

# International Center For Environmental Finance



## Module VII Alternative Finance Options

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## Types of Financing

There are five ways to finance projects:

- Grants
- Bonds
- Subsidized (sub-market rate) Loans
- Market Rate Loans
- Loan Guaranties

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## Grants

- Grants are sums of money awarded to finance a particular activity or facility
- Grant awards do not need to be paid back

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## Grants

### Pros:

- Do not need to be repaid
- Improve project cash flow by eliminating loan repayments
- Facilitate projects that are otherwise not affordable

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## Grants

### Cons:

- Foster dependence
- Encourage overbuilding of projects
- Often disregard costs of operation and maintenance
- Generally, very specific requirements and conditions attached
- Requirement to meet specific goals of the particular federal agency or private organization
- For programs with fixed capital, once grant is made, funds are gone

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## Bonds

Bonds are **loans** made on:

1. Standardized documents to borrowers whose...
2. Credibility is publicly known

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# Bonds

## Pros:

- Are very liquid
- Encourage growth of financial markets, especially secondary markets
- Bonds allow borrowing for longer maturities and larger amounts than market rate loans

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# Bonds

## Cons:

- Borrowers must submit to public credit analysis
- Borrowers must use internationally accepted accounting standards

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## Subsidized Loans

*Loan made to a qualified borrower at below-market interest rate*

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## Subsidized Loans

### **Pros:**

- Improve project cash flow by decreasing loan payments

### **Cons:**

- Generally, requirements and conditions attached
- Requirement to meet specific goals of the particular federal agency or private organization
- Encourage financial dependence
- For programs with fixed capital, fewer loans can be made

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## Market Rate Loans

*Loan made to a qualified borrower at the current market interest rate*

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## Market Rate Loans

### **Pros:**

- Easier to obtain than grant, subsidized loan, or loan guarantee
- Generally, has no or limited conditions regarding the way projects are carried out
- For programs with fixed capital, more loans can be made

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## Market Rate Loans

### Cons:

- Decrease project cash flow by increasing loan payments
- Requires higher loan repayment

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## Loan Guaranties

*A financial guaranty is a promise from a guarantor to make payment to the funds providers in case of non-payment by the borrowers*

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## Loan Guarantees

### Pros:

- Lower interest rates than market rate loans
- Longer terms and,
- For larger amounts

### Cons:

- Higher loan repayments than for subsidized loans.
- Generally, requirements and conditions attached

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## Financial Simulation

Following financial simulation will be used to show the differences between:

- Market rate loans
- Grants
- Subsidized loans
- Loan guaranties

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## Assumptions and Conventions

Grant/Loan/Subsidy/Guaranty  
Pro Formas

1. Government contributes \$100,000,000 in year 0
2. All loans/guaranties made in each year on 31 December
3. Tenor of loans: 5 years, level principal method

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## Assumptions And Conventions

Grant/Loan/Subsidy/Guaranty  
Pro Formas

4. For loan guaranties, estimated average project size:  
\$5,000,000
5. Interest rate on subsidized loans: 0%
6. Interest rate on market rate loans: 10%
7. Interest Rate on Guaranty Fund: 5%

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## Assumptions And Conventions

8. Leverage ratios for loan guaranties:

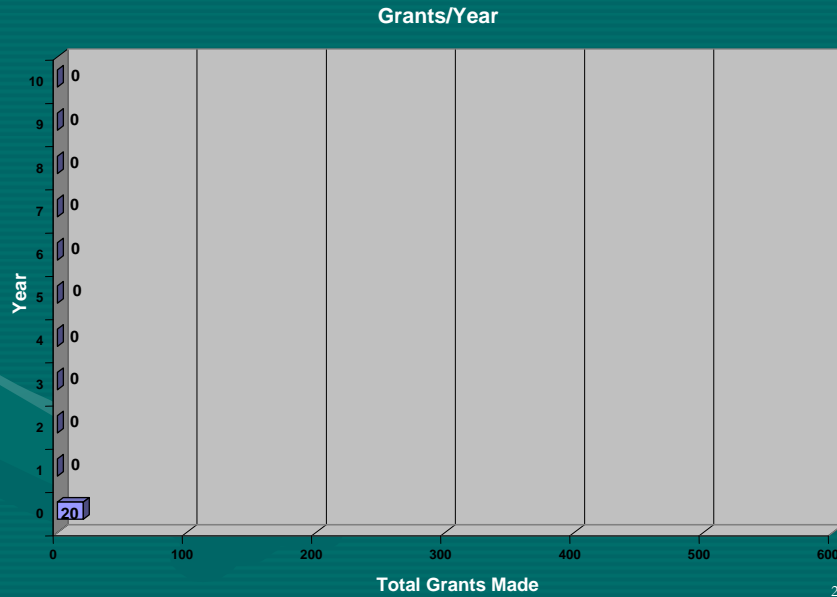
# Of loans under guaranty:	Coverage ratio:
0-20	100%
20-30	90%
30-40	80%
40-50	70%
50-60	60%
60-70	50%
70-80	40%
80-90	30%
90-100	20%
100+	10%

