

**REPORT ON THE
RESEARCH, INFORMATION AND
COMMUNICATIONS PROGRAM EVALUATION**

Program Evaluation Division
Canada Mortgage and Housing Corporation
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Ce rapport est aussi disponible en français auprès de la Division de l'évaluation de programme.

1.0 INTRODUCTION

1.1 PURPOSE

This report addresses the key findings and conclusions of the Evaluation of CMHC's Research, Information and Communications Program.

CMHC has been involved in housing research, information and communications activities since 1946. Although individual activities have been evaluated in the past and the program as a whole has been the subject of program reviews, this is the first evaluation of the overall program.

The evaluation covers research, information and communications activities undertaken between 1987 and 1992. The scope of the evaluation was limited to those activities which were expected to have an external impact and which utilize, at least in part, Part IX of the National Housing Act. Specifically, this includes the:

- Directed Research Program
- External Research Program
- Housing Technology Incentives Program
- Research Institutes Support Program
- Market Information and Analysis Program
- Awards Programs
- Scholarship Program
- Information and Communications Program.

The Directed Research Program and the Information and Communications Program represent over 50 percent of the total research budget.

The evaluation assesses program rationale and the achievement of individual program objectives and the overall research objective as stated in Part IX of the National Housing Act (i.e., to improve the housing conditions of Canadians), and considers alternatives to program design.

1.2 METHOD AND KEY INDICATORS

Prior to undertaking this evaluation, CMHC's Program Evaluation Division undertook an extensive investigation of the methods used in evaluating research programs. It is commonly acknowledged by the literature and by experts that research programs are very challenging to evaluate, largely because research impacts are very difficult to isolate and quantify, and because significant impacts and changes occur over a long timeframe.

Since a direct measurement of research impacts is problematic, indirect measures must be used. In this regard, the evaluation followed the federal government guidelines for the evaluation of research programs. These are regarded as the state of the art in the evaluation of research

programs and are consistently used by federal government departments and agencies in the review of their research programs. Specifically, the approach uses various qualitative data sources (i.e., peer reviews, case studies and opinion surveys) to obtain information from the likely clients of the research and information outputs to determine the success of the program. The approach relies on the support of multiple lines of evidence. Overall success¹ is measured in terms of the assessment of: the importance of the work, the extent to which the work can be used by prospective clients, the quality of the work and, the expected impact of the work. The degree to which these indicators, taken together, are positive establishes the degree to which the program is likely to have an impact. Client and peer opinion on the extent to which the housing research, information and educational activities would have occurred without the program (i.e., incrementality) and client and peer opinion on the extent to which there is duplication between CMHC research and information transfer and the activities of others are collected as evidence of opportunities to increase partnering or to focus programs and financing. The evaluation includes an examination of the success of individual components, as well as a review of the performance of RIC programs relative to one another.

The evaluation also includes extensive literature reviews, key informant interviews, examination of key trends in other research organizations, and surveys of program participants and CMHC staff.

¹ A description of the indirect measures of success and the rationale for key respondents is attached in Appendix A.

2.0 PROGRAM RATIONALE

Although Canada has become one of the best housed nations in the world, there remains a strong need for housing research.

The evaluation found that there is a continuing need for housing research. All data sources cited examples of areas where the federal government should be doing research. In particular, 78 percent of clients who expressed an opinion and 60 percent of all private sector clients concluded that there are housing-related problems which need to be addressed by research. Together these clients made over 1,000 suggestions for future research. Experts in the housing field identified a broad range of housing problems requiring further research. These include: deterioration of the housing stock and future renovation requirements, deteriorating infrastructure, mismatches between the existing housing stock and expected patterns of demand, persistent affordability problems and housing for those with special needs. The literature indicates that the nature of housing problems has changed. The main problem during the immediate post war period was generally poor housing conditions. The evidence shows that quality and access on the whole have improved dramatically since that time. As highlighted above however, equally challenging problems have emerged in recent decades.

In addition, the federal government helps to promote faster innovation in housing, especially in emerging fields, through its dissemination of information. A recent study (Mills, 1989) indicates that innovation in the housing sector tends to be slow in comparison with other sectors. In this regard, clients agree that CMHC serves as a credible, independent and objective source of information.

The rationale for government addressing the need for research and providing at least part of the cost of housing research is that the private sector has a limited capacity or interest in financing it. Government can demonstrate leadership by advocating in areas where the private sector does not have an interest, does not see the benefit or is not prepared to bear all the cost. Much of this research is for the benefit of society as a whole (e.g., research related to environmental issues), or addresses equity concerns (e.g., research on housing affordability) and special needs (e.g., research on the housing needs of the elderly).

The economic literature on research strongly suggests that the private sector will not undertake research if it does not yield a net private benefit. The critical consideration here is the ability of innovators to obtain income from selling access to the new knowledge they create, discussed in the literature as the problem of "appropriability". Private returns from research effort will be substantially less than social returns where appropriability is weak. This condition is likely to occur where: industry is not vertically integrated; an innovating firm cannot expect to enjoy a cost advantage over their rivals even in the short term (i.e., no learning curve); patent protection does not exist; and the technical elements of the innovation are easily analyzed and copied. Where these circumstances prevail, private research effort will be inadequate.

In the housing industry, appropriability is very limited. The industry is fragmented, and there is little vertical integration. Innovations frequently involve system design or construction techniques which cannot be protected by patents, trade secrecy, brand names or experience. (A different situation prevails in the materials industry, where innovations are embodied in new products which can be patented, and whose superior characteristics will command a premium in the marketplace.)

Collective action through industry associations is, in principle, a means by which the problem of appropriability might be overcome. To be successful, this approach requires associations that have enough resources to undertake major research projects. Interviews with representatives from industry associations in Canada's housing sector indicate that these organizations undertake relatively little research largely due to under resourcing. Therefore, achievement of efficiency gains largely depends on publicly-funded research.

At a theoretical level, the capacity of industry associations to fund large-scale research is severely restricted by a "free-rider" problem. An individual builder will have little incentive to help fund industry research if it can expect easy access to new knowledge in any case - which is likely, at least where construction process innovations are concerned. An industry association that attempts to fund a major research program through contributions from its members, increasing its fees accordingly, may thus experience a drastic loss in its membership. The fragmentation of the building industry makes this problem worse. In a fragmented market any individual firm's refusal to contribute to industry research can reduce total research effort by only a small amount. This strengthens the incentive to free-ride, as individual firms come to realize that their own behaviour has a negligible influence on the amount of new knowledge produced.

To attract industry support, a research program must offer the possibility of additional profits. Even collective research effort will require a sufficient degree of appropriability, in this sense. Industry associations will have little incentive to sponsor the development of cost-saving innovations, where in the process of market competition, builders are compelled to pass all such savings on to home-buyers. In this case, the highly competitive nature of the building industry undermines incentives to carry out collectively-funded research.

The industry cannot be expected to undertake research addressing broader social concerns - for example, research intended to improve the housing conditions of lower income Canadians or designed to achieve housing-related health and safety objectives. For this reason alone, there remains considerable scope for government support of housing research even after the possibility of collective industry action is taken into account.

The federal government finances housing research and information dissemination that benefits all Canadians. Provincial, territorial and municipal governments will finance research designed to benefit their own constituents, and which will not necessarily be transferable to other jurisdictions. A secondary and related rationale for federal government involvement is to secure the greatest benefit from limited research resources. This requires a consolidated and co-ordinated approach and leadership on matters of

national interest. This results in a critical mass which furthers the efficiency of housing research activities.

The need for federal involvement in housing research arises from the fact that other governments do not have a specific mandate to undertake research that is national in its scope and implications. The problem of external benefit is critical here. Many research projects will produce knowledge that can be used to improve housing conditions in a number of regions. Since governments will naturally concern themselves with the well-being of their own constituents, benefits to non-residents will not be adequately taken into account by individual provinces/territories/municipalities in deciding how much and what types of research to sponsor. Certain types of housing research which promise significant net benefit to Canadians as a whole will not be performed without federal involvement. (This is not to imply that all research sponsored by other governments is narrowly focused on local concerns, or to deny that provinces/territories/municipalities need to perform some research of benefit principally to their own constituents.)

