Financial Incentives for Practicing Sustainable Forestry on Private Forest Lands

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Abstract

This paper is based on a presentation at the SAF Convention that assesses the potential of financial incentives for enhancing the practice of sustainable forestry on the nation's private forests. The evaluation consisted of an extensive review of the literature on financial incentive programs, a mail survey of the lead administrator of financial incentive programs in each state forestry agency, and focus groups with family forest owners in four regions of the country. The study found that financial incentive programs have limited influence on forest owners' decisions regarding the management and use of their land. Family forest owners viewed one-on-one access to a forester or other natural resource professional to "walk the land" with them and discuss their management alternatives as the most important type of assistance that can be provided. Recommendations for increasing the effectiveness of financial incentive programs in promoting sustainable forestry are discussed.

Keywords: Private landowners, financial and tax incentives, cost share programs, sustainability.

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Financial incentive programs for forest landowners in the US have evolved considerably since their origin over 60 years ago. While initial financial incentive programs emphasized timber production, today's programs include stewardship, environmental quality, and wildlife habitat. This presentation will discuss the results of a study sponsored by the National Commission on Science for Sustainable Forestry to assess the potential of financial incentives for enhancing the practice of sustainable forestry on the nation's private forests. This paper is based on the three-part SAF Convention presentation which covered:

- A brief review of the history of financial incentive programs for family forests in the US.
- A discussion of the results of eight focus groups of small scale private forest owners held in Oregon, Minnesota, Pennsylvania, and South Carolina. These focus groups sought to identify the types of incentive programs family forest owners prefer, which ownership objectives the programs help them accomplish, and additional program approaches that would appeal to their ownership objectives.
- Results from a national survey of management assistance foresters in all state forestry organizations. The survey gathered information on federal, state, and other financial incentive programs offered in each state to family forest owners. Program characteristics evaluated included landowner awareness, overall appeal, success in encouraging sustainable forestry, consistency with forest ownership objectives, and success in accomplishing program goals.

Literature Review

From the time U.S. forest owners were first becoming interested in long-term management of their forest resource, researchers have been suggesting ways to improve the management and sustainability of the private forest lands. Three broad types of approaches have dominated: technical assistance, cost-shares, and programs – such as the Forest Stewardship Program (FSP) – that put owners in direct contact with a forester or other natural resource professional.

The first discussion about programs grew from concerns in the early twentieth century about timber shortages and private land management lacking the ability to provide long-run timber supplies. Some of the earliest federal assistance to the forest owners was authorized by the Clarke-McNary Act of 1924. It provided cooperative assistance in wildfire protection, seedlings, and technical advice. The Agricultural Conservation Program (ACP) was authorized in 1936 and provided for federal cost-share assistance to farmers and ranchers for approved conservation practices. This was a soil and water conservation program that shared the costs of forestry practices like tree planting, timber stand improvement, shelterbelts, firebreaks, and fencing for protection against grazing. The Conservation Reserve Program of the 1950's (commonly known as the Soil Bank) has a similar goal of encouraging farmers to convert marginal crop land to forest or grasslands (Dana 1956).

The earliest private landowner studies discussed the importance of forestry incentives. Stoddard (1942) realized technical assistance was a necessity and mentions county Agricultural Planning committees may have a role in encouraging forest management. Folweiler and Vaux (1944) evaluated cutting practices in Louisiana and noted that the public was demanding forest conservation from private owners and ought to be willing to share of the costs of this forest conservation. Typical of early landowner studies, James et al. (1951) evaluated cutting practices and fire protection. Timber management practices in Mississippi were rated as poor and landowners were asked if public management assistance, forest credit at low interest, or lower taxes on forest land would help to improve management practices. Public management assistance was the only one of these three means of improvement that owners thought might be effective and then only one-third of owners even felt that. Only a few of this one-third expressed any willingness to pay even a nominal fee for the service. Many studies in the 1950s and 1960s showed analyzed the impact of ACP on forestry and some showed that landowners did not know ACP payments were available for forestry practices (Yoho and James 1958, Sutherland and Tubbs 1959, Anderson 1960, McClay 1961, James and Schallau 1961, Hutchison and McCauley 1961, Quinney 1962, Schallau 1964, Farrell 1964, Cloud 1966, Christensen and Grafton 1966). One such study by Stoddard (1961) found property tax modifications (like yield and other deferred tax plans) to encourage forest management by private owners, favorable capital gains treatment of timber income, and subsidy payments under the Agricultural Conservation and Soil Bank programs produced limited influence on forest owners.

