



**Testimony of Doris W. Koo
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For the Financial Services Subcommittee on Housing and Community Opportunity
United States House of Representatives**

**“H.R. 2336: the Green Resources for Energy Efficient Neighborhoods Act of 2009”
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Introduction

Chairwoman Waters, Ranking Member Moore Capito and members of the Committee, thank you for this opportunity to testify on the “GREEN Act.” I am Doris Koo, president and chief executive officer of Enterprise Community Partners (Enterprise).

Enterprise is a national nonprofit organization and we create opportunity for low- and moderate-income people through fit, affordable housing and diverse, thriving communities. Enterprise provides financing and expertise to community-based organizations for affordable housing development and other community revitalization activities throughout the U.S. For more than 25 years, Enterprise has invested over \$10 billion to create more than 250,000 affordable homes and strengthen hundreds of communities across the country. Enterprise also works closely on a bipartisan basis with policymakers at all levels of government to develop solutions to low-income community needs.

Enterprise commends the Subcommittee for convening this hearing. The timing could not be better, building on the investments made in the American Recovery and Reinvestment Act (ARRA) for green housing and looking ahead to a lively debate on climate change and transportation policy. With the economic crisis and recession hitting virtually every part of our society, it is abundantly clear that housing, environmental and transportation challenges facing low-income people and communities are more severe than ever before.

The principles and practices of “green” development offer evidence-based, cost effective ways to address current and longstanding housing challenges, rising energy and transportation costs and the effects of global warming, while creating jobs at potentially huge scale. “Greening” affordable housing – making it more energy efficient, healthier and more environmentally responsible – is also a tangible way to ensure that the enormous promise of the emerging green economy includes opportunities for everyone in our society. And green development provides a powerful framework for rethinking how we create and sustain communities that are better places for today and for future generations.

Energy efficiency in very low-income housing at scale can also help fight climate change. Residential units consume 22 percent of the nation’s energy and cause 20 percent of our greenhouse gas emissions.¹ The 25 million units that are home to our lowest income citizens are almost one-quarter of all residential units in the country. Most of these units were built before



1980 and many were poorly constructed. Not surprisingly, lower income households use 28 percent more energy per square foot than higher income households, primarily because they live in older, less energy efficient homes, according to the Energy Programs Consortium.ⁱⁱ

Research on the carbon reduction potential from energy efficiency in very low-income homes suggests significant impact. One recent analysis suggests that the 34 million households eligible for federal home energy assistance generated 276 million tons of carbon dioxide emissions, 27.5 percent of total emissions from residential units overall.ⁱⁱⁱ Another study found that weatherizing 12,000 homes in Ohio avoided more than 100,000 pounds of sulfur dioxide and 24,000 tons of carbon dioxide, while cutting average utility costs for low-income homeowners by an average of several hundred dollars per year.^{iv}

The GREEN Act will significantly improve the energy-efficiency of rental units and single-family homes. Enterprise's extensive research and evaluation effort show that green affordable housing built to the Green Communities Criteria can be extremely energy-efficient and cost effective. Early data on 45 completed Green Communities developments reveal an average of 20-30 percent energy and water savings over code. Similar to the energy requirements under the GREEN Act, whole-building energy and water efficiency are mandatory requirements for meeting the Green Communities Criteria. Green Communities projects must achieve energy performance levels appropriate for the building type by meeting Energy Star home standards, exceeding ASHRAE 90.1 2004 by 15% or exceeding current baseline performance in existing housing by 15% after rehabilitation improvements. Projects are also encouraged to exceed these mandatory performance levels through additional building envelope improvements and the addition of renewable energy systems.

It should also be noted that increasing energy efficiency in low-income homes attacks a significant contributor of greenhouse gas emission in the U.S. – residential homes – at the root of the problem: the buildings themselves. And it reduces emissions for the long term. While critically important, other approaches to ensuring equity in climate change policy, such as helping low-income people afford higher energy costs, do not deliver these enduring systemic benefits.

