

To plant or not to plant?

How farmers make decisions about afforestation

S. Duesberg, A. Ní Dhubháin, D. O'Connor



FORPOL - Forestry in a changing policy environment

Objectives:

- To explore the factors influencing a farmer's decision to afforest land using a combination of qualitative and quantitative research methods;
- To determine the impact of farmers' attitudes on land availability for forestry;
- To identify strategies to encourage afforestation by farmers.

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Rationale

- Previous research on farm afforestation has focussed on economic comparisons:
 - Net present value (NPV) of forestry greater than some farming enterprises
 - Premium greater than family farm income
- Profit maximisation theory would suggest that more agricultural land should have been planted to date
- Suggests that decisions are made according to different goals and values than profit maximisation

Farmers' values* (Gasson 1973)

- **Instrumental:** making the maximum income; making a satisfying income
- **Intrinsic:** enjoyment of work tasks; preference for farming life-style; control over land
- **Expressive:** farming as a way of self-expression; meeting a challenge
- **Social:** farming for the sake of interpersonal relationship; continuing the family tradition

*Values – are guidelines that categorise situations into good/bad and which influence goals

Methods -Phase 1: Qualitative approach

- 62 in-depth interviews* with farmers - open ended questions
- Farmers had the opportunity to articulate their views
- Interviews conducted on farms