The early 1970's saw a new forestry cost-share program and increased discussion on the effectiveness of different incentive methods for forestry. ACP funding for forestry activities was limited in the 1960's and this encouraged forestry interest groups to lobby Congress for a separate forestry cost-share program. In 1973 Congress enacted the Forestry Incentive Program (FIP). FIP was a timber production oriented cost-share program that mainly encouraged reforestation and timber stand improvement (Cubbage et al. 1993). At about this time many states were also developing state-level forestry cost share programs (Bullard and Straka 1988). For example, Virginia passed a state reforestation program in 1971 that was funded by the landowner, a severance tax, and the general fund. It funded cost-sharing at the 50 percent level. Mississippi, North Carolina, and South Carolina operate similar programs. Texas has a program funded by forest industry and Alabama has one funded by the legislature (Barber 1989). Henly et al. (1988) evaluated the economic effectiveness of Minnesota's private forestry assistance program.

Several authors questioned the effectiveness of cost-share programs. divided the public approaches for motivating forest owners into direct incentives that provide identifiable monetary benefits to forest owners and indirect incentives (like the Cooperative Forest Management program, university research, and public cooperation programs). They address a lack of knowledge regarding program effectiveness and economic justification. Worrell and Irland (1975) discussed obstacles that prevent private forest owners from contributing as much as they could toward national timber production goals. By 1978 awareness of forestry incentive programs was still reported as a problem (Koss and Dean

1978). In Washington only one-third of woodland owners knew of at least one cost-sharing program (ACP was best-known).

Mills and Cain (1976) performed one of the first evaluations of FIP. They noted that prior forestry incentive programs were generally parts of programs designed primarily for soil and water conservation. FIP was designed specifically to increase national timber production. The first year's performance evaluation found financial return and total yield increase to be high on average. A later evaluation of 1979 FIP results found the program was meeting its legislative mandate with significant increases in timber production that earned high rates of return (Mills and Cain 1979). Sedjo and Ostermeier (1978) noted that with the advent of FIP, the importance of ACP to forestry had diminished. They discuss major problems of public programs, "The lack of cost-effectiveness measurements and the lack of specific goals at various levels appear to reflect a general philosophy that particular investments need not consider economic criteria as long as they conform to program guidelines."

Royer (1987) used an econometric model to evaluate the determinants of reforestation behavior among Southern landowners: He found that much of the increase in reforestation in the South has been stimulated by federal and state cost-sharing. Continuation of such programs would seem prudent in light of the mixed responses to price signals." Others who evaluated the effectiveness of cost-share programs during this period include Risbrudt and Ellefson (1983), Royer and Moulton (1987), Kurtz et al. (1994), and Gaddis et al. (1995). Others who evaluated the effectiveness of tax system incentives during this period include Hickman (1989), Greene (1995, 1998), Koontz and Hoover (2001), and Rodenberg et al. (2004).

In the early 1990’s a major shift occurred in federal forestry and natural resource financial incentives programs. The Forest Stewardship Program (SFP) and Stewardship Incentive Program (SIP) were authorized by the Forest Stewardship Act of 1990 and represent a replacement of the timber-oriented FIP by a multiple resource program that included timber, wildlife, soils, water, aesthetics, and recreation (Wicker 2002). The focus for FSP was long-term management for multiple resources and the requirement of the development of a multi-resource management plan. Since 1991 the program has produced 260,000 management plans covering about 30 million acres (USDA Forest Service 2006a) SIP was designed to replace FIP and to fund cost-sharing for the practices recommended in the SPF management plans (Gaddis 1996).

In their study of the Forest Stewardship Program (FSP) Esseks and Moulton (2000) found that getting the required forest management plan provides two-thirds of participating forest owners their first contact with a professional forester. A like fraction begin managing their land for multiple purposes and using practices that are new to them. Their participation in FSP prompted the owners to spend an average of $2,767 of their own funds for forest management activities, although nearly two-thirds said they would not done have made the expenditure if they had not received a cost-share (Esseks and Moulton 2000). Other researchers identified factors that affected participation in FSP (Bell et al. 1994, English et al. 1997, Jennings et al. 2004, Stein 2003).