The problem of external benefit does not in itself justify a federal role in performing housing research. In principle, the federal government might simply transfer funds to the provinces/municipalities to support desired research. However, such an approach will require a separate structure to establish national standards and monitor the activities of the various establishments receiving federal support to ensure that transferred resources are put to their intended uses. Rather than set up what is likely to be a costly and politically problematic oversight function, it may be more efficient to simply perform the desired research at the federal level. In addition, it would be difficult for the various, provinces/territories/municipalities, acting independently, to have sufficient critical mass to manage and acquire the necessary expertise for managing a major research initiative, as effectively as a single national entity.

By encouraging co-ordination of research agendas the federal government can help to ensure that high-priority research areas obtain adequate resources, that complementarities in research activities are realized and that unproductive duplication is avoided. The government fulfills this role through its support of entities such as the National Housing Research Committee.

The federal government has a well-established leadership role in the housing sector. This encompasses the identification of housing problems, development of solutions, and the encouragement of actions on the part of other governments and the private sector that address these problems. Much of the housing research currently sponsored by the federal government arises directly from this mandate. The federal presence in research encourages a national awareness of housing trends and issues, such as those related to the affordability of adequate housing for low-income households, the special needs of the elderly and the disabled, and the connection between housing characteristics and physical health. The federal presence also promotes national standards in areas such as building skills, construction technologies, materials and regulatory reform.

Housing research at the federal level also assists the Government of Canada in its international activities whereby federal authorities support the Canadian housing sector's efforts to benefit from foreign business opportunities and expertise.

CMHC research is consistent with government priorities and within CMHC's current Part IX mandate.

The evaluation reviewed the various research activities funded under CMHC's Research, Information and Communications (RIC) Program to determine whether these fell within the mandate of CMHC's strategic plan. It was determined that all of these activities could be linked to one or more of the directions identified in the strategic plan. The bulk of Program activity is directed toward improvements in the efficiency of housing production, (e.g., housing quality) while the balance of program activity addresses equity concerns (e.g., affordability for low income households).

A broad review of research projects undertaken under RIC over the 1987 to 1992 period showed that the program's budget was appropriately spent. All projects could be classified as research, information or communications, and all were within the mandate of the NHA. Interviews with key informants supported the view that CMHC research priorities are strongly influenced by federal government priorities.

3.0 SUCCESS OF THE RIC PROGRAM COMPONENTS

The eight components of the Program have operational objectives which relate to the overall mandate from Part IX of the NHA, namely, to investigate housing conditions and distribute information which would lead to improved housing conditions in Canada.

As stated earlier, overall success is measured in terms of the importance of the work, the extent to which the work can be used by prospective clients, the quality of the work, the expected impact of the work. The degree to which these indicators, taken together, are positive establishes the degree to which the program is likely to have an impact. Client and peer opinion on the extent to which the housing research, information and educational activities would have occurred without the program (i.e., incrementality) and client and peer opinion on the extent to which there is duplication between CMHC research and information transfer and the activities of others are collected as evidence of opportunities to increase partnering or to focus programs and financing.

3.1 Directed Research Program (DRP)

The Directed Research Program has been successful in meeting its objectives. It scored very well on all key indicators and was found to be well managed. The DRP can be enhanced by involving clients more in the planning of research, by strengthening the role of the National Housing Research Committee (NHRC), and by pursuing more private sector participation in the financing of research.

The Directed Research Program is the major research program accounting for over one-third of the total RIC expenditures. The objectives of the Directed Research Program are to undertake research into priority issues and provide knowledge and information which will improve housing policy and programs, enhance housing market efficiency and housing quality, and support improved decision-making related to housing provision in the public and private sectors.

Importance: The Directed Research Program's research was found to address priority issues and important research topics. A formal research planning process is used to identify the priority areas for inclusion in the Research Plan for directed research and to ensure the linkage between CMHC's Corporate Strategic Plan and the directed research activities. Evidence from key informant interviews and from a comparison of the Research Plan with the CMHC Strategic Plan showed that these mechanisms have been effective in ensuring that research areas investigated under the DRP are consistently related to government priorities.

The case studies found that the research undertaken addresses areas which are important to external organizations, and peer reviewers reported that 75 percent of the DRP projects reviewed were well-focused on important research topics in the research areas. Seventy-seven percent of DRP researchers surveyed said that their research successfully addressed current housing problems, and 57 percent of clients surveyed said that CMHC research (the bulk of which is conducted under the DRP) addresses current housing problems. All the evidence

supports the conclusion that DRP research is important in terms of addressing current housing issues.

Usefulness: DRP research was also found to be useful to both CMHC users and to external organizations and clients. Three-quarters of DRP papers were rated by peer reviewers (i.e., external non-CMHC experts) as extremely useful or very useful and 18 percent were rated as moderately useful to one or more client groups. Eighty percent were rated by peer reviewers as useful to CMHC.

Quality: The evaluation found that research under the DRP has been of high quality. Peer reviewers rated 52 percent of DRP papers as excellent, 27 percent as good and 2 percent as world class. The case studies found that CMHC is seen as a world leader in fields such as ventilation and air quality work.

Impacts: DRP research has impacts through application by industry, by regulation and by changes in policies affecting housing. Three-quarters of case study interviewees said that the results of past research have been applied by industry. Half of those interviewed said that research under the program will lead to changes in regulations, and a third said that there will be changes in housing patterns and affordability. Survey evidence confirms the conclusion that the results of DRP research is successful in improving housing quality, and influencing housing policy.

A survey of DRP program participants showed that 64 percent of respondents perceived DRP research to have contributed very much to housing knowledge. Half rated the DRP as contributing very much to improved housing quality. Forty percent rated the DRP as contributing very much to encouraging housing innovations. Twenty-three percent rated the DRP as contributing very much to maintaining the skills of housing specialists.

Incrementality: The evaluation found that the DRP has a large incremental impact on the amount of housing research done in Canada. While the majority of respondents for 5 of the 13 case study projects felt that other organizations might have done the research if CMHC had not done it, most thought the work done by others would have been slower, more limited in scope, less integrated, less national in scope, more likely to be proprietary, less likely to have the results transferred to others and less certain of being funded.

Duplication: An analysis of peer reviewer opinions indicates that about 35 percent of the research funded under CMHC's Directed Research Program is thought to partially or totally duplicate research funded under other research programs. The average of total and partial duplication of CMHC research with work done elsewhere was calculated to be about 17%. An analysis of case study respondent opinions yielded a similar estimate of the amount of duplication between CMHC's research and other research (i.e., about 15 percent). These results are comparable to those for evaluations of other research programs where similar measures of duplication have been employed. This suggests that a certain amount of duplication is to be expected among research programs for reasons such as validation of

results. The evaluation concludes that duplication is not a serious problem for CMHC's research program.

Improvements: The DRP includes both in-house research conducted by CMHC research staff and external research funded under Part IX through contracting-out arrangements (consistent with the federal government's contracting-out policy) and managed by CMHC research staff. Evidence compiled for the evaluation showed that the contracting procedures and external research contracts are seen as well-managed by the external contractors due to the availability of in-house CMHC research experts to manage external contracts. Since the background work for the evaluation was completed, steps have been taken to streamline administrative practices involved in DRP program delivery. These steps address issues identified by the evaluation such as contract approvals processes and reviews.

CMHC has a rigorous and consultative research planning process for both internal and external clients; however, the evidence shows that clients do not understand how CMHC sets its research priorities, do not feel they have any influence over the research priorities and clearly want more involvement in the setting of priorities.

The National Housing Research Committee (NHRC) is an effective forum for the exchange of information and, as a co-ordinating body for housing research in Canada. NHRC was seen as a vehicle for external clients to provide input into CMHC's research plan; however, many members want more influence.

The program has been successful in generating joint ventures. Most joint ventures have been with other federal government departments. The characteristics of the housing industry clearly indicate why more financial support has not been provided by the private sector. Survey data nonetheless show that more joint-venturing with the private sector is possible.

3.2 External Research Program (ERP)

The External Research Program has been successful in meeting its objectives. It scored very well on indicators of importance, quality, and duplication, and well on usefulness, and impacts. The program was moderately incremental. The program was found to be well managed.

The objective of the ERP is to support independent, quality housing research by individuals in the private and not-for-profit sectors. Research proposals are selected through a competitive selection process involving a committee of external experts which reviews the research grant proposals. The average annual ERP expenditure over the study period was \$300,000 and 17 research projects funded per year (with a maximum grant amount of \$20,000).