* DAFM invited 800 farmers in study region to participate

Study region

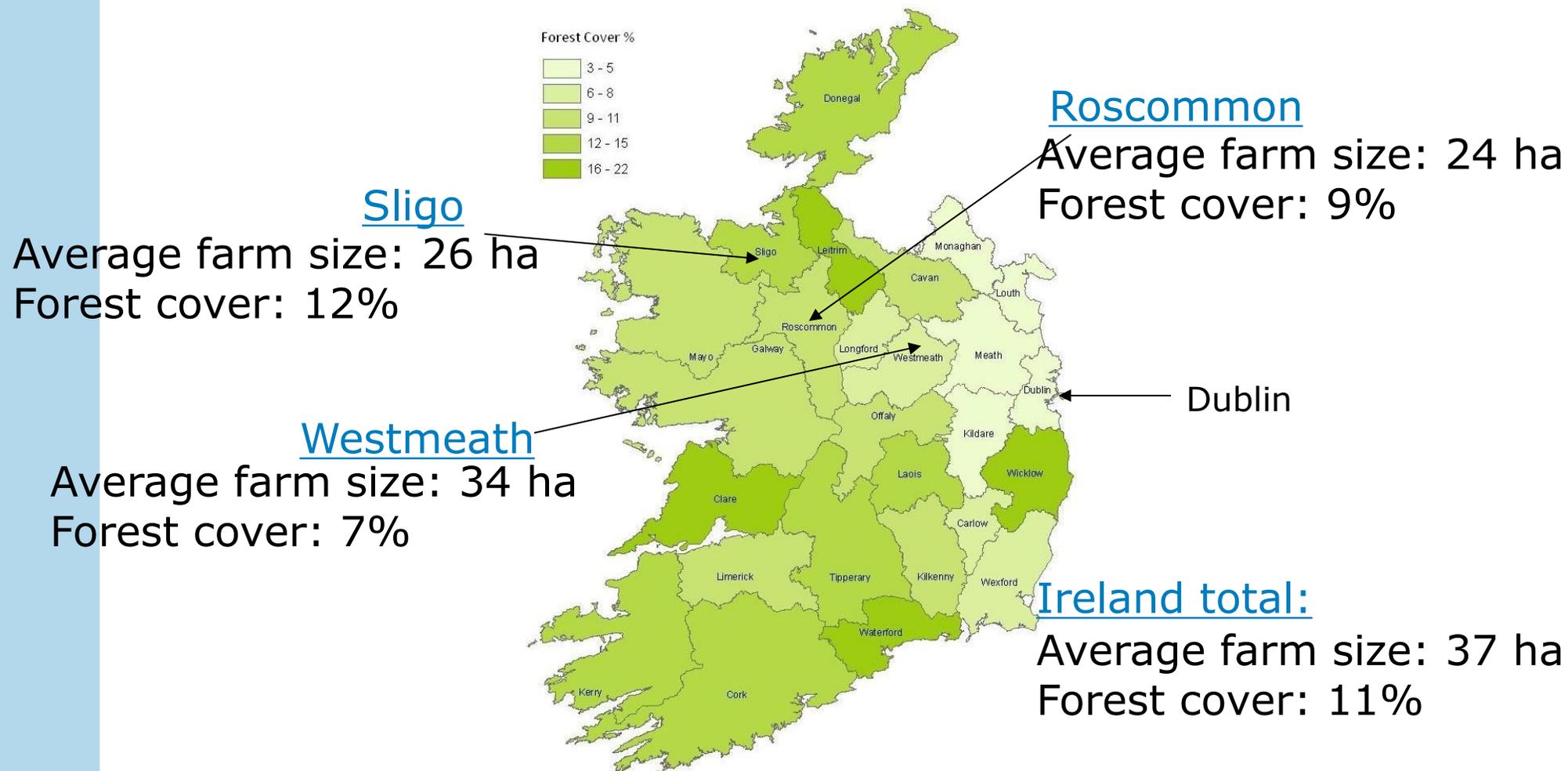


Figure 1: The three study region counties (Forest Service 2007 & 2009, CSO 2008)

Study region: North-West/West of Ireland

Characteristics of study region

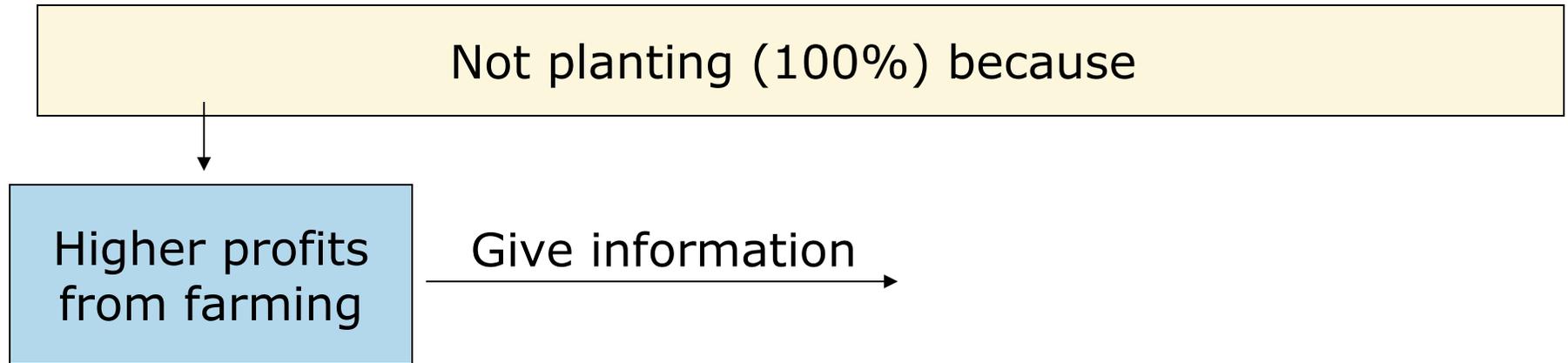
- Smaller than average farm sizes
- Cattle and sheep farming dominating
- Low family farm incomes
- Market returns do not cover production cost
- Returns from forestry exceed those from farming
- Poorer than average soil quality
- Depopulation

Interview questions

Qualitative interviews: topics

1. Farm structure
2. Economic situation of the farm
3. Past and current considerations to plant
4. Knowledge about scheme and its details
5. Give information about scheme and details
6. Current intention to plant
7. Reasons for decision