Two related landowner studies notes that the Stewardship Incentive Program was well-received by forest owners and the multiple-objectives requirement of the SFP was also well-received. Timber and wildlife tended to be the most popular of the objectives (Melfi et al. 1997, Thrift et al. 1997).

There were a set of environmental cost-sharing incentive programs that were authorized about this time. These are the ones that served as the basis of the landowner focus groups and management forester surveys that were the basis of our forestry incentives study and include: The Forest Land Enhancement Program (FLEP) was part of the 2002 Farm Bill. FLEP replaced the Stewardship Incentives Program (SIP) and the Forestry Incentives Program (FIP). The Conservation Reserve Program (CRP) was established in 1985 as a voluntary program for agricultural landowners. The Forest Legacy Program (FLP), part of the 1990 Farm Bill, was created to identify and protect environmentally important private forestlands threatened with conversion to nonforest uses (such as subdivisions or commercial developments). The Environmental Quality Incentives Program (EQIP) was reauthorized in the Farm Bill of 2002 to provide a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. The Landowner Incentive Program (LIP) is a new federal program designed to assist states by providing grants to establish or supplement landowner incentive programs that protect and restore habitats on private lands to benefit federally listed, proposed, candidate, or other at-risk species. The Wildlife Habitat Incentives Program began in 1998 as a voluntary program for people who wanted to develop and improve wildlife habitat primarily on private land. The Wetlands Reserve Program (WRP) began in 1995 as a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The Southern Pine Beetle Prevention and Restoration Program (SPBPRP) is part of the approach for managing southern pine beetle on federal, state, and private lands.

Current Status of Forest Landowner Incentive Program Research

Technical assistance has long been mentioned as an effective forestry incentive In a foundational study of forest owners in Mississippi, James et al. (1951) found that owners prefer technical assistance over financial or tax incentives. In their recent study of policy tools to encourage application of sustainable timber harvesting practices in the United States and Canada, Kilgore and Blinn (2004) also found technical assistance is the most effective way to encourage owners to apply sustainable practices, followed by cost-share programs. The importance of technical assistance to private forest owners was stressed by (Bliss et al. 1997, Gan and Kollison 1999, Gunter et al. 2001). Others who looked at general aspects of incentive program effectiveness include Jacobson (2002), Mehmood and Zhang (2002), and Plantinga and Ahn (2002).

Both Greene and Blatner (1986) and Baughman (2002) found that direct contact with a forester or other natural resource professional is associated with owners being forest managers. Egan and others (2001) cited the aspects of FSP that involve contact with a professional – getting a management plan and technical assistance –as the main things owners like about the program. Private forestry incentive assistance might center on management of forests to maintain and improve standing timber values (Blatner and

Greene 1989), management for non-market forest products, such as wildlife and recreation (Greene and Blatner 1986), or management for specific stewardship practices, such as reforestation (Greene 1998).

Not just the traditional cost-share payments were being discussed as means to improve landowner management. Taxes have always played a role in directing landowners towards improved management practices. Tax incentives include reduced property, estate and inheritance taxes, more favorable tax credits and deductions, more favorable capital gains treatment of timber income, and more cost-sharing of forest management expenses (Brockett and Gebhard 1999, Zhang and Flick 2001, Greene et al. 2006). Favorable property tax and capital gains provisions have little effect on forest owner behavior (Brockett and Gerhard 1999) and forest property tax programs are only modestly successful in accomplishing their objectives (Hibbard et al. 2003).

Whether forest owners are aware of financial incentives for forestry and which incentives are most effective continue to be issues in forest landowner research. One option this is not popular is coordinated management of properties; only a small percentage of owners would consent to this on their land (Klosowski et al. 2001). Large fractions of owners are unaware that financial and tax incentive programs exist or don't know what the programs can do for them (Greene et al. 2004) Many owners who participate in an incentive would have done the supported practice anyway (Kluender 1999) although the incentive enables the owners to treat additional acres (Royer 1987, Bliss and Martin 1990). There is little doubt that cost-sharing incentives are positively correlated with reforestation efforts; whether the efforts are secondary, capital substitution occurs, and reasons for forest owner use and nonuse are still questions that remain in the literature (Newman et al. 1996, Williams et al. 1996, Megalos 2000).