Importance: Most of the ERP research was found to address important research issues in the housing field. Peer reviewers found that 77 percent of ERP papers were well-focused on important topics in the research area. Among ERP researchers, 68 percent said that their research contributed very much to addressing current housing problems.

Usefulness: Most ERP research was also found to be useful to clients. Forty-nine percent of papers were rated by peer reviewers as extremely or very useful for at least one client group. The case studies showed that about 70 percent of the ERP papers had a clearly defined target clientele, and peer reviewers rated 80 percent of the papers as useful to CMHC. Two-thirds of CMHC Policy and Research staff reported using ERP research products, 73 percent said ERP research was useful to them.

Quality: The evaluation found that ERP produces high quality research. Peer reviewers rated 46 percent of ERP papers as excellent and 39 percent as good. About 90 percent of ERP researchers said that their research produced reliable, rigorous research and objective information or data.

Impact: The major impact of ERP, according to ERP researchers, has been in increasing housing knowledge. Sixty-one percent of ERP applicants said the program contributed very much to housing knowledge. About 40 percent said the program contributed very much to improving housing quality, encouraging housing innovation, and maintaining the skills of housing researchers. Twenty-one percent felt the program contributed very much to developing new housing specialists.

Incrementality: The evaluation found that the ERP has a moderate incremental impact on the amount of housing research done in Canada. While only 12 percent of ERP recipients indicated that they would have continued with their research project in the absence of CMHC support and, from the case studies, all of the 5 unsuccessful applicants did not proceed with their research, almost half of unsuccessful ERP applicants from the surveys actually proceeded with the same or a similar project.

Duplication: An analysis of peer reviewer opinions indicates that about 38 percent of the research funded under CMHC's ERP is thought to partially duplicate research funded under other research programs. These results are comparable to those for evaluations of other research programs where similar measures of duplication have been employed. The evaluation concludes that duplication is not a serious problem for CMHC's research program.

Improvement: The ERP is well managed, including the involvement of external peers in the proposal selection process. The evaluation noted the potential to increase the involvement of external peers through the research process including the peer review of the completed research projects.

3.3 Research Institutes Support Program

The Research Institutes Support Program (IUS and RSTRSP) has been successful in meeting its objectives. It scored well on research quality and little duplication was found. Results on usefulness and program impacts were mixed, with CMHC staff rating institute research as very useful but clients of the institutes giving them a low rating. Institute research was found to be important and the program was found to be moderately

incremental. The program was found to be well managed. Although institute workplans, including work undertaken directly for CMHC, would already appear to be highly applied, clients have suggested that the institutes should undertake more practical research and more research which is transferable to other regions.

ICURR has been successful in meeting its objectives. It scored very well on importance, quality, incrementality and duplication. Results on usefulness and program impacts were mixed.

The institutes include the Institute of Urban Studies (IUS) at the University of Winnipeg, the Rural and Small Town Research and Studies Programme (RSTRSP) at Mount Allison University, and the Intergovernmental Committee on Urban and Regional Research (ICURR) which receives half of its support from CMHC and half from provincial governments. The objectives of the institutes support program are to support research, information exchange and outreach activities, and, in the two university-based institutes, educational activities.

Importance: The case studies found that IUS research addresses issues important to urban planners and policy makers in general, while RSTRSP research is more tailored to meet the needs of specific clients. Forty-two percent of IUS and RSTRSP papers and 86 percent of ICURR papers were rated by peers as being well focused on important research issues. Outreach activities of IUS and RSTRSP were frequently designed to address priority needs and issues important to the clientele of the programs.

Usefulness: The usefulness of the research, outreach and information activities of the institutes to the clients served were all considered in the evaluation. Peer reviewers rated 75 percent of IUS and RSTRSP papers and nearly 90 percent of ICURR papers as useful to CMHC. About fifty percent of CMHC Policy and Research staff reported using the Institutes' research products and services, and of those about two-thirds said the research was useful to them.

A third of the two research institutes' papers and about half of ICURR papers were rated by peer reviewers as useful to other client groups. The survey of samples of clients from the institutes' mailing lists confirmed these findings indicating that 28 percent of IUS and RSTRSP clients felt the institutes' publications were very useful, and 40 percent of ICURR's clients rated ICURR's research as very useful to them.

The survey showed that IUS and RSTRSP clients value the outreach activities (seminars, workshops and related activities) more highly than they value the research per se. The case studies noted high levels of participation in the workshops and seminars conducted by the institutes. Similarly, ICURR clients rate ICURR's information dissemination activities as more useful than ICURR's research. Fifty-eight percent of ICURR's clients felt that ICURR's information exchange on urban and regional issues was very useful to them, and over half of those who requested information from ICURR were very satisfied with the information ICURR provided. Similar results were obtained by ICURR's 1994 user survey.

Quality: Two-thirds of research papers from IUS and RSTRSP and all of the ICURR research papers were rated by peers as excellent or good quality.

Impacts: The case studies noted specific examples of research projects having positive impacts in community planning, housing and related areas that suggest the research was valuable for local decision-making. Publications have enjoyed wide demand from government organizations, non-profit agencies and private sector firms in Canada and abroad, and some have become textbooks. These publications have increased awareness of housing and community planning issues. The education activities of the two institutes have helped in the training of modest numbers of students who have proceeded to higher studies or jobs in the housing field.

Incrementality: The evaluation found that CMHC's financial support for the research institutes has a moderate incremental impact on the amount of housing research and information transfer conducted by the institutes. It is likely that ICURR would have to terminate its activities if CMHC withdrew funding since the provinces would also likely withdraw their funding. It is likely that the additional funding that the RSTRSP and the IUS now receives from other sources would not be sufficient to sustain the university institutes' activities in housing research in the absence of CMHC funding.

Duplication: An analysis of peer reviewer opinions indicates that the degree of duplication between research funded under the Research Institutes Support Program and under other programs was thought to be very similar to the work as a whole (i.e., about one-third partially duplicates work funded under other programs) while the degree of duplication for research funded under ICURR is slightly lower, with about 25 percent duplicating work funded under other programs. These results are comparable to those for evaluations of other research programs where similar measures of duplication have been employed. The evaluation concludes that duplication is not a serious problem for CMHC's research program.

Improvements: Client suggestions to emphasize the data management role of ICURR does not accord with the recommendation made by CMHC in 1989 to strengthen ICURR's research role. ICURR is one of the few organizations conducting research on urban and regional issues.

3.4 Scholarship Program

The original objective of the program, to address the shortage of planning professionals, has been met. There is no continuing need for the Scholarship Program. There are no impediments to training in the housing and planning fields. The program has attracted few scholars to the housing field.

The objectives of the Scholarship Program are to encourage students to specialize in housing and planning fields of study and to develop housing expertise in Canada. Since the Program was created in 1947, over 2,500 Canadian students have received scholarships, and the Program has contributed to the creation of Canada's strong community planning capabilities

today. Survey data revealed that roughly six percent of housing professionals responding to the survey had received CMHC scholarships for their training.

When the Program was created, there were serious shortages of trained planners and housing professionals in Canada and the lack of academic programs to provide training required to meet the demand. Over the post-war period, planning schools have been established in over 17 Canadian universities, and there are currently over 2,500 full- and part-time planning students in Canada. Therefore, there are currently no shortages of training opportunities in the university system to meet the needs for trained professionals in the planning field. In addition, there are no particular impediments to prevent persons interested in pursuing careers in the planning field from acquiring the necessary training and entering the housing and planning profession.

Impact: A survey of Scholarship applicants on the contribution of the program to the overall RIC objectives showed that 31 percent felt the program contributed very much to housing knowledge. The program was rated by 20 percent of applicants to have contributed very much to the following objectives: maintaining the skills of housing specialists, developing new housing specialists and encouraging housing innovations. Further, 19 percent said the program contributed very much to improving housing quality.

Incrementality: The evaluation found that the Scholarship Program is currently having little incremental impact on the number of housing professionals in Canada. Surveys conducted for the evaluation found that 84 percent of scholarship applicants had been already interested in the housing or planning field when they applied for a CMHC scholarship. The data show that the Program has a limited effect in terms of attracting scholars to the field. That is, the same proportion of applicants who did not receive scholarships as those who received scholarships went on to work in the housing field after completing their studies.