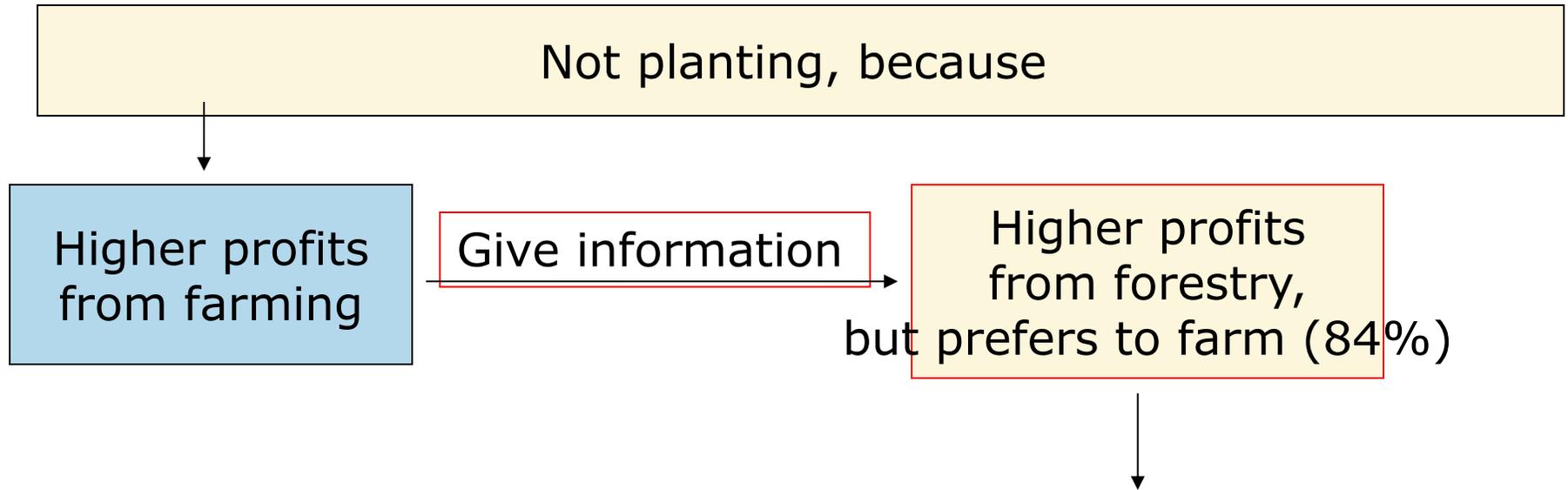
Results



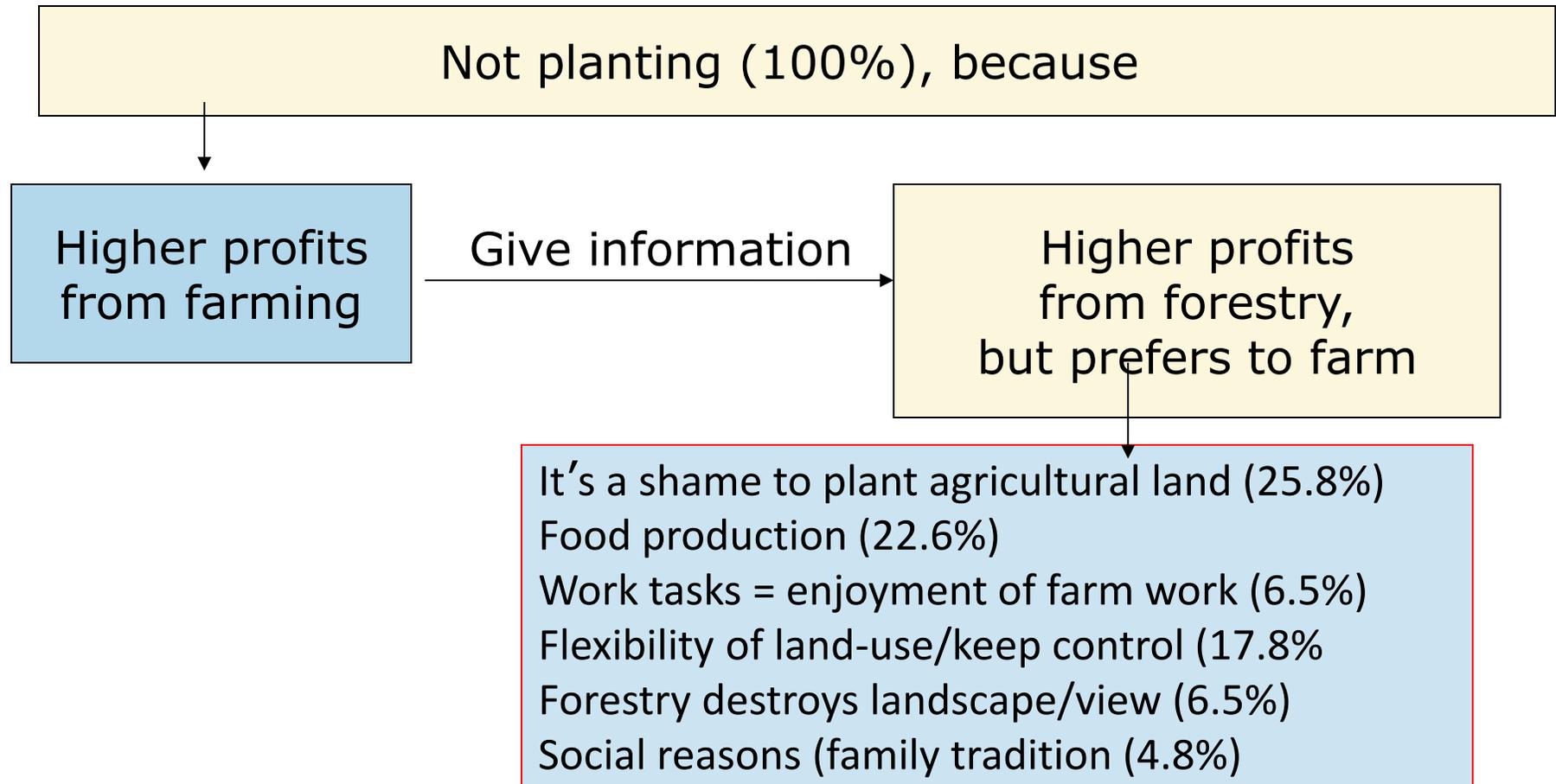
Typical quote

'Each year? For twenty years? That would include fencing and planting? ...Jesus you have me thinking now! And I thought you said you weren't promoting forestry!' (R08)

Results



Results



Results

- Food production

Typical quote

'If I had land good enough I would grow grain or I would grow anything before I would plant. There is a farm beside me, (...), there was 125 acres in the farm, but 85 acres of that was planted. And there was at least 30 or 40 acres (...) good farming land. It was a shame to plant it. I have worse land with cattle grazing on it.'

"You tend to hold onto land, you don't tend to plant, you tend to hold onto it, as growing crops, beef or cattle anyway"

Results

- Work tasks

Typical quote

"Yes, I like the farming, I like the land, I like the cattle, I wouldn't sell. It's like going away playing golf. There are people who go playing golf, where they wouldn't go farming. I'd farm where I wouldn't go playing golf and that's what it is."