Focus Groups Results

Focus groups are a widely-used and well-regarded form of qualitative research. The essential aspect of focus groups is to convene a group of people from a target population, provide them with a forum where they can talk about issues of interest to the researcher, and document the conversation in a way that permits subsequent analysis. A total of eight focus groups were conducted. A pair of focus groups was conducted in each of 4 regions in the country – East (Pennsylvania), Midwest (Minnesota), South (South Carolina), and West (Oregon). Each pair of focus groups consisted of one group consisting of forest landowners who were not members of forestry organizations and one focus of forest landowners who were members of forestry organizations. There were two reasons for this segregation. First, there was a concern that forestry association members might dominate the discussion in mixed group, or that the non-association members might defer to association members. Second, this approach also gave the opportunity to determine if there were interesting differences in the perspectives of these two different populations.

The forest landowners who participated in the eight focus groups expressed a high degree of attachment to their forest land. In nearly all focus groups, the majority of participants stated that financial return is not a driver for their land management decisions. Knowledge and use of incentive programs was quite variable among family forest owners. The most widely used programs were tax related, specifically preferential property tax assessments and capital gains treatment of timber revenue. Overall knowledge of other financial incentive programs (federal, state, and private) was substantially lower. When considering all focus group participants, virtually every financial incentive program has been used, but few landowners had participated in more than one or two programs.

The form of incentive that received the greatest support was technical assistance – it was clearly preferred over financial incentives. Across all eight focus groups, there was a recurring sentiment that direct technical assistance, specifically having an extension or service forester “walk the land” with them, was the most highly valued assistance that could be provided. Recognizing that financial return is not the primary decision screen for the forest landowners in our focus groups goes a long way to explaining their understanding and use of forestry incentive programs. Cost share programs were far less utilized and valued than technical assistance.

Participants in every focus group said that they would do a management practice they thought was important even if there was no incentive program. A number of criticisms of financial incentive programs were voiced by family forest owners across all regions: inconsistent program administration and implementation – both between programs and within a program over time; slow and bureaucratic administrative processes to enroll in programs; inadequate program funding; long waiting periods for a service forester to visit their property; and the perception that some forest landowners receiving cost-share assistance do not completely fulfill the required activities. An additional sentiment that arose in most focus groups was that incentive programs were too cumbersome, not adequately funded, or constituted an unacceptable level of government intervention into otherwise personal matters. There was some reluctance to participate in government programs because of some anti-government feelings. Some fear losing control, others are philosophically opposed and can tell stories of people not adequately doing practices that they had taken program support to undertake. While these sentiments were present in every region, they were the most prominent in the west and southeast some cases, to be linked to a broad anti-government sentiment.

The term “sustainable forestry” resonated with forest owners at a conceptual level, but the specific tactics to be used to practice sustainability forestry were not well understood. This was because of the long-term orientation that the owners expressed toward land tenure. The most striking finding was the strong affiliation that these landowners felt toward their land. The landowners are committed to the long term and strongly want to do the right thing, so if sustainable forestry is cast as “the right thing for the long term,” then it is very easy concept to sell. When asked what sustainable forestry is, these landowners were just as likely to respond with attributes that are more commonly linked to sustained yield (cutting only what grows, etc.) but specific strategies do not have much traction.

Findings from the Survey of State Management Assistance Foresters

Federal Financial Incentive Programs

Selected forest management assistance foresters in each state were asked to describe and rate nine federal incentive programs: the Forest Stewardship Program (FSP), Conservation Reserve Program (CRP), Environmental Quality Incentives Program (EQIP), Forest Land Enhancement Program (FLEP), Forest Legacy Program (FLP), Landowner Incentive Program (LIP), Southern Pine Beetle Prevention and Restoration (SPBPR), Wetlands Reserve Program (WRP), and Wildlife Habitat Incentives Program (WHIP). The characteristics they rated include forest owner awareness of each program, its overall appeal among owners aware of it, its success in encouraging sustainable forest management and enabling owners to meet their objectives of forest ownership, and percentage of program practices remaining in place and enrolled acres remaining in forest over time. The next several paragraphs highlight results of the ratings, on a program-by-program basis.