Duplication: The evaluation did not collect data to measure duplication of research content for the studies completed by CMHC Scholarship recipients.

3.5 Housing Technology Incentives Program (HTIP)

The HTIP has supported the development of new and innovative ideas in line with the objectives of the program. It scored very well on indicators of innovation importance and quality, moderate on indicators of the usefulness and impact of innovations and low on incrementality. The program was found to be well managed. Although most innovators say they would have proceeded with their innovation in the absence of CMHC funding, CMHC is credited with accelerating the process of innovation and helping innovators lever other sources of financing.

The objectives of HTIP are to encourage the development of new and innovative ideas that could result in new or improved or advanced products, methods or systems that have the potential for improving the quality or lowering the cost of housing or for improving the

comfort, safety or health of occupants. HTIP provides grants up to a maximum of \$15,000, and 72 grants have been awarded since 1987 through a competitive selection process.

Importance: Case studies for the evaluation found that HTIP supports the development of innovations in key areas related to increased housing quality that were important to CMHC. Nearly 60 percent of HTIP grant recipients reported that their innovations contributed very much to addressing a current housing problem. Research undertaken with HTIP grants is particularly important to HTIP innovators, many of whom contribute their own funds in addition to the HTIP grant to finance costs for developing the innovations.

Usefulness: The evaluation found that the main users of HTIP innovations are the HTIP innovators and their own firms. The case studies reported slow take-up of the innovations by others in the industry. Nearly half the HTIP innovators surveyed said they had received no inquiries about their innovations, although 12 percent reported sales related to their innovations. Eight percent of those in the building industry who are aware of HTIP said that they had adopted a known HTIP innovation. This may in fact be reasonable take-up of the program. Further, it may be too soon to expect a higher level of industry uptake. On the other hand, there are impediments to the diffusion of innovations (e.g., lack of marketing skills, or cost information re implementation) which limit take-up. Case studies identified examples of HTIP innovations influencing local building codes, and environmental benefits through better use of raw materials or detection of pollutants.

Quality: More than three-quarters of the HTIP innovators surveyed said their work resulted in reliable and rigorous results, and more than 80 percent said they produced objective information from their project.

Impacts: The evaluation evidence indicates limited diffusion of innovations within the building industry, so that the most discernible impacts to date have occurred within the innovators' own firms. Responsibilities for promoting innovations developed largely rest with the innovators themselves. Case studies found that HTIP projects resulted in improvements in technology.

The HTIP is effectively delivered to produce a range of innovative products to improve housing quality. The diffusion and actual implementation of innovations is the most common problem for applied R&D programs, and additional communications efforts seem to be required to promote the use of the products developed.

HTIP innovators report the major impacts of HTIP innovation to be in housing quality improvements. Fifty-five percent said that their innovation contributed very much to improved housing quality which is higher than the 40 percent who felt the program contributed very much to housing innovation.

Incrementality: The majority of innovations would have been developed eventually even if funding had not been obtained from CMHC. This finding is based not only upon data from applicants who did receive funding, but also from unsuccessful applicants, most of whom

proceeded with the development of their innovation with other funding. It is important to note that CMHC funding accelerated the innovation process for grant recipients and also increased their potential to lever other sources of financing.

Duplication: The evaluation did not collect data to measure duplication of content for research undertaken using HTIP grants.

Improvement: The evaluation evidence indicates that the most discernible impacts to date have occurred within the innovators' own firms. The diffusion of innovations developed under HTIP could be improved by CMHC taking a greater role in the transfer of the innovation to the housing community.

3.6 Awards Programs

The Awards Programs have recognized the development of new and innovative ideas in line with the objectives of the program. They scored very well on indicators of project importance, quality and usefulness, moderate on the indicator of impact and low on the incrementality of the program. The programs were found to be well managed. The fact that an innovation received an award did not induce many people to adopt an innovation. The program has only a short term effect in terms of raising public awareness.

There are two awards programs: Housing Awards and Job Site Innovator Awards Program (JSIAP). The objective of the Housing Awards Program is to recognize innovation and excellence in housing and promote the transfer of these innovations. The Housing Awards Program is a biennial event, and themes are announced for the competition. This Program was an in-house replacement for the housing design awards formerly offered by the Canadian Housing Design Council. The objective of the JSIAP is to promote improvements in housing by rewarding and recognizing job-site innovations especially among builders and tradespeople.

Importance: The Awards Programs are important to the federal government's role in promoting awareness of housing issues and leadership in the area of housing innovation. The promotion of innovations in housing and the building sector improves efficiency in the housing sector and the quality of housing. In case study interviews, award recipients identified CMHC's role as a catalyst in the creative process, and suggested that the Awards Programs have tended to foster a competitive environment in the industry. The case studies found that the Awards projects were in important areas related to improvements in encouraging housing quality and building techniques.

Impacts: Survey data showed that all Housing Award recipients and 93 percent of JSIAP recipients indicated their projects contributed to improving housing quality. In addition, 95 percent of Housing Award recipients and 75 percent of JSIAP recipients said their project contributed to encouraging housing innovation.

Incrementality: Incrementality in the context of the Awards programs is the extent to which CMHC has increased awareness of innovations in the housing industry and thereby has

influenced the state of housing technology and housing policy in Canada. The evaluation concluded that the Housing Awards Program increased awareness of innovations, albeit only for a short while, and so will likely accelerate their rate of take-up. The JSIAP, on the other hand, is less likely to have an impact on the rate of take-up of innovations.

The take-up of innovations recognized by the Awards Programs is related to levels of awareness of the programs and the levels of awareness of awards winning projects. Regarding the former measure, half of the survey respondents said that they were aware of the Housing Awards Program. However only 11 percent of survey respondents said that they were aware of the Job Site Innovator Awards Program. Regarding the latter measure, about 60 percent of the Housing Awards Program winners surveyed reported that they had received requests for information about their innovations (such request being a proxy measure for level of awareness) while about 40 percent of JSIAP winners surveyed reported requests for information about their innovation. The awards winners interviewed for the case studies felt that the increased public/industry awareness of the award recipient was short lived and that the long term impacts were quite minimal.

With respect to actual take-up of innovations, only 6 percent of those who are aware of the Housing Awards Program have adopted an innovation because it received an award. None of the awards winners interviewed for the case studies could provide evidence of someone else using their innovation. However, it is probably too soon to assess the impact of the programs by this measure.

Duplication: The evaluation did not collect data to measure duplication of content for the Awards Programs.

Improvements: The case studies and survey data identified concerns among award recipients about the lack of longer-term publicity for their innovations. The Awards Programs promoted public and industry awareness of housing innovations and recognized innovations contributing to housing quality improvements. The evaluation findings suggest that there are opportunities for increasing the awareness of the awards and the promotion of innovations.

3.7 Market Information and Analysis Program

The Market Information and Analysis Program has been successful in meeting its objectives. It scored very well on indicators of importance, quality and usefulness, while results on the indicator of program impacts are mixed. Incrementality and duplication were both found to be moderate. The program was found to be well managed. Although useful and one of many sources of information used for decision-making, the national market analysis publications need to be re-examined in terms of their target market, the potential for further customization, and the potential for recovering their publication costs.

The Market Analysis Centre (MAC) was created in 1987 with the objectives of ensuring that CMHC, the housing industry and the general public have the information and analysis required

on housing markets to make informed decisions, and to ensure the ongoing effectiveness and efficiency of the market analysis function. Market information and analysis is intended to serve both internal CMHC purposes (especially the Mortgage Insurance Program, the Pension Fund and Senior CMHC Management), and external groups such as financial institutions, the building industry, and the real estate sector. Regular national and local publications are produced to provide market information to these external user organizations. The objectives of these publications include promoting improved understanding of housing market conditions, and contributing to informed decisions about housing production levels. Providing market data has the potential to moderate fluctuations in home building activity, and to contribute to the efficiency of the housing market with beneficial effects in terms of reduced housing costs and more stable housing prices.

Importance: The case studies confirm that market information and analysis is important to both the internal needs of CMHC (particularly related to the mortgage insurance function) and to the private market and building industry in general. The publications distributed in the private sector were perceived to play a valuable role as a source of reliable and unbiased information that is not readily available elsewhere. Moreover, publications including local housing market information are important to business decision-making at the local market level.