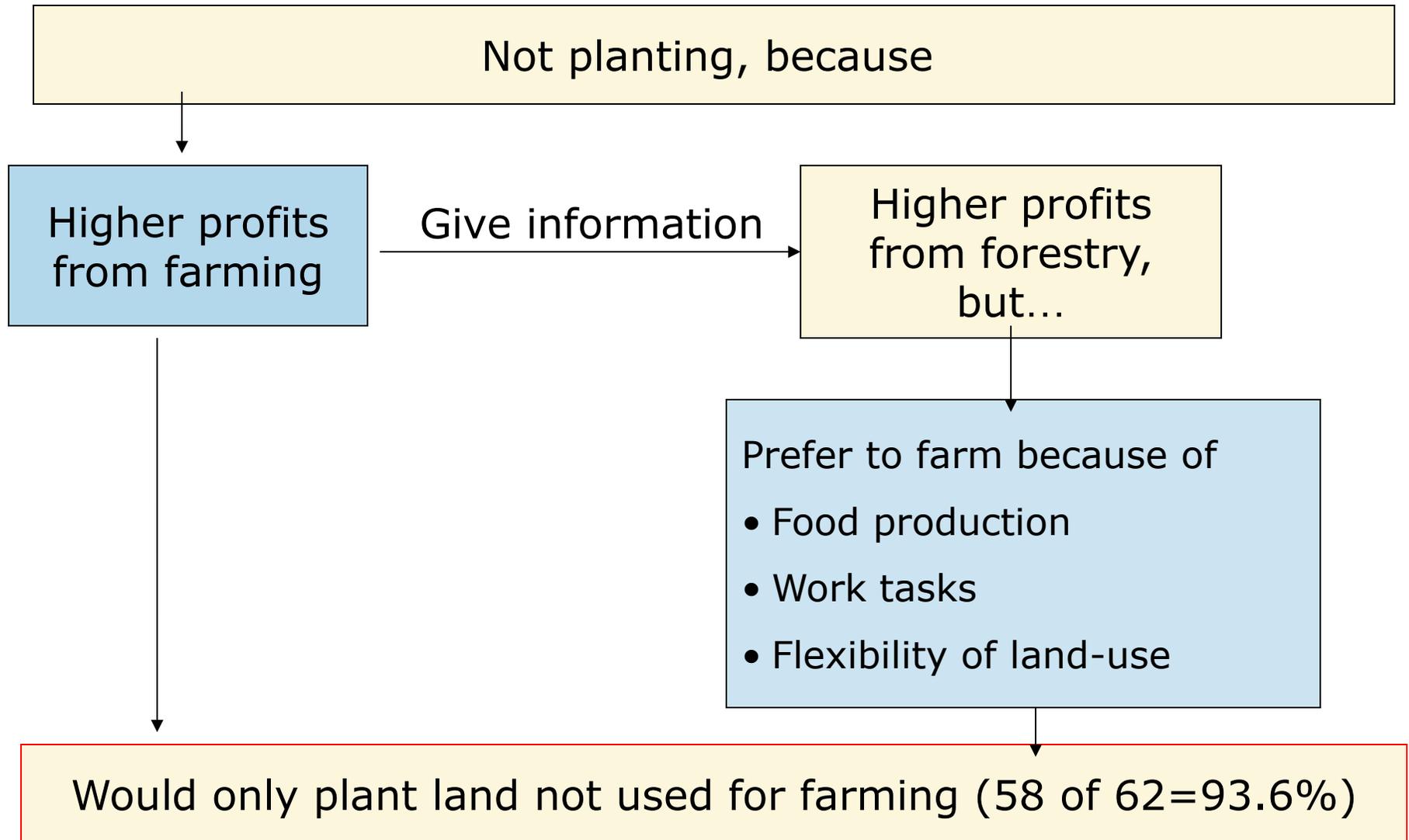
"But the spring time is a lovely time of the year when you are farming, when the calves are being born....it's the job satisfaction. There is not much job satisfaction."

- Flexibility of land-use

Typical quote

'Forestry as you know, you are in there for twenty years, you can't change, whereas I get out of sheep or get out of cattle I could get back in two years later or three years later.'

Results



Would only plant land not used for farming

Typical quote

'Well I know an area on my land that I believe would be very, very suitable to forestry and it would not interfere with anyone as far as I'd be concerned. It's a patch just in the centre of the land and it's absolutely useless ground and I believe it would do the world of good to the wildlife. It's of no use agriculturally, [and] it's hidden.'

Farmers who planted (24%)

- Most had planted bad, marginal or difficult to farm land
- Only a small group had no objections to plant agriculturally used land
- Economic and non-economic factors drove the latter group towards planting agriculturally used land

Planting because, ... Typical quote 1

'We inherited the land and we planted it two years after inheriting it. It was such a burden having it, because it was far away from the house, it put extra pressure on you going to see cattle on it. (...) This land it was bog, it was mountain, it would have been dangerous for cattle, because it wasn't drained properly, there was dykes in it, so it wasn't used.'

Planting because, ... Typical quote 2

[The land planted is] *'very good, very good quality. (...) Economically it makes perfect sense for me because I wasn't farming the land myself. The payment I get every year is just short of 4,000 Euro, so it's double what I was getting renting it, plus it's tax free, plus it's guaranteed for 20 years, plus I have a crop of trees growing, that's my pension plan at the same time. So for me it made absolute perfect sense to do it.'* (W20)

Interviewed farmers' farming values in general

- **Instrumental:** making a satisfying profit
- **Intrinsic:** enjoyment of work tasks; preference for farming life-style; control over land in a variety of situations
- **Social:** continuing the family tradition

Methods – Phase 2: Quantitative approach

- Postal survey of a random sample of Irish farmers
- Questionnaire sent by DAFM to 4000 farmers
- 1500 responses to date
- Data entry now on-going

Output of quantitative analysis

- Percentage of farmers who are likely to plant
- Explore the role that:
 - Socio-demographic factors (age, gender, marital status