

«Warm Comfort» Thermal insulation via Micro-credit in Gorno-Badakhshan

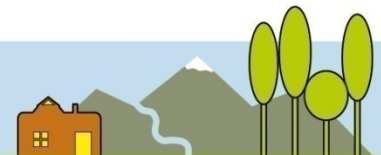
Sustainable Use of Natural Resources in Central Asia

Dushanbe on 10th November 2009

Felix Zeiske

Природа - основа нашей жизни!

Проект “Устойчивое Управление Природными
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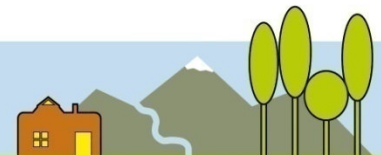
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Content

- Why this product?
- Thermal insulation technology
- Dissemination through loans
- Technical performance
- Lessons learnt and Next Step

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Situation

- Energy crisis: After independence of TJK, almost all households in GBAO dependent on scarce natural resources
- high consumption of fuel, like wood for heating private houses
- → degradation of natural resources
- private households will benefit from energy fuel savings & will improve their livelihoods by escaping from the vicious circle of poverty



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Thermal Insulation

- Principle: Use of local and available materials
- Insulation ceiling / roof: straw / algae + lime + clay
- Energy efficient windows:
 - Adapted German technology, double-glazing, a simple mechanism for ventilation
- Roof hatch, sealing's



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Micro-credit

Approach:

- Thermal insulation forms a major investment for the people of the region
- to provide the financial base for households to invest into thermal insulation activities
- Credit up to 500\$ - interest rate 2.5% monthly - duration 6-12month
→ together with MLF - MADINA



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Micro-credit

Approach:

- microfinance organization MADINA provides small loans on a personal basis to make the project financially viable
- private households will benefit from energy fuel savings & will improve their livelihoods by escaping from the vicious circle of poverty
- ideal tool distribution: Reducing poverty and mitigating the pressures on natural resources



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Technical performance

→ Technical consultant: his affords a constant contact between technical consultant & micro-finance consultant with the client

Acquisition - Meeting 1

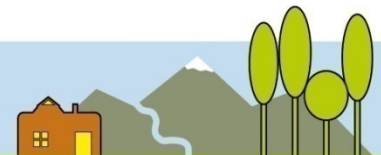
- One micro-credit consultants & one technical consultant work together to evaluate
 - E.g. financial rating of the client

Construction explanation - Meeting 2

- Technical consultant will advise the client on the following issues:
 - Check suitability of the purchased construction material
 - Detailed explanation on technical realization

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Technical Performance

Check and Adjust - Meeting 3

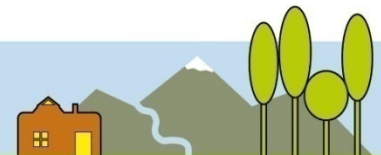
- Check progress & quality of the thermal insulation work
- Explain & show where and how to fix construction mistakes in accordance to the quality standards
- Explain the client & local masters the background of occurred mistakes

Acceptance - Meeting 4

- Final inspection of realized thermal insulated measures check
- Final documentation & certification

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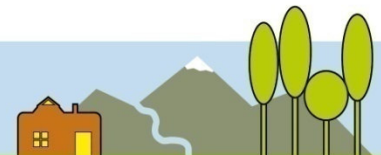
Better future

Better future energy scenario: less energy use

- more money, less time to spent on collecting wood
- less individual labor spent on collecting fuel & for heating
- more time to earn money, more time to care about the own children, garden or livestock → more nutrients for fields
- warmer & more comfortable house:
→ better health, children get the chance to concentrate on learning for the school

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Lessons learnt

- Technical issues resolved
- Technology: Adaption, Test, Standardization
- Create Ownership: no gifts
- 180 credits distributed
- Fuel savings 40-60%
- Education Masters and consultants too slow



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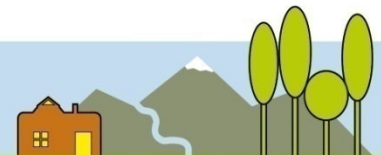
Next Steps

- end of 2010: 500 homes in the Pamirs insulated
- Thermal insulation in combination with ee-stove improvements for heating and cooking
- end of 2009: Product "warm comfort" documented and transferred to other MLF
- Handover knowledge on thermal insulation to MLF



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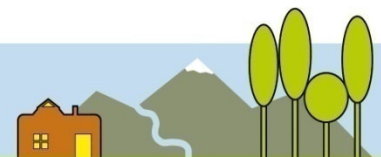


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Thank You

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