Quality: The case studies found that the market reports, their formats and presentations were of high quality. Users of the reports particularly note the reliability and objectivity of the information provided in these publications.

Usefulness: The evaluation findings indicate that market analyses and data produced for CMHC staff is useful. External clients use market reports as inputs to business decisions. In this context, the case study noted that the national level reports are used to keep up to date and in conjunction with other sources of information to make business decisions. Local reports were found to be used directly by some businesses such as local building materials suppliers and by real estate agents. Survey findings showed that over 90 percent of users of market reports were satisfied with the information provided and found them to be helpful, and 80 percent of building industry representatives said that MAC reports and CMHC local offices provided helpful information.

Currently, the three national reports represent about 2,100 subscriptions, and the unpriced local reports have a circulation of about 43,800. These distribution figures underestimate the breadth of impact of these reports insofar as one subscriber (such as a real estate board) may distribute the information to other members of their organization. The survey conducted for the evaluation found that 60 percent of building industry respondents who are not currently users of MAC reports said they were not aware of MAC products, and half of those who are aware of the products said they use them. The evidence suggests that the target audience for priced publications could be developed through increased marketing and through further customization of the products.

Impacts: The impacts of providing market information and analysis are difficult to isolate because of the multiple inputs involved in decisions in both the public and private sectors. The evaluation confirmed that CMHC users rely heavily on the information provided for CMHC's mortgage insurance functions, and that local market information directly impacts on decisions by those operating in local housing markets. The national level market reports are widely regarded as providing reliable information which serves to inform all sectors concerning general market conditions thereby contributing to an improved understanding of factors influencing housing.

Incrementality: Incrementality in the context of market information and analysis programs is the extent to which CMHC's housing information and analyses influence decisions in housing markets. The evaluation concluded that the market information and analysis program overall has a moderate incremental impact on housing market decisions. This conclusion is based on case study results indicating that consumers of local market information and analysis were likely to use the information to make business decisions. The local data is considered a key source of information in this regard. The national publications are used more as background information and in conjunction with other sources of information, to make business decisions.

Improvements: Although useful and one of many sources of information used for decision-making, the national market analysis publications need to be re-examined in terms of the potential for increasing subscriptions and the potential for further customization. (The revenue generated from the sale of the national publications fully covers all printing and distribution costs.)

3.8 Information and Communications Program

The Information and Communications Program has been successful in meeting its objectives. It scored very well on indicators of importance and quality, and well on the indicators of usefulness and incrementality. Results on the impacts of the program were mixed. The program was found to be well managed. The program was very successful at reaching and having an impact on direct clients of CMHC research and information transfer programs; however, the program does not reach some members of the housing industry.

Information dissemination and communications activities are the link between the production of housing research and information and the application of knowledge or adoption of new ideas, products or processes in the housing sector. The transmission of information or knowledge to appropriate audiences is effected through various media including reports, audio-visual materials, conferences and seminars, shows, exhibits, speeches, media releases, and over the counter responses to inquiries.

The objective of the RIC information dissemination and communications activities follow directly from the legislative mandate in Part IX, namely, 'to cause steps to be taken for the distribution of information leading to the construction or provision of more adequate housing and improved housing accommodation and the understanding and adoption of community

plans in Canada'. The legislative mandate is operationalized in the Corporate Communications Strategy. The evaluation focused on the specific objective of the Corporate Communications Strategy related to RIC activities, namely, to ensure the effective dissemination of housing information and expertise to industry, business and political decision-makers, new partners, and the general public.

These activities cover a wide range of products and services, some of which are concerned with housing knowledge, some with promoting diffusion of technological innovations, and others with raising awareness on issues of public concern related to CMHC's leadership role to promote improved housing in Canada. Several national office divisions as well as CMHC field offices play complementary roles in these activities, and the Canadian Housing Information Centre is a central distribution point for housing research and information.

Importance: The case studies found that information dissemination and communications activities addressed important issues and effectively targeted information on these issues to appropriate audiences.

Quality: Interviews conducted for the case studies showed that communications materials and presentation methods were of high quality, and at the appropriate technical levels for the intended audiences. Most of those interviewed said that CMHC information was often leading edge in providing information about new technologies and products, providing practical examples of new methods.

Impacts: The main impact of communications activities identified in the case studies was increased awareness of the issues being addressed, and respondents felt that this would have an impact on CMHC's goals. About 30 percent of respondents identified some take-up by industry related to communications activities reviewed. However, they felt it was too soon to assess the eventual impacts of some of the information.

Survey results showed that 62 percent of direct clients served said CMHC was successful in publicizing research results compared with 53 percent of building industry members. Research reports, CMHC local offices and CHIC were found to be more effective in reaching target audiences than were seminars and conferences. In particular, CHIC was rated very highly on the satisfaction of users with the information and services provided. The evaluation findings show that there is low awareness and use of information by those who are not direct clients of CMHC. There was general agreement among the case study respondents that while they found the information to be useful, take-up by industry was slow. A reason suggested was the lack of effective mechanisms to transfer building technology especially to the numerous small construction companies. The evaluation also surveyed groups in the housing sector about their awareness and use of various types of communication vehicles. The results show that penetration rates of CMHC information (percent aware of information multiplied by the percent using information) were low among those who were not direct clients of CMHC, especially for those in the residential building industry. An independent report by Decima Research (December 1993) commissioned by CMHC to explore information needs found that

there is low awareness of CMHC's information publications among members of the housing industry.

Incrementality: Incrementality in the context of information programs is the extent to which CMHC has increased awareness of innovations in the housing industry and thereby has influenced the state of housing technology and housing policy in Canada. The evaluation concluded that the provision of housing information by CMHC has an incremental impact on awareness and therefore will probably have an impact on the rate of take-up of innovations by the housing industry. This conclusion is based on the evaluation findings that clients value the information provided by CMHC and are therefore likely to use it. Some respondents noted that similar information was available from a variety of sources; however there was a consensus that CMHC's information was more credible, comprehensive, nationally-oriented, practical, user-oriented, long term and leading edge than information available elsewhere. CMHC information and expert advice were also found to be easier to access, providing one-stop shopping and opportunities for the exchange of information. Therefore, the availability of information from multiple sources in no way diminished the usefulness of CMHC information. While there is not much evidence of the application of innovations by those in the housing industry, virtually all of the respondents agreed that the communications served to increase awareness of the issues being addressed and that this would eventually serve CMHC's goals.

Improvements: Communications planning and management involve several CMHC divisions and all regional offices. The Management Study identified some concerns around the co-ordination of communications planning related to the existence of several budget lines and processes used. However, individual communications activities were well-managed and effectively delivered. Case studies found that the success of communications activities in meeting the needs of the clients served was attributed to the consultation CMHC undertakes with the intended audiences for the activities and products.

4.0 OVERALL RIC PROGRAM

The evaluation found that the RIC Program as a whole is performing well. It is producing important research and information which is of high quality and will have positive incremental benefits. The program has successfully reached direct clients but must increase the proportion of secondary clients reached by information transfer.

This section summarizes the results of the evaluation with respect to the overall importance, usefulness, quality, and impacts of the research and information funded under the RIC Program. In addition to the findings on the individual program components reviewed above, a survey asked RIC Program clients, program participants and program beneficiaries to rate the success of the RIC Program as a whole as an indicator of overall program performance.

The DRP, market information and analysis, and information and communications activities constitute the major parts of total RIC Program expenditures (34 percent, 38 percent, and 20 percent respectively). The other responsive and institutional support funding programs, therefore, constitute approximately 8 percent of the total program expenditures. It is important to take into account the relative sizes of the programs in assessing overall performance. When this is done the overall performance is largely based on the performance of the larger program components.

The evaluation found that the overall program produces information which is both important and useful to clients. Fifty-five percent of survey respondents said that the program was successful or very successful in addressing current housing problems. Forty-one percent said that the program was successful or very successful in having a co-ordinated research plan. The evaluation findings about the individual program components confirm this result. Research and information produced under the DRP, the Information/Communications Program and the Market Information and Analysis Program are both important and useful.