FSP was among the highest-rated programs overall regarding forest owner awareness of the program, appeal among owners aware of it, encouraging sustainable forest management, enabling owners to meet their objectives of forest ownership, and percentage of enrolled acres remaining in forest over time. Comparing results across the four regions, foresters in the Midwest indicated that a lower percentage of program practices remained in place over time than those in the other regions.

CRP rated third overall in terms of owner awareness of the program. On a regional basis, forester perceptions of the program's appeal among owners aware of it and its success in encouraging sustainable forest management were highest in the South and lowest in the West.

Among the four regions, foresters in the East rated EQIP lowest in terms of appeal among owners aware of the program, encouraging sustainable forest management, and enabling owners to meet their objectives of ownership. Foresters in the Midwest rated the program lowest with respect to program practices remaining in place and enrolled acres remaining in forest over time.

FLEP seemed to be regarded as the "workhorse" of federal forestry incentives, and rated perhaps highest overall of the nine programs. The foresters placed it among the top-rated programs for owner awareness, appeal among owners aware of it, encouraging sustainable forest management, enabling owners to meet their objectives of ownership, and enrolled acres remaining in forest over time. There was little regional variation in the scores assigned to FLEP, except that foresters in the East rated it somewhat lower than those in other regions for helping owners meet their objectives.

FLP was among the programs rated highest overall for encouraging sustainable forest management and enabling owners to meet their objectives of ownership. Management assistance foresters in all four regions gave FLP high marks for program practices remaining in place and enrolled acres remaining in forest over time.

LIP and WRP ranked lowest of the nine programs for owner awareness, although the ratings assigned to them still were quite good. Comparing the results across regions, foresters in the Midwest considered LIP ineffective in nearly all measures surveyed, while foresters in the East considered the program quite effective. Ratings for WRP also were mixed. Foresters in all regions except the South gave the program low ratings for encouraging sustainable forest management, while foresters in all regions except the Midwest rated the program high for enrolled acres remaining in forest over time.

SPBPRP, available only in the South, was among the top-rated programs for enabling owners to meet their objectives of ownership. WHIP was among the lowest-ranked programs in terms of owner awareness and appeal to owners aware of it.

Most of the foresters' suggestions for improving owner participation in the programs centered around increased funding and staffing levels, single-agency delivery, and making program rules more consistent over time. Most of their suggestions for improving administrative efficiency centered around improving program application and delivery processes, and simplifying paperwork and reporting requirements.

State and Other Financial Incentive Programs

The management assistance foresters also were asked to name, describe, and rate financial incentive programs offered to non-industrial private forest owners by their state and by private entities, such as forest industry firms, forest owner associations, or nongovernmental organizations. All 50 states have some type of preferential property tax to protect forest land from being fragmented or converted to other uses. Each state takes its own unique approach, but the foresters rated the programs above average, overall, for forest owner awareness of them and their appeal among owners aware of them. They rated the programs only somewhat successful, however, in encouraging sustainable forest management and enabling owners to meet their objectives of ownership. Many of the foresters did not suggest improvements to their state property tax. Improvements that were suggested centered on program administration and objectives, guidelines, eligibility requirements, and valuation methods.

Several states have their own forest cost-share programs, many of which are funded by forest tax revenues. Some of the programs help fund timber management, while others focus on wildlife, riparian areas, or conservation easements; one is a state-level forest stewardship program. The foresters rated these programs above average overall for encouraging sustainable forest management and enabling owners to meet their objectives of forest ownership. The most frequently mentioned suggestions for improving the programs include increased funding and simplified eligibility requirements, administrative procedures, and contracts.

Forest industry programs account for the majority of financial incentives offered by private entities, although programs by land trusts or conservation organizations also are common. The management assistance foresters rated these programs somewhat lower than federal or state incentive programs in terms of forest owner awareness of them and their appeal among owners aware of them. This may be because of the targeted nature of the programs, which are not of interest to many forest owners. The foresters gave privately-sponsored programs high ratings, however, for program practices remaining in place and enrolled acres remaining in forest over time.

