材和煤炭。项目在减缓气候变化，秸秆增值利用,农户就业增收等方面发挥了示范作用。

The project is implemented by Jianyuan Culture Research Institute and Yangling Environment Public Welfare Society and supported by the GEF Small Grants Programme of United Nations Development Programme at Jianhe village in Hanbin District of An'kang, Shaanxi province. The project organizes the villagers to collect waste straw, and some other agricultural residues. Collected straw is used to produce packaging barrels and tourist souvenirs which can be sold at tourist areas and on the internet. The waste straw, also can be produced into biomass fuel to replace wood and coal. The project is in line with the local policy, and will be of great significance in mitigating climate change, value added utilization of staw and improving local farmers' income

## 项目活动 Project Activities >>>

项目实施以来，开展了系列社区活动应对气候变化

We had organized a series of social activities to address climate change



项目启动会  
kick-off meeting for the project



社区调研融入  
community baseline survey



秸秆编织培训班  
Straw weavings training course



生物质节能炉发放  
handing out Biomass energy saving stoves



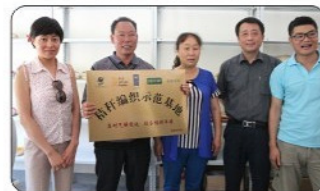
留守妇女编织活动  
Rural women participate in Straw weaving activities



社区成员装修合作社  
remodeling the Cooperative Society



与社区一起建立生态保护林  
Setting up the environment-protecting forest with local community



GEF国家协调员刘怡与指导专家冉东亚为编织基地授牌  
GEF SGP National Coordinator Ms.Liu Yi and NSC member Mr.Ran Dongya awarded the straw weavings demonstration site



项目社区会议  
Community meeting



社区宣传气候变化知识  
Publicizing knowledge about climate change in community



## 项目宣传与媒体 >>>

### Project outreach

项目先后在陕西三秦都市报、安康日报、陕西广播电视报、安康广播电视台、中华环境等媒体发布报道，并在社区实施系列宣传活动，有效提升气候变化的公众意识，扩大项目影响力。

The project has been widely covered by plenty of local media, such as Shaanxi Sanqin Metropolis, Ankang Daily, Shaanxi Radio and Television Newspaper, Ankang Radio and TV station, China Environment News and so on. A series of activities have been organized to raise public awareness of climate change and promote project impact.



安康日报报道版面  
Reported by Ankang Daily



陕西广播电视报报道版面  
Reported by Shaanxi Radio and Television Newspaper



中华环境宣传版面  
Reported by China Environment News



发放气候变化资料  
Disseminate climate change materials



应对气候变化山水县河行  
Environment Journey to address climate change in Xianhe

## 项目成果 >>>

### Project results

1. 225余名留守妇女参加气候变化技术培训班，低碳技术在社区得到运用。

More than 225 rural women took part in the climate change and straw weavings training courses, and low carbon technology had been applied in community.

2. 成立编织合作社2个，入社成员83名，初步建立秸秆生产及技术平台。

Two straw weaving cooperatives with 83 members have been established and a platform for straw productions and technology is set up.

3. 开发秸秆营养土技术拓宽秸秆综合利用途径，项目点秸秆焚烧基本被遏制。

Straw nutritional soil technology is developed to make full use of straw. Straw burning has been controlled effectively.

4. 社员人均年增收在3000--15000元/年之间，妇女生计社会地位提高。

Members of straw Cooperative Society increase their income from 3000 to 15000 yuan per year, and also the social status and livelihood of local women has improved a lot.

5. 整理秸秆编织工艺流程和视频。项目持续发展，提供借鉴及示范意义。

The production of process and skills of straw weaving are disseminated by video and provide demonstration and lessons learned to more people.

6. 100户农户使用节能炉，减排CO<sub>2</sub> 46-49.7吨，毁林现象减缓，碳储量得到恢复和提高

100 farmers use energy saving stoves and reduced 46-49.7 tons of CO<sub>2</sub>, also forest is protected and carbon storage is enhanced.

7. 在各类媒体发布相关报道30余篇，提升公众气候变化知识及项目影响力。

Over 30 project news coverages have been published, which has raised the public awareness of climate change and expand impact of the project







项目实施前秸秆焚烧画面  
Straw burning before project



地方政府严厉措施防止秸秆焚烧  
The government take measures to prohibit burning



项目实施后废弃秸秆被编织成工艺草鞋  
The abandoned straws are changed to shoes



项目实施后秸秆论斤销售  
Straws are sold by kilograms



项目实施前当地部分农户取暖烧水现状  
Before project



项目实施后部分村民使用干净卫生节能炉  
After using energy saving stoves



项目实施前森林被村民砍伐用来生活  
Trees are cut by farmers before project



项目实施后与村委会一同建立生态护林战略  
Protect forest with government

## 合作伙伴感言

### Testimonials from stakeholders

1.汪泽国(杨凌环保公益协会常务副会长): GEF SGP项目让我们组织及个人成长发展。

Zeguo Wang, vice-chairman of the Yangling Environmental Protection Public Welfare Association.

Our organization has been grown up through implementing GEF SGP project.

2.李鹏博(安康学院大学生): 从大学到农村, GEF项目让我了解农村, 农民和环境。

Pengbo Li, student in An Kang College.

From college to countryside, GEF make me begin to learn more about countryside and environment.

3.张强(安康儿童发展促进会会长): 关注安康气候变化, 保护汉江生态环境。

Qiang Zhang, chairman of Association for the advancement of Ankang children's development.

The project make me pay more attention on climate change of Ankang, and ecological conservation of Han River.

4.张永杰:(安康镇县河村村支书): 应对气候变化, 推动清洁工程, 共建和谐村庄。

Yongjie Zhang, Village secretary of Xian He village, Ankang.