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## Simulation Results: Grants

Year	0	1	2	3	4	5	6	7	8	9	10
Opening Balance	100	0	0	0	0	0	0	0	0	0	0
Interest Earned	0	0	0	0	0	0	0	0	0	0	0
Principal Repaid	0	0	0	0	0	0	0	0	0	0	0
Total Funds Available	100	0	0	0	0	0	0	0	0	0	0
New Grants Made	100	0	0	0	0	0	0	0	0	0	0
Ending Balance	0	0	0	0	0	0	0	0	0	0	0
Grants Made	20	0	0	0	0	0	0	0	0	0	0
Total Grants Made	20	0	0	0	0	0	0	0	0	0	0

## Simulation Results: Grants

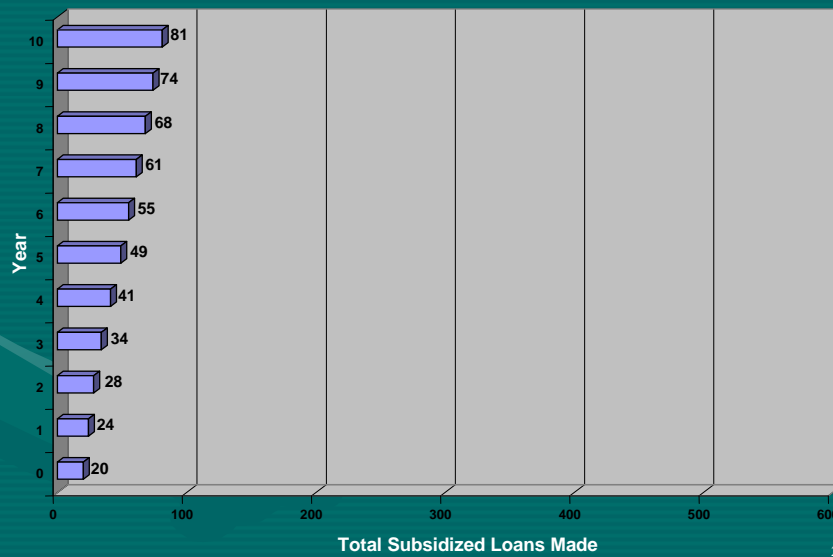


## Simulation Results: Subsidized Loans

Year	0	1	2	3	4	5	6	7	8	9	10
Opening Balance	100	0	0	4	2	1	2	1	2	0	4
Interest Earned	0	0	0	0	0	0	0	0	0	0	0
Principal Repaid	0	20	24	28	34	41	29	31	33	34	33
Total Funds Available	100	20	24	32	36	42	31	32	35	34	37
New Loans Made	100	20	20	30	35	40	30	30	35	30	35
Ending Balance	0	0	4	2	1	2	1	2	0	4	2
Outstanding Loan Balance	100	100	96	98	99	98	99	98	100	96	98
Loans Made	20	4	4	6	7	8	6	6	7	6	7
Total Loans Made	20	24	28	34	41	49	55	61	68	74	81

## Simulation Results: Subsidized Loans

Subsidized Loans/Year



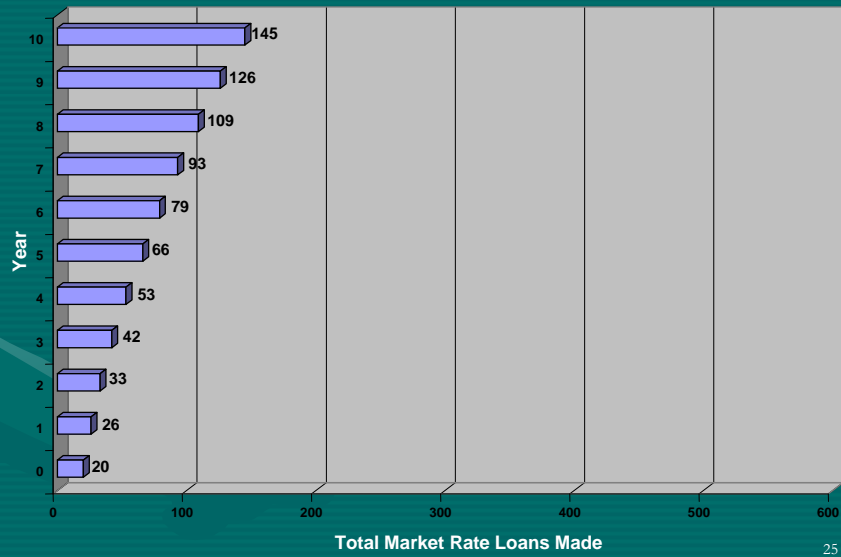
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## Simulation Results: Market Loans