Conclusions and Recommendations

Conclusions

The review of literature, survey of state management assistance foresters, and focus groups of non-industrial private forest owners yielded three conclusions:

- Federal and state financial incentive programs currently play a limited role in promoting sustainable forestry practices on the nation's non-industrial private forests. There is no structural disconnect between the incentive programs and the practice of sustainable forestry. Forest owners sincerely desire to practice sustainable forestry and the incentive programs promote application of sustainable forestry practices. The programs, however, play only a minor role in the owners' decisions regarding management and use of their forest land.
- There were considerable differences between the regions with respect to some study findings. Findings that differed from region to region include forest owner objectives and interests, consistency between the owner objectives and the available financial incentive programs, how the programs are administered, and how owners perceive the programs' effectiveness and appeal.
- With respect to other findings, however, there was a consistent message across all four national regions. Three findings were key. First, the highest program priority among forest owners is one-on-one access to a forester or other natural resource professional to walk their land with them and discuss their management alternatives. Second, there is a need for some flexibility in financial incentive programs to address regional differences in forest characteristics and owner objectives. And third, the most effective way to increase the impact of financial incentives would be to ensure adequate funding and stable program requirements over time.

Recommendations

Despite their differences, both administrators of forestry financial assistance programs and family forest owners see considerable opportunities to increase the effectiveness by which financial incentive and related programs are delivered. This included increased program funding, visibility, and availability, greater consistency with respect to program eligibility requirements and implementation rules, and greater accountability and reporting for practices funded. To elevate the concept of sustainable forestry among the nation's family forest owners and address concerns about existing programs, the following are recommended.

Increase funding and availability for one-on-one technical assistance from extension and state service foresters. Direct access to a forester for on-site consultation was viewed as the single greatest need among family forest owners. Family forest owners believe they know their land better than anyone else, but lack the technical knowledge to maximize the land's potential. Having a forester walk the land with them builds this bridge between an in-depth understanding of the land's characteristics and forest management possibilities.

Emphasize technical assistance rather than certification to convey the concept of forest sustainability. The majority of these owners are not motivated by financial arguments such as "certified timber will receive a price premium," largely because generating a financial return is not the principal reason they own forest land. The most effective approach to promoting long-term stewardship is to assist family forest owners in correctly applying the forest management practices that will enable them to meet their ownership objectives.

Require a written forest management plan for participation in financial incentive programs. A forest management plan provides the context for how the cost-shared practices will help the owner realize land ownership and management objectives.

Design incentive programs to put forest owners in direct contact with a forester or other natural resource professional. Face-to-face contact between a landowner and natural resource professional increases the owner's awareness of land management possibilities and likelihood the practices will be correctly applied. This contact may also serve as an impetus for the owner making additional investment in forest management.

Design financial incentive programs to address regional differences in forest characteristics and forest owner objectives. Variability in land tenure arrangements, demographic and socio-economic conditions, and timber markets across the United States is considerable, as was borne out in the focus groups. A one-size-fits-all approach constrains the potential uses of financial incentive programs.

Link financial incentives directly to stewardship practices. Cost-shared practices that are tied to a landowner's long-term stewardship objectives will increase the likelihood that needed follow-up treatments and/or additional management activities will be undertaken.

Fund cost-share applications according to their expected environmental and economic benefits. Targeting limited resources to the forest lands and practices where the benefits will be greatest increases program effectiveness over policies that distribute funds on a first-come-first-served basis.

Maintain adequate funding and stable program requirements for financial incentive programs. Long-term consistency with respect to program financing and administration will attract additional interest among family forest owners who currently view these as important deterrents to program participation.

Coordinate the administration and delivery of financial incentive programs. Having a single agency in each state designated as the point of contact for all financial incentive programs will reduce the current high level of confusion that exists among family forest owners with respect to program availability, eligibility, application procedures, and delivery.

In summary, an important study finding is that financial incentive programs play a limited role in promoting sustainable forestry on the nation's family forests. While the study found considerable regional differences existed, a common theme was the high priority landowners placed on direct access to a forester. Additionally, landowners across all regions stressed the need for adequate funding and stable program requirements and program flexibility to address regional differences in forest characteristics and owner objectives. These and other study findings will be discussed.

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