The project has helped us to address climate change, promote clean energy and build harmonious village.

5.钱灵兰(县河村留守妇女): 开展秸秆编织, 让我感觉非常充实及被尊重。

Linglan Qian, a rural woman of Xian He village.

Straw weaving make me feel respected and I can live an enrichment life.

6.成敏(县河村村助理, 大学生村官): 参加GEF SGP项目让我对气候变化有了新的认识。

Min Cheng, assistant of Xian He village, is also a college student.

GEF SGP project make me learn more about climate change

7.杨晓芝(秸秆编织技术能手): 掌握秸秆编织技术, 为村里及环境做贡献是我快乐的事情。

Xiaozhi Yang, straw weaving technical expert.

I fell wery happy to help the village to protect their environment through offering them straw weaving skills.



## 什么是气候变化

What is Climate Change

《联合国气候变化框架公约》(UNFCCC)第一款中,将“气候变化”定义为:“经过相当一段时间的观察,在自然气候变化之外由人类活动直接或间接地改变全球大气组成所导致的气候改变”。

According to the 'United Nations Framework Convention on Climate Change' (UNFCCC), 'climate change' means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

气候变化对生活及农业的影响 Impact on life and agriculture

气候是人类赖以生存的自然环境重要组成部分,它的任何变化都会对自然、生态、社会经济系统产生影响。

Climate is an important part of natural environment which is vital to people's life. A little change of climate can influence a lot on nature, zoology and social economy system.

1: 加剧极端天气气候灾害

1: Intensify disaster of extreme climate

2: 影响农业和自然生态系统

2: Influence agriculture and the natural ecosystem

3: 给人类健康带来危害

3: Harm to people's health

4: 导致海平面上升

4: lead to sea level rise

## 个人应对气候变化的建议

How individual can address climate change?

少开车多骑自行车,节能减排,低碳出行。

choosing bicycle and other low carbon transportation can save energy  
recude emissions

使用节能电器,节约用水用电用纸。

Use energy-efficient appliances. Save water, electricity and paper.

保护森林,合理节约地使用木、纸制用品。

Protect forest, use wooden and paper products properly.

少使用一次性餐具,餐饮杜绝浪费。

Use less disposable tableware, don't waste food.

不随意焚秸秆垃圾,保护森林。

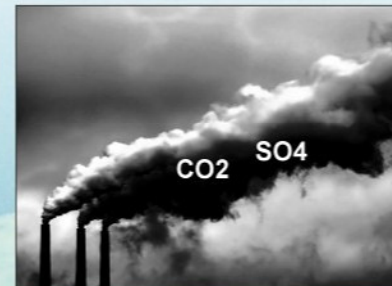
Don't burn straws improperly. Protect forest.

减少煤炭等化石燃料使用,选择太阳能,沼气等绿色能源。

Choose to use green energy such as solar energy, biogas instead of  
fossil fuels.

选用简易包装的商品,增强低碳消费意识。

Choose simple packaging products, raise awareness of low carbon  
consumption



## 秸秆编织产品图集

Productions made by straw

- 一双玉米鞋 = 39.9M<sup>2</sup>的玉米地
- 一双玉米鞋 = 300个玉米棒
- 一双玉米鞋 = 900片玉米皮
- 一双玉米鞋 = 15米玉米绳编织而成
- 一双玉米鞋 = 180分钟编织而成
- 一双玉米鞋 = 留守妇女增加6.5元收入
- 一双玉米鞋 = 减排6.4kg CO<sub>2</sub>

### 1. 宜家草鞋系列 Straw sandals



### 2. 宜家收纳系列 Straw storage boxes



### 3. 宜家座垫系列 Straw mat



## 秸秆编织工艺流程

The Process flow of Straw weavings



创绿家 姜嫄文化

## 玉米鞋生产工艺流程

### 筛选-熏蒸-编绳-染色-盘型缝接-合成-检验-入库

**筛选:**成熟玉米皮中剔除虫蛀、烂叶玉米皮，拔去外皮选出大小长短和柔韧度相同的玉米皮晒干消毒备用。

**熏蒸:**将玉米皮净水浸湿后放入容器里，容器底部放置盛有点燃的放50~100克硫磺粉的器皿，封住容器24小时进行熏蒸漂白。

**编绳:**将玉米皮撕成1厘米宽的小条，用三股编成小辫，同女孩子编发辫的方法相似。可编成折边辫子、拧边辫子。折边辫子效果平整，拧边辫子则比较圆凸。不论是折边辫子还是拧边辫子，编成后都有正反之分，正面平整有光泽；反面因接头多有毛茬，使用时使正面露在外面。

**染色:**按所需染色辫子加入水和染料，搅拌、加热，再加入盐搅拌、加热，染料与盐的用量比为3:2，然后再放入熏蒸过的辫子加热至水沸腾，再用文火加热10分钟左右，将染好的辫子捞出晾干备用。

**盘型:**用厚度2CM木板根据鞋码制作模具，模具脚心和脚跟各打一挂钩，前后把辫子放在两个挂钩上盘绕，挂钩一定要结实，鞋子才能编得牢固。正面露在外面，毛刺与接头向里，修剪成型。

**合成:**将盘好的鞋底与编好的中国结鞋带组合，鞋底均匀刷胶与PVC鞋底粘接合成，用橡胶榔头捶打平整，修剪，保证粘接平整结实。

**检验:**检验粘接是否结实平整，鞋帮是否牢固，边缘是否平整毛刺，是否有污渍等，检验造册入库。

**入库:**将检验合格的玉米鞋按款式分类造册存放，防火防潮防虫。

应对气候变化，农村生物质利用与示范