Enterprise Community Partners' Green Communities Initiative

Enterprise is working to bring the benefits of sustainable development to low-income people at an unprecedented scale through the Green Communities initiative. Through Green Communities, Enterprise provides funds and expertise to enable developers to build and rehabilitate for-sale houses and rental apartments that are healthier, more energy efficient and better for the environment – without compromising affordability. Enterprise also works with state and local governments and with Congress to develop policies that lead to more environmentally sustainable homes and communities.

Green Communities homes are built according to the Green Communities Criteria, the first national framework for environmentally sustainable affordable homes. The Criteria were



developed in collaboration with and endorsed by a number of leading environmental, energy, green building, affordable housing and public health organizations.

To date, Enterprise has invested more than \$650 million in equity, loans and grants to create more than 14,500 green affordable homes in over 350 developments. We have trained 4,000-plus housing professionals and helped more than 20 states and cities implement greener housing policies including HUD through the NOFA for Public Housing Agencies.

Enterprise's vision through Green Communities is for all affordable housing in the United States to be environmentally sustainable. Based on our experience and remarkable momentum across the country, we believe that goal is achievable in the near term. Grassroots housing organizations, in partnership with financial institutions, foundations, mayors and governors, are showing it is possible. Federal leadership can take this progress to scale. The ARRA bill made a great down payment on many of these efforts, investing more than \$18 billion in various federal programs at both the Department of Housing and Urban Development (HUD) and the Department of Energy (DOE) to green residential and commercial buildings. Despite and because of that investment, it is time for a national commitment to make green and affordable one and the same.

The GREEN Act represents a major step towards that goal. We commend Representative Perlmutter for his vision and leadership in introducing the bill and for his hard work and steadfast commitment which resulted in passage of the GREEN Act last year as part of the Comprehensive American Energy Security and Consumer Protection Act. The GREEN Act is a sweeping proposal with many provisions that would have substantial positive impacts in the housing market, especially the affordable housing sector. Overall, Enterprise enthusiastically supports the bill. We believe it would be an even stronger proposal with some modifications, which we reference in the balance of our testimony.

In the letter inviting Enterprise to testify, the Committee asked us to discuss several issues in a number of questions. The central issues at the heart of the Committee's questions are:

- How will the GREEN Act improve the energy efficiency of single- and multi-family housing units?
- In what ways will the GREEN Act encourage the use of energy efficient and location efficient mortgages?
- What are the benefits of energy efficient improvements on low-income housing developments and low-income residents?

The Case for a National Commitment to Green Affordable Homes: The Impact on Low-Income Communities and Communities of Color

Before addressing these issues, I believe it is important to establish context for my responses, specifically to frame the reasons why greening affordable housing should be a national priority. What follows is a summary of an Enterprise publication entitled *Bringing Home the Benefits of Energy Efficiency to Low-Income Households*, which I have included with our testimony. The



publication makes a comprehensive case for a national commitment to green affordable homes and lays out a 10-point policy platform for federal leadership.

There are roughly 29 million households with annual incomes of \$25,000 or less in this country.^v This income level is generally in line with the federal housing policy definition of “very low-income.” It is approximately equivalent to 50 percent of the national median income and 150 percent of the federal poverty level for a family of three. According to the Center on Budget and Policy Priorities, only 4.9 million low-income families – about one of four eligible households – receive federal rental assistance through Section 8 vouchers, project-based rental assistance and public housing.^{vi} For these families and individuals, and many more with higher incomes, the daily realities of housing challenges, rising energy and transportation costs and the impacts of climate change are interconnected.

Very low-income people are much more likely to live in less efficient buildings, which exacerbates the affordability problems millions face. Very low-income owners may only be able to afford homes that need energy upgrades to begin with and may have less income with which to make energy improvements. The Harvard University Joint Center for Housing Studies has reported:

While low-income households will, out of necessity, replace furnaces or appliances that break, they will not usually install insulation or other more costly measures because they lack the money to do so. Instead, they often take simpler and less effective steps such as putting plastic on windows in the winter and using towels to stop drafts from doors and windows.^{vii}

Low-income renters typically can afford only modest monthly payments, which constrains the ability of building owners to make building improvements. And more than half of low-cost, privately owned rental stock was built at least 30 years ago. According to Harvard University’s Joint Center for Housing Studies, “much of [the inventory] is owned by individuals without the skill and resources to manage the properties profitably. And when their rental units cannot generate enough revenue to cover basic operating costs, these owners have little choice but to cut back on maintenance and repairs.”^{viii}