The evaluation found that there are many different types of potential benefits of the RIC Program. The largest impact would appear to be on housing quality. Almost sixty percent of survey respondents thought that the RIC Program was successful in contributing to improved housing quality. About 48 percent thought that CMHC was successful in influencing housing policy and maintaining the skills of housing researchers. Thirty-three percent thought that the Program was successful in developing new housing specialists, and 29 percent thought that the Program was successful in contributing to lower housing costs. While there were varying findings on the potential benefits of the eight program components, those on the DRP, the Information/Communications Program and the Market Analysis and Information Program, the 3 largest program components, were mainly positive. There were many different types of potential benefits of the DRP and the Information/Communications Program noted in the case studies. These were categorized as changes to regulations, application by industry, housing patterns and affordability, environmental and better or lower cost housing.

The case studies for projects funded under the largest programs concluded that most of these benefits would not have occurred without CMHC's Program. Client and peer opinion of the

extent of duplication of research (i.e., documented in the case studies and peer reviews) was found to be consistent with levels found in other organizations. Further, while some of the information contained in CMHC's information and communications products was available elsewhere, CMHC performed a valued service in improving access to that information. Market information and analysis, primarily at the local level, was considered to have incremental benefits for those in the housing market. Information transfer products which are drawn from all RIC Program components effectively reach direct clients, but not all members of the housing industry.

Finally, the evaluation found that the program produced high quality, applied research. This is important in that credible research will be useful to clients and therefore more likely to be implemented than research which is of low quality. Sixty-six percent of survey respondents said that the RIC program was successful or very successful in producing reliable and rigorous research and 48 percent said that the RIC program was successful or very successful in producing innovative research. Peer reviews done for the DRP, ERP, and the research institute support programs (RSTRSP, IUS and ICURR) confirm these findings. Almost 81 percent of the individual papers reviewed by peers were rated as being good or excellent. Further, the quality of the work was generally considered by peers to have improved over the past five years. Positive ratings were also achieved for the quality of CMHC's Information/Communications Program and Market Information/Analysis Program products. Sixty percent of a sample of CMHC's communication products were rated as being good or excellent by a panel of communications experts.

5.0 COMPARATIVE PROGRAM EFFECTIVENESS

In keeping with the federal government's guidelines for the evaluation of research programs, the RIC evaluation considered the relative program effectiveness of the eight components of the RIC Program. Program effectiveness was compared in terms of a component's contribution to the achievement of overall RIC program objectives. This contribution was assessed in reference to the four program performance criteria (importance, quality, usefulness, impacts) and the two program management criteria (incrementality and duplication). Under this approach, weaknesses in regard to some performance criteria may be offset by strong performance in other areas of program activity. By the same token, weakness with respect to usefulness or incrementality was taken to imply a low degree of program effectiveness. Table 1 summarizes the comparative performance of the program components.

Comparative program performance is an important consideration in establishing program alternatives, reallocating resources in favour of those activities with the greatest program effectiveness or changing the design of poorer performing programs.

The Directed Research Program and the Information and Communications Program were found to have the highest degree of program effectiveness. These programs received a high rating on all criteria. The Market Information and Analysis Program, the External Research Program and the Research Institutes Support Program have been somewhat less effective. Although these programs received a high rating on quality and importance, they received only a moderate rating on incrementality, and the usefulness of their products rated somewhat less than DRP's. The Housing Technology Incentives Program, the Scholarships Program and the Awards Programs appear to provide the lowest program effectiveness among RIC components. Both the usefulness and incrementality of these programs received a low rating.

Evaluation findings indicated that the Directed Research Program was particularly successful in its contribution to the generation of new knowledge, products and processes, and in meeting its intended clients' needs. Its contribution to housing research in Canada was found to be highly incremental. Its expected impacts in improving housing quality and reducing long-term housing costs were also rated highly. Its performance on all other criteria was excellent.

The Information and Communications Program was found to have made significant contributions in terms of increasing know-how in the housing sector and in meeting client information needs. Both the quality and suitability of the vehicles used by the program in conveying information were rated highly. The incrementality of its contribution was also rated highly.

MAC products and information were found to be widely used. Both internal and external clients reported that MAC products are timely and useful. It should be noted, however, that the incremental contribution of national market information seems to be somewhat less than that of local market analysis. While internal clients reported that national market products are highly valued and make an important contribution to decisions, external clients reported that the national publications are used, but are not valued as highly as local market publications and

TABLE 1
SUMMARY INDICATORS OF RIC PROGRAM COMPONENTS

	DRP	ERP	SCHOLARSHIP	INSTITUTES IUS/RSTRSP ICURR		HTIP	AWARDS HA / JSIAP		MARKET INFO & ANALYSIS	INFORMATION/ COMMUNICATIONS
% RIC EXPENDITURES	33.8	1.4	2.26	1.8	1.3	0.7	1.79	0.4	38.4	19.1
PROGRAM PERFORMANCE										
Relevance(%)	75 ¹	77 ⁴	N/A	42 ¹	86 ¹	100 ²	100 ²		100 ²	100 ²
Quality (%)	81 ¹	85 ¹	N/A	66 ¹	100 ¹	75 ³	100 ²		HIGH ²	100 ²
Usefulness (%)	75-93 ¹	70 ¹	N/A	33 ¹	40 ⁴	50 ³	95 ³		95 ⁴	62 ⁴
Impacts (%)	75 ²	61 ³	20 ³	MIXED		50 ³	55 ³ 100 ³		MIXED	30 ²
Incrementality	HIGH	MODERATE	LOW	MODERATE	HIGH	LOW	LOW		MODERATE	HIGH ²
Duplication	LOW ²	LOW ²	N/A	LOW ²	LOW ²	N/A	N/A		MODERATE ²	LOW ²
CONTRIBUTIONS TO RIC OBJECTIVES										
Improve housing quality (%)	50	41	19	N/A		55	60	42	N/A	N/A
Housing knowledge (%)	64	61	31	N/A		44	35	22	N/A	N/A
Encourage housing innovations (%)	40	40	20	N/A		40	50	16	N/A	N/A
New housing specialist (%)	18	21	20	N/A		37	20	11	N/A	N/A
Maintain skills (%)	23	40	21	N/A		26	11	0	N/A	N/A

SOURCE: Research and Information Survey, Program Evaluation Division, 1993.

Case Studies and Peer Review Report, ARA Consulting Group, 1994.

NOTES: 1 Peer Reviews; 2 Case Studies 3 Program Participants; 4 Client Survey.

products. Some external clients also expressed a desire for more information on local market conditions. These findings indicate that market analysis activities provide a somewhat lower degree of program effectiveness than either the DRP or Information/Communications programs.

The quality of research sponsored by the External Research Program was found to be as high as that of the DRP. However, program clients indicated that ERP research is on the whole less useful than DRP research, and ERP's contribution to housing research was found to be less incremental than the DRP. These findings indicate that the ERP provides a somewhat lower degree of program effectiveness than the DRP.

The institutes' outreach activities are highly valued by clients. However, their research is perceived to be of lower quality than DRP research. The institutes' research also appears to be less suited to clients' needs, and is moderately incremental. It should be noted that while the importance, quality and incrementality of ICURR's research was found to be high, results on the usefulness and impact of its activities were mixed. These findings indicate that the Research Institutes Support Program provide a somewhat lower degree of program effectiveness than either the DRP or Information/Communications programs.

Evidence indicates that research sponsored by the HTIP is important and of high quality. However, there is little evidence that sponsored innovations are being widely adopted in the housing sector. Without such adoption, HTIP's impact on the quality of housing in Canada is small. Although, most of the research supported by the HTIP would have proceeded without the program's assistance, the program was effective in speeding up the innovation process and helped to lever private financing for innovators. These findings indicate that the HTIP provides a lower degree of program effectiveness than either the DRP or Information/Communications programs.

Evidence indicates that initiatives recognized by the Awards Programs are important. However, the program's impact on awareness of innovations seems to be limited to the very short run. Moreover, the programs were found to have little influence in inducing the adoption of new products or processes in the housing sector. As with HTIP, it is premature to assess the expected impact of the program, although the current design of the program results in only a short time frame where awareness is heightened. These findings indicate that the Awards Programs provide a lower degree of program effectiveness than either the DRP or Information/Communications Programs.

The Scholarship Program was found to have very little influence on the decisions of either students or graduates concerning pursuit of a career in housing, and thus appears to do little to increase supplies of housing professionals. Moreover, since these supplies are now ample, the need for the program is very doubtful. These findings indicate that the Scholarship Program provides a substantially lower degree of program effectiveness than either the DRP or Information/Communications Programs.