Year	0	1	2	3	4	5	6	7	8	9	10
Opening Balance	100	0	0	2	1.9	2	4.4	1	1.5	0.7	3.9
Interest Earned	0.0	10	11	11.9	13.1	14.4	15.6	17.5	19.2	21.2	23
Principal Repaid	0.0	20	26	33	42	53	46	53	60	67	73
Total Funds Available	100	30	37	46.9	57	69.4	66	71.5	80.7	88.9	99.9
New Loans Made	100	30	35	45	55	65	65	70	80	85	95
Ending Balance	0.0	0.0	2	1.9	2	4.4	1	1.5	0.7	3.9	4.9
Outstanding Loan Balance	100	110	119	131	144	156	175	192	212	230	252
Loans Made	20	6	7	9	11	13	13	14	16	17	19
Total Loans Made	20	26	33	42	53	66	79	93	109	126	145

## Simulation Results: Market Loans

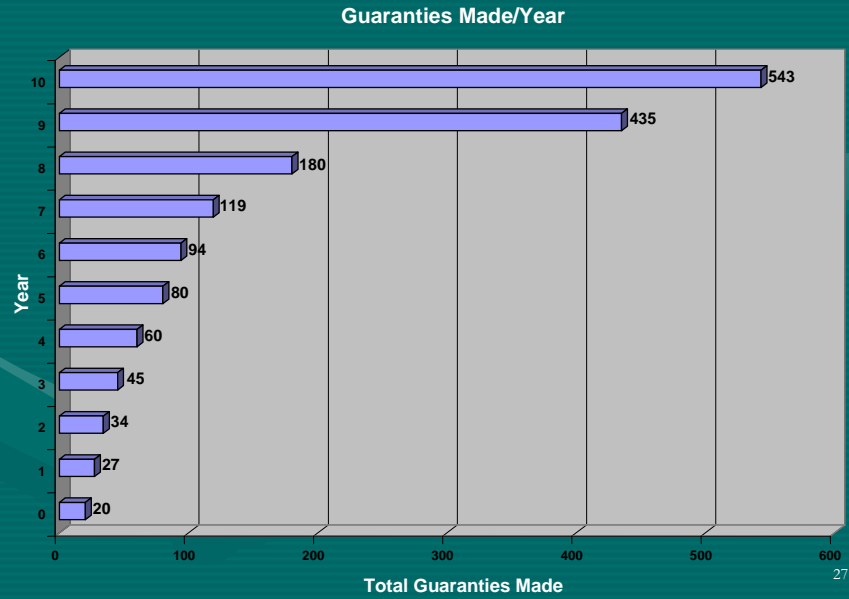
Market Rate Loans/Year



## Simulation Results: Loan Guaranties

Year	0	1	2	3	4	5	6	7	8	9	10
Opening Fund Balance	100.0	100.0	105.5	111.4	117.5	124.1	131.2	138.9	147.0	155.8	166.2
Interest Earned	0.0	5.0	5.3	5.6	5.9	6.2	6.6	6.9	7.3	7.8	8.3
Guaranty Fees Earned	0.0	0.5	0.6	0.6	0.7	0.9	1.1	1.2	1.5	2.6	8.3
Closing Fund Balance	100.0	105.5	111.4	117.5	124.1	131.2	138.9	147.0	155.8	166.2	182.8
Leverage Ratio	100%	90%	90%	80%	70%	60%	60%	50%	30%	10%	10%
Maximum Guaranties Begin Guaranties In Use	100	117	124	147	177	219	231	294	519	1662	1828
Guaranties Released	0	20	27	33	44	58	57	63	82	132	372
Guaranties In Use	0	80	88	90	101	118	161	168	211	384	1287
New Guaranties Issued	100	35	35	55	75	100	70	125	305	1275	540
End Guaranties In Use	100	115	123	145	176	218	231	293	516	1659	1827
Guaranties Issued	20	7	7	11	15	20	14	25	61	255	108
Total Guaranties Issued	20	27	34	45	60	80	94	119	180	435	543