Meanwhile, according to the Bureau of Labor Statistics, energy costs have increased much faster than incomes for very low-income households in recent years, rising 68.6 percent since 1999.^{ix} Families participating in the Low Income Home Energy Assistance Program (LIHEAP) spend 16.0 percent of their annual income on home energy bills – 4.4 times more than the level of non-eligible families.^x

Not surprisingly, high utility bills force many very-low income households to make desperate tradeoffs between heat or electricity and other basic necessities. A survey of households that received federal home energy assistance during a five-year period found that 47 percent went without medical care, 25 percent failed to fully pay their rent or mortgage and 20 percent went without food for at least one day as a result of home energy costs.^{xi}



In addition, low-income and minority communities are more likely to live in worse environmental conditions and experience greater rates of disease, limited access to health care and other health disparities. Studies have shown that negative aspects of the built environment tend to magnify these disparities.^{xii} Housing conditions in particular are important factors influencing health. Specific housing hazards include exposure to allergens that may cause or worsen asthma, lead-based paint hazards, mold and excess moisture and indoor air quality.

A study by the National Housing Conference Center for Housing Policy found that transportation costs are also rising, especially for very low-income families. NHC also found that families earning \$20,000 to \$50,000 spend nearly half their incomes on housing and transportation costs combined. Again, families face brutal tradeoffs. According to the report:

“Drive ‘til you qualify” is an option used by many Working Families seeking affordable housing by moving to far-flung suburbs. Others, by necessity, live in inner city or inner-suburban locations where affordable housing is located, but access to suburban jobs is limited. But for many Working Families their effort to save on housing expenses leads to higher transportation costs—and an even larger portion of their budget consumed by both items.^{xiii}

Climate change also imposes direct daily burdens for low-income people and minority communities. A report from the Congressional Black Caucus Foundation found that African-Americans are “disproportionately burdened by the health effects of climate change,” including increased deaths from heat waves and extreme weather, as well as air pollution and the spread of infectious diseases. African-Americans will also bear the brunt of unemployment and economic hardship exacerbated by climate change, according to the report, even though they emit 20 percent less carbon dioxide than whites. The report concluded: “Stark disparities exist in the United States between those who benefit from the causes of climate change and those who bear the costs of climate change.”^{xiv}

Yet proposed approaches to tackle climate change by capping carbon emissions would have deleterious effects on low-income people. The Congressional Budget Office (CBO) has determined that:

Regardless how the [carbon emissions] allowances were distributed, most of the cost of meeting a cap on CO₂ emissions would be borne by consumers, who would face persistently higher costs for products such as electricity and gasoline. Those price increases would be regressive in that poorer households would bear a larger burden relative to their income than wealthier households would.^{xv}

CBO noted that climate change policies that had only the “modest” effect of reducing emissions by 15 percent would impose an estimated \$750-\$950 a year in added costs, on average, on families in the bottom 20 percent of the income spectrum, those with average incomes of approximately \$13,000.^{xvi} By far the highest share of these higher costs – 45 percent – would come from more expensive home energy, according to the Center on Budget and Policy Priorities.^{xvii}



It should be noted that a national commitment to bring home the benefits of green development to low-income families would need to be phased in over time. Greening all affordable homes would require long-term commitment for practical as well as budgetary reasons. Conditions vary widely across the affordable inventory. There is a huge need to scale up the delivery system – contractors, energy auditors and local government staff – to implement a major national effort. And investments in green affordable homes must go hand-in-hand with strategies to encourage smarter land use and transportation.

In summary, housing, environmental and transportation challenges are inextricably linked and mutually reinforcing for millions of very low-income households. We can make progress on all these issues simultaneously and lock in long-term benefits by making an investment in greening affordable homes. But we need to think and act with more imagination and boldness than we have before. There is no more time for small-scale solutions and incremental progress.