6.0 ALTERNATIVES

The evaluation considered alternatives for enhancing the effectiveness of the RIC Program based on findings from the evaluation of the current program and on lessons learned from approaches used in other research organizations. The discussion of alternatives relates to the goal of maximizing the contribution of program activities to achieve improved housing conditions in Canada. In line with this goal, the evaluation findings indicate opportunities for enhancing the effectiveness of the RIC Program in four main areas, namely: improvements in planning, improvements in program design, improvements in program management processes, and increased cost recovery through joint venturing and pricing.

Planning

CMHC has a rigorous and consultative research planning process; however, the evidence supports the view that increased client influence over the plan will strengthen the relevance and usefulness of the research, as well as client commitment to housing research and communications activities.

The evidence shows that CMHC's internal and external clients have an input into the plan; however, they are distanced from decision-making. They do not understand how CMHC sets its priorities, do not believe they have any influence over the priorities and do not have a good understanding of CMHC's long term priorities. Clients have expressed an interest in playing a greater role in the production of the plan.

Although the importance and quality of CMHC research are high, the evidence shows that usefulness of outputs for some of the responsive programs requires improvement. Further, clients interviewed for the case studies have expressed the view that some useful research is not undertaken, and that, the scope of many individual projects is not as broad as some clients would like.

A review of other organizations shows that direct client participation in planning has become increasingly important, particularly in technical research operations. This is done for two reasons: first to increase research relevance and second, to generate client financial participation.

In this context, clients include those with an interest in improving housing conditions in Canada, such as the provinces and territories, industry associations, non-profit organizations and universities.

Any additional involvement must consider a number of key factors. First, most of CMHC research is undertaken in the public interest. Client involvement must recognize the need to continue research in all areas of the public interest described in the rationale section of this evaluation (e.g., research in support of disadvantaged groups). Second, CMHC has many clients. The interests of these many groups must be considered. In this regard, it may be useful to develop an approach to determining priorities which clients will understand and support.

Increased client participation could involve various approaches: improved feedback to clients on decisions made, greater participation at decision-making forums, close collaboration with CMHC in decisions about research priorities, client leadership in the identification and setting of priorities.

The National Housing Research Committee is an appropriate forum to support a strengthened client role in developing the research plan.

The evaluation evidence indicates that the National Housing Research Committee is well positioned to take on a strengthened role in research planning. The NHRC has been successful as a forum for exchanging information and clients have found the NHRC to be an effective forum for influencing CMHC's research plan. Just the same, clients want more feedback and a greater role in the determination of CMHC's research plan. The operations of the NHRC is currently under review.

The time horizon for achieving CMHC's strategic research plan could be extended to two or three years.

The planning exercise to develop CMHC's annual strategic research plan consumes a great deal of CMHC's research staff time and resources, and yet the broad objectives of the plan do not change dramatically from year to year. This is a reflection of the longer term nature of much of the research. It is recognized that annual budgetary planning and plan adjustments will still be required.

Program Design

The current mix of programs needs to be reconsidered. This reconsideration needs to determine an appropriate and complementary mix of research and information programs, and produce a strong, explicit rationale for this mix.

There are several factors, supported by evaluation evidence, which need to be considered in this reassessment.

As a starting principle, it is recognized that funds available for research and information transfer are limited and that more resources could be applied to information transfer activities to achieve greater reach to members of the housing industry, not currently clients of CMHC.

The evaluation has found that CMHC's directed research, information transfer activities (including CHIC) and market analysis activities perform better than responsive programs. Responsive programs represent only 8 percent of the research budget.

Consideration should be given to either a single, common program which would incorporate the strategies of the responsive programs, or to the continuation of the current approach recognizing the need for program improvements. In either case, the rationale for the mix must be clearly understood and communicated. This would include some discussion of the issue of

critical mass, ensuring that programs are sufficiently large that they can have a reasonable impact.

Responsive programs offer alternative mechanisms for achieving some impact upon the RIC Program objective of improving the housing conditions of Canadians. While directed programs focus more upon improving housing quality and extending housing knowledge, responsive programs emphasize extending housing knowledge and encouraging housing innovation. In two of the programs, this is achieved by collecting ideas which have been developed privately by the community of housing researchers.

Functions of responsive programs could also be viewed differently. For example, an ERP type mechanism could be used to collect ideas in support of an emerging research issue area. Or, research networks, using experts in the field, could be used to explore a new line of research or to develop innovative solutions to particular housing problems.

More effective monitoring of CMHC's research, information and communications activities would improve understanding of the performance and contribution of program components and the program as a whole.

There is currently in place a strong project management system to monitor the status of CMHC's research and information activities and their financial performance. This alone is a complex and time-consuming activity. Just the same, additional data is required to ensure the effective, ongoing management of the program.

First, program performance needs to be measured against a set of performance targets. It is recognized that this is a difficult measurement challenge, in much the same way that an evaluation of research programs is challenging to undertake.

Second, some additional financial indicators are required: data on joint-venturing, financial and in-kind participation by public partners and private sector clients, cost recovery through pricing relative to publication and/or service costs. (It is recognized that these could also be performance indicators).

Project Management

Although teams are currently used to some extent in the management of research issue areas and individual projects, the evidence suggests that the team approach at the issue area level could be formalized. As with the increased involvement of clients at the planning stage, involving all relevant team members (i.e., including marketing and communications expertise and clients for the research) will strengthen the usefulness of the research, as well as team and client commitment.

Several sources of data indicate that usefulness of research to clients, in terms of the scope and type of research, could be improved. This message has also come through in relation to CMHC's review of the experiences of other organizations.

All team members would participate in the management of the research issue area until the end of the plan term or the research is completed within the issue area. All members of the team would also bring to bear a particular expertise and directly fulfill that role on the team.

The inclusion of information transfer expertise could assist in the targeting of the eventual research outputs to particular client groups.

Further, the inclusion of clients on teams could potentially lever financial or in-kind resources, offer a unique set of expertise (e.g., field experience), and generate opportunities for field testing or for information dissemination.

A formal documentation of CMHC's research policies and practices would contribute to a better understanding of the operation of the program and a greater consistency and efficiency in the application of policy and practice.

The evaluation has found that there is little documentation of information on CMHC's research policies and practices. Further, there is data to show that some external participants would benefit from a clear statement of CMHC's policies and practices and that the availability of this information would benefit internal staff to ensure that a consistent understanding exists.

Further, there is an ongoing evolution of CMHC's research and information activities in a number of areas and clients and staff will require an understanding of these emerging policies and practices in areas such as, cost recovery and client involvement.

Cost Recovery

Cost recovery includes joint-venturing with public and private partners in the conduct of research and information dissemination, and activity in the pricing and sale of research and information products.

The rationale for cost recovery through the cost-sharing of research or through the pricing of information products and services is to offset some of the cost to the taxpayer of CMHC's public interest role.

In addition to increasing cost recovery, the reach of information transfer activities could be increased through various administrative efficiencies.

Realigning programs, extending the time horizon for research plans, clarifying policy and practice, strengthening client involvement and the team approach are all improvements which, in addition to their other benefits could improve the administrative efficiency of the RIC Program.

There are a couple of other suggestions, originating from the data which will have an impact upon the administrative efficiency of the RIC Program: the consolidation of communications plans and budgets, and the increased use of industry associations for the dissemination of information.

Communications plans are currently found in several national office divisions and regional offices. The decentralized nature of these plans and budgets make co-ordination of information dissemination activities a more challenging task.

CMHC currently and actively uses some industry associations to disseminate information to their members. This is clearly one way in which the industry can provide support and leverage for CMHC's efforts to disseminate research information. The evidence has found that information transfer has not been effective in reaching some members of the housing industry not currently clients of CMHC. Industry associations have expressed an interest in assuming a greater role in the dissemination of research information to their members.

All evaluation evidence on the subject of joint-venturing in the conduct of research and information transfer indicates that private sector financial participation will be very difficult to generate; however, in order to achieve CMHC's public interest role in an environment of limited financial resources, CMHC must take an aggressive stance to maximize the potential for cost recovery through joint-venturing.