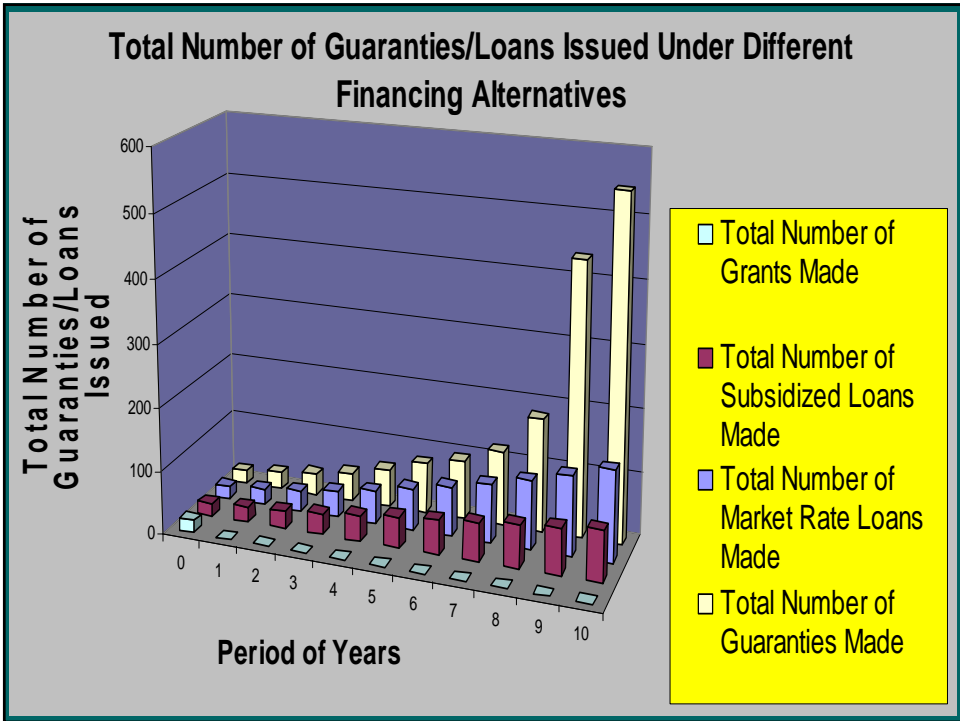
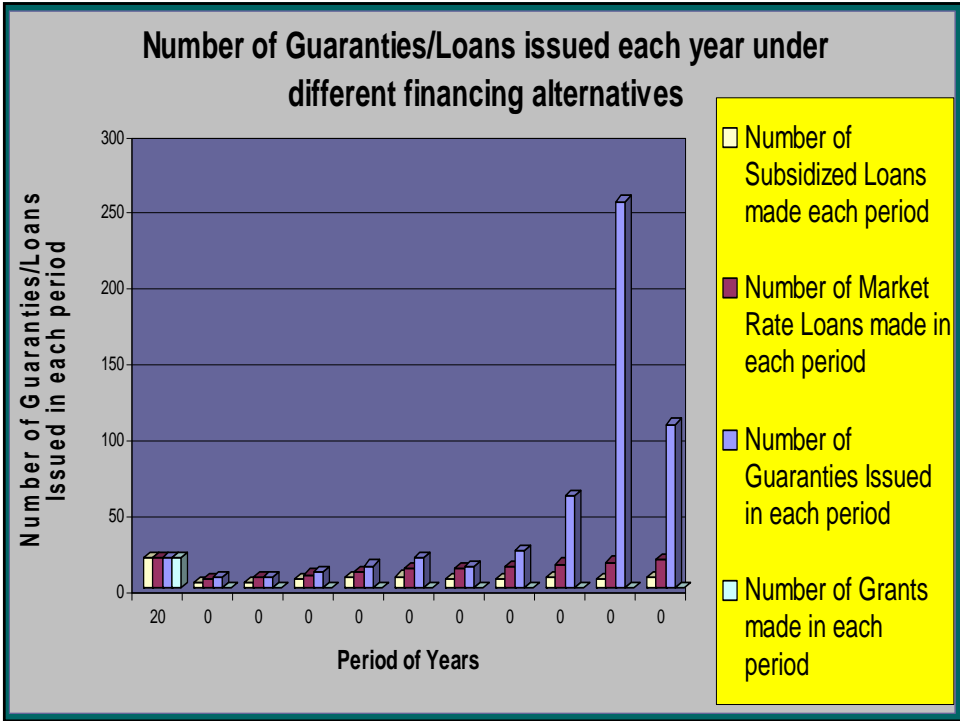
## Simulation Results: Loan Guaranties



## Analysis

Year	0	1	2	3	4	5	6	7	8	9	10
Total Market Rate Loans Made	20	26	33	42	53	66	79	93	109	126	145
Total Subsidized Loans Made	20	24	28	34	41	49	55	61	68	74	81
Total Guaranties Issued	20	27	34	45	60	80	94	119	180	435	543
Total Grants Made	20	0	0	0	0	0	0	0	0	0	0

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## Conclusion

*Loan guaranties* are far more efficient than grants, subsidized loans, or market rate loans