Green Homes Deliver Multiple Benefits to Low-Income Communities and Communities of Color: Cost Savings, Health Benefits, Employment Opportunities

Cost Savings

The impact of increasing energy efficiency and making other improvements in the performance of affordable housing would create significant cost savings, health benefits and employment opportunities. Enterprise’s experience through the Green Communities program indicates that new and existing properties that achieve 20 percent-30 percent greater energy efficiency generate substantial cost savings from lower energy and water usage – hundreds of dollars per unit on an annual basis in many cases. These savings either accrue directly to low-income residents, or are reinvested back into properties by building owners, or both.

This is consistent with other research on improving energy efficiency in very low-income homes. For example, the Department of Energy reports that Energy Star-qualified single-family homes delivered \$200-\$400 in annual savings compared to conventional homes, with potentially substantial additional savings on maintenance.^{xviii}

For multifamily apartment owners, more energy efficient buildings may generate higher and more stable cash flow from rents. To the extent energy improvements were part of more holistic green building rehabilitations, rental properties may be more durable and higher performing and potentially more valuable assets to own over the long term. Renters themselves stand to benefit, as noted above.

A study of the costs and benefits of green very low-income housing by New Ecology and the Tellus Institute concluded: “For residents of affordable housing units, the life-cycle financial outcome [of energy and healthy home upgrades] is almost always positive.”^{xix} The same study found that:



In virtually all the cases, energy and water utility costs are lower than their conventional counterparts. In many cases, decreased operating expenditures alone more than pay for the incremental initial investment in greening the project in present value terms.

The use of more durable materials and equipment in several of the case study projects result in reduced replacement costs and provide additional life-cycle financial benefits. Moreover, the value of improved comfort and health for residents, as well as reduced environmental impacts, is substantial, although not captured quantitatively in our analyses.^{xx}

Health Benefits

In addition, studies of home weatherization and retrofit programs have catalogued an “array of benefits beyond energy savings,” including greater comfort, convenience, health, safety and noise reduction. These “non-energy benefits” have been broadly estimated to be worth 50 percent-300 percent of annual household energy bill savings.^{xxi} There is also emerging evidence that green homes are healthier.

There is a growing body of research that shows how the built environment can have “profound, directly measurable” physical and mental health outcomes. “Studies have shown that negative aspects of the built environment tend to interact with and magnify health disparities, compounding already distressing conditions... particularly adding to the burden of illness among ethnic minority populations and low-income communities.”^{xxii} Low-income and minority communities are more likely to live in worse environmental conditions and experience greater rates of disease, limited access to health care and other health disparities.

Housing conditions have long been seen as important factors influencing health. According to David E. Jacobs, research director at the National Center for Healthy Housing and former director of the Department of Housing and Urban Development’s Office of Healthy Homes and Lead Hazard Control:

The physical structure of housing, together with the social and psychological aspects of home and the surrounding neighborhood are related to many key determinants of health... Specific housing hazards include exposure to allergens that may cause or worsen asthma, lead-based paint hazards, mold and excess moisture, unintentional injury, pesticides, indoor air quality and others.^{xxiii}

Green design and building practices can create healthier home environments through better indoor air quality and healthier building materials. Sustainable developers are still learning which practices have the most positive health outcomes. As Jacobs notes:

There is new evidence that housing interventions are indeed effective in reducing the onset and severity of asthma [and] there is similar evidence for other health



outcomes...[although] considerably more research is needed to understand which interventions hold the greatest promise.^{xxiv}

The bottom line, according to Rebecca Morley, executive director of the National Center for Healthy Housing:

It is clear that we can expect substantial health gains by building green. Instead of paying for medical care that could have been avoided, occupants in Green Communities will be able to keep more of their income and avoid the suffering and loss associated with poor health.^{xxv}

Smarter site planning and development that creates a sense of community, encourages walking and provides access to parks and mass transit is also healthier. Research suggests that people who live in sprawling areas walk less, weigh more and are more likely to suffer from high blood pressure.^{xxvi}

A recently completed study on a Hope VI green affordable housing project developed by the Seattle Public Housing authority monitored 60 rental homes occupied by families who suffer from asthma or other respiratory illnesses. These “Breathe-Easy” homes were designed to minimize residents’ symptoms and improve their health. For the entire group of residents living in Breathe-Easy homes, the number of emergency room or urgent doctor visits declined by two-thirds. In their old homes, which often contained many of the triggers for asthma symptoms, children experienced an average of 7.6 symptom-free days every two weeks. After living in their Breathe-Easy Homes, they were symptom-free 12.4 days out of every 14. By this measure, children with asthma experienced a 65 percent increase in symptom-free days. The caretakers of asthma sufferers also reported an increase in their quality of life. These preliminary findings suggest that modest improvement in housing design, materials and construction (approximately \$6,000 per unit) dramatically reduced asthma triggers, symptoms and incidence rates.^{xxvii}

Employment Opportunities

Investment in increasing energy efficiency in very low-income homes would generate significant economic activity in the construction industries and other sectors that have been hard hit by the economic downturn. According to the Bureau of Labor Statistics, residential construction employment – the component of the construction sector most directly affected by the housing slump – fell 31.4 percent since the peak in April 2006, for a total loss of 321,500 jobs.^{xxviii} Smart federal investments can help this critical industry to our economy bounce back more quickly.

Energy efficiency and broader green home rehabilitation and new construction can be an especially promising basis for creating good “green collar” jobs for low-income people. A recent study identified 22 different job sectors of the U.S economy that currently provide workers with green collar jobs, of which 11 were directly (not to say exclusively) related to green home rehabilitation, including several specifically tied to energy efficiency.^{xxix}



The condition of many homes and apartments where our lowest income citizens live creates opportunities for significant energy savings and other environmental improvements through cost-effective rehabilitation measures. These approaches – insulation, chimney and roof repairs; caulking and sealing; window replacements; installation of energy-efficient equipment; and systems and building testing – offer good paying jobs for which low-income workers could be trained and employed.

Increased investment in green very low-income home rehabilitation could create these jobs at scale. One study of a residential retrofit initiative in Germany showed that 140,000 jobs were saved or created in retrofitting 200,000 homes.^{xxx} The Department of Energy (DOE) estimates that every \$1 million invested in weatherization programs creates 52 low-income community jobs.^{xxxi}

Of course, not all construction jobs on green very low-income developments could fairly be characterized as “green jobs” absent an intentional effort to provide training in the aspects of the work that were more energy efficient and environmentally responsible. Even without such an explicit commitment, green home rehabilitation and construction “does have the potential to create entry level job opportunities for low-income and people of color when cities implement a combination of policies that promote green building, job training and labor standards.”^{xxxii}

Green jobs associated with very low-income housing can be created outside construction as well in the areas of home energy audits, inspections and building performance testing. And as innovation and public policies accelerate market penetration of renewable energy technologies, opportunities should emerge to create more green economy jobs, and deliver the energy and environmental benefits of clean energy, to low-income people through energy efficient home construction and rehabilitation.

The Need for Additional Resources

The GREEN Act would provide new federal resources for green affordable development primarily through loans (Section 14) and a block grant (Section 16). These funds generally would support hard costs of energy efficiency improvements. The bill also would provide critical resources to build capacity and provide technical assistance to enable developments to achieve green goals cost-effectively. One especially important provision would provide funds to strengthen the capacity of community-based organizations in green development (Section 18).

It is not clear precisely how much direct federal investment the GREEN Act would authorize. To frame for the Committee the potential scope of a national commitment to green affordable housing, Enterprise projects that a federal commitment of \$5 billion a year over 10 years could deliver huge benefits across the board: 25 percent-40 percent energy savings in up to 25 million residential units, up to 50 million tons of carbon dioxide emissions avoided and hundreds of thousands of green jobs created annually when fully implemented.

Such a federal commitment is relatively modest when one considers that the U.S. Department of Housing and Urban Development (HUD) currently pays more than \$4 billion annually in utility



bills in often inefficient government-assisted properties that constitute a fraction of the homes and apartments that could benefit.

Federal funding is a relatively small part of the equation in our vision of the transformation within our grasp in affordable housing. Capital and innovation must come from mainstream financial institutions to make major progress and targeted federal incentives have an important role to play at this formative stage. The GREEN Act recognizes this and would facilitate it by providing Fannie Mae and Freddie Mac extra credit towards their annual affordable housing finance obligations for funding mortgages that incentivize energy efficiency (Section 6). This would stimulate innovation among key actors in the housing finance system and work within the current statutory and regulatory framework for covered institutions.

Conclusion

Several factors suggest the time is now to mainstream energy efficiency in very low-income housing. Worsening housing, environmental and transportation needs and growing public awareness of climate change is driving energy investment and innovations among a wide range of industries, including housing and construction, of which very low-income housing is an important sub-sector. Green building practices emphasizing energy efficiency are becoming more widespread among very low-income housing providers, due in large part to stimulus funds directed towards these programs and ideals. State and local policymakers are also starting to take serious action on climate and energy issues, opening opportunities to create policies and public-private partnerships.

Now is the time for federal leadership. The federal government has an important role to play in accelerating the transformation of affordable housing and bringing home the benefits of the emerging green economy to low-income families and communities. The GREEN Act would be a groundbreaking step in the right direction. We look forward to working with the Committee to pass this bill this year.

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- ⁱⁱ Ibid.
- ⁱⁱⁱ Ibid.
- ^{iv} Dan W. Reicher, Director, Climate Change and Energy Initiatives, Google.org. Testimony given before the Senate Committee on Finance (February 27, 2007).
- ^v U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, Table 1. Income Distribution Measures, by Definition of Income: 2007.
- ^{vi} Douglas Rice and Barbara Sard, “Decade of Neglect Has Weakened Federal Low-Income Housing Programs,” Center on Budget and Policy Priorities (February 25, 2009).
- ^{vii} “America’s Rental Housing: Homes for a Diverse Nation,” Joint Center for Housing Studies of Harvard University (2006).
- ^{viii} Ibid.
- ^{ix} Bureau of Labor Statistics, Consumer Price Index for All Urban Customers: Energy (CPIENGSL) (April 1999 and 2009).
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- ^{xi} “2005 National Energy Assistance Survey,” National Energy Assistance Directors’ Association (September 2005).
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- ^{xviii} See www.energystar.gov/index.cfm?c=new_homes.nh_benefits.
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- ^{xxi} Jennifer Thorne Amman, “Valuation of Non-Energy Benefits to Determine Cost-Effectiveness of Whole House Retrofits Programs: A Literature Review,” American Council for an Energy-Efficient Economy (May 2006).
- ^{xxii} Ernie Hood, “Dwelling Disparities: How Poor Housing Leads to Poor Health” *Environmental Health Perspectives*, May 2005.
- ^{xxiii} Jacobs, D.E., “Housing and Health: Challenges and Opportunities,” Keynote Address, Proceedings of the 2nd WHO International Housing and Health Symposium, WHO European Centre for Environment and Health (Bonn Office), Noise and Housing Unit, Bonn Germany, September 29 - October 1, 2004, (Vilnius Lithuania, October 20, 2005), 25.
- ^{xxiv} Ibid, 41.
- ^{xxv} Statement of Rebecca Morley, MSPP, Executive Director, National Center for Healthy Housing Before the Environmental Public Works Committee United States Senate (May 15, 2006).
- ^{xxvi} Barbara McCann and Reid Ewing, *Measuring the Health Effects of Sprawl: A National Analysis of Physical Activity, Obesity and Chronic Disease*, (Washington, D.C.: Smart Growth American and Surface Transportation Policy Project), 2003.
- ^{xxvii} T.K. Takaro, MD, MPH, et., al., “Clinical Response in Asthma From Improved Housing Design and Construction,” presentation at US Green Building Council’s Greenbuild Conference (November 2007).
- ^{xxviii} Bureau of Labor Statistics. Employment, Hours, and Earnings from the Current Employment Statistics Survey (National). Series ID: CES2023610001.



^{xxix} Raquel Pinderhughes, Ph.D., “Green Collar Jobs: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment,” City of Berkeley Office of Energy and Sustainable Development (2007).

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^{xxxi} “Weatherization Assistance Program: Improving the Economies for Low-Income Communities,” U.S. Department of Energy (August 2006).

^{xxxii} “Community Jobs in the Green Economy,” Apollo Alliance and Urban Habitat (2007).