Over the evaluation timeframe, about 26 percent of CMHC research projects involved joint-venturing with other organizations; however, only 2 percent of these involve direct financial contributions from the private sector. On a positive note, about 50 percent of research projects and almost all information transfer projects involve some in-kind participation from clients, such as time related to the distribution of a research product to industry association members, or participation on the steering committee for a research project.

Nevertheless, there are reasons why housing industry members would want to undertake research. There are situations where it may be necessary to maintain a competitive advantage of one housing form, one construction technique over another. There may be situations where membership in an association may result in a competitive advantage over those who have chosen not to align themselves with the association. There may be situations where an industry member may be no better off, but no worse off after participation in research. There may be situations where the industry would see the advantage of co-operating to ensure a competitive advantage or opportunities in the area of foreign trade.

In support of this perspective, there is some evidence that certain members of the private sector would consider financing of research. Over 30 percent of survey respondents said their organization (i.e., engineering firms - 54 percent; architectural firms - 40 percent; provincial and municipal governments and non-profit groups - 30 percent; and members of the housing industry - 20 percent) might be willing to cost share research with CMHC.

Considering this evidence, CMHC must establish a clear policy on cost recovery and set annual targets. Targets are essential at the program level.

A marketing strategy is essential to maximize joint-venturing opportunities; a marketing capacity would be a valuable tool in support of this goal.

In an environment where cost recovery opportunities appear to be limited, a marketing strategy is an important tool. A vital first step is to ensure that the organization is committed to cost-recovery and is firmly behind this goal. This would imply that those who have not been responsible for cost recovery in the past must assume a serious commitment to this goal and be trained in marketing, approaches to generating cost-sharing and in the sale of products and services.

To date researchers have played a key role in developing partnerships principally with public sector organizations. To aggressively pursue cost recovery opportunities, a marketing capacity may be required. This could involve a redefinition of responsibilities for researchers or a more aggressive strategy similar to the business development officers in CMHC's Insurance Sector.

Although CMHC now prices some products and is moving more aggressively in the direction of pricing more products, a formal pricing policy and marketing strategy are required.

The evidence suggests an increased scope for the pricing of information products and services. The evaluation interviewed clients about their willingness to pay for information. Those participating in seminars, conferences and workshops already pay entrance fees and stated that they would continue to do so provided that the amounts were reasonable. Further, most clients already pay for some of the publications they receive and a few rely on free information sources.

Pricing of information products has the effect of focusing products more to meet client needs and in the selection of the most cost-effective approaches to producing these products. Market studies would be a useful support for a marketing strategy for establishing the target audience for individual information products (e.g., market information and analysis, research publications, information bulletins, library services), need and willingness to pay relative to the cost of providing the information.

APPENDIX A

INDICATORS USED FOR THE RIC PROGRAM EVALUATION

In the absence of direct measures of program success, the RIC Program Evaluation has adopted six indirect measures. They are as follows: importance, usefulness, quality, impacts, incrementality and duplication. Each of these is explained below.

Importance: This is a measure of how important the research is to the clients of the research program. Research in an area which is deemed to be very important is more likely to be implemented than research in an area which is not important. A possible implication of the research being important to the client is that the benefits of implementing the research results may be large. The evaluation relies on client, expert, researcher and project officer opinion to assess the importance of research.

For purposes of the evaluation, clients are those who are most likely to use the research results and are not necessarily the ultimate beneficiaries of the research. For example, builders are deemed to be clients of technical research because they would be the most likely to use this type of research. The ultimate beneficiaries, of course, are the occupants of the houses.

In the case of research having public benefits - (e.g. research which improves health and safety and so reduces public health care costs), clients would be the government analysts who are responsible for advising elected officials about public policy options and the members of social action groups who represent the interest of their members in the political process. Again the ultimate beneficiaries would be those living in the houses and communities subject to the legislation (e.g. land use regulations, building codes, expenditure or taxation programs) enacted because of the research results.

Experts are those independent of CMHC who are knowledgeable about the subject area of the research and information project under review. Project officers and the researchers doing the research are also knowledgeable about the subject area, but are not independent from CMHC and so cannot be expected to give completely objective assessments of the importance of the research for which they are responsible.

Project managers identified a sample of clients and experts to be interviewed for the case studies. They also identified experts to assess the importance of selected research reports as part of the peer review component of the evaluation. Mailing lists for some CMHC research and information products and for the research institutes were used to select the samples for the client surveys. Membership lists from organizations representing the housing industry and urban planners and mailing lists of clients of other housing research organizations were also used. CMHC staff were identified as potential clients for the RIC's research and information products and services.

Usefulness: This measure establishes if clients have used the research and information and how useful they believe it has been or will be for them. The more useful the research and information is, the more likely it is that clients will implement it. It is possible to have research in an area which is considered to be important by clients, but which is not considered to be useful.

Usefulness may have different meanings for different types of clients. Private sector respondents may regard the usefulness of research and information in terms of its potential to lead to innovations which will increase profits. Policy analysts or advocacy groups may regard the usefulness of the research in terms of its potential to inform policy debates and so contribute to decisions on policy or program design. Researchers may regard the usefulness of research in terms of its contribution to the current state of knowledge and being a sound basis for further research.

The evaluation relies on client, expert and project officer feedback to assess the extent of use and the usefulness of CMHC's research and information products and services. Opinions on the extent of use and on the usefulness of CMHC's research and information products are also solicited from the researchers doing the research.

Quality: With respect to research, quality is the extent to which the work meets accepted scientific standards such as being independent and objective, following sound methodologies and providing conclusive evidence in support of findings and recommendations. With respect to information, quality is the extent to which the product meets such criteria as clarity of purpose, clarity of message and potential to generate interest. Research and information which is of high quality will be more credible and therefore more likely to be implemented than research and information of poor quality. It is possible to have high quality research and information which nevertheless is not useful nor important to clients.

The main measure of the quality of research produced under the RIC Program was assessments of a sample of research reports by experts identified by the project officers. Other, secondary, assessments of research quality were collected through surveys from clients and from the researchers who had done the research. The main measure of the quality of information products was an assessment of a sample of communications products (publications, videos, seminar and conference proceedings etc.) by a panel of communications experts.

Impacts: Programs in which the research and information, if implemented, would lead to innovations having a direct impact on CMHC's overall goals of improving housing accommodation in Canada would be judged to be more successful than programs in which the research and information is not directly linked to these goals. The nature of other impacts from the implementation of research results, especially if they are negative, also needs to be considered in judging a program's success.

Since the results from research and information projects may take a long time to be implemented, their impacts are often not observable at the time of the evaluation. In these cases, the impacts are expected, instead of actual.

Views on actual and expected impacts were collected from project officers, clients and experts as part of the case studies. Information on the actual and expected impacts of CMHC research was also collected from surveys of clients and of consultants who had been hired to do the research.

Incrementality: A key measure of the success of a research and information program is the degree to which its objectives would have been achieved in the absence of the program. If the impacts can be attributed solely to the program, (e.g. the research would not have been done if CMHC had not done it) then the program is fully incremental. If the impacts would have occurred even without the program, perhaps because the research would have been done by another agency if CMHC had not done it, then the program is not incremental. If some of the research would have been done and some not done in the absence of CMHC funding, then the program is partially incremental. Assessing incrementality involves making informed judgments about what might have happened in the absence of the program. In some cases, such judgments are assisted by observations of funding applicants who were unsuccessful and who either proceeded with the research anyhow (indicating non-incrementality of the program) or abandoned their research projects (indicating incrementality of the program).

Opinions on the incrementality of the research covered by the case studies were collected from project officers, researchers who did the research, clients and experts. The degree to which the responsive programs such as the Scholarships and the ERP resulted in more research being done than would have otherwise have occurred was calculated from survey data on the experiences of successful and unsuccessful applicants.

Duplication: The degree to which research and information produced by a program duplicates research and information available elsewhere without yielding any additional benefits is an important measure of program success. This is because the degree to which the program has added to total knowledge and the degree to which a program will have an incremental impact on program objectives are interrelated.

The evaluation measures the degree of duplication of research and information with other research and information without regard to whether the duplication is beneficial or not. Thus duplication which is beneficial (such as to replicate scientific results for the purposes of confirming findings) is not distinguished from duplication which is not beneficial. The degree of duplication between RIC Research and other research was calculated from the opinions of experts reviewing research reports. Case study and survey data were also collected from clients on the degree to which their research and information needs could be met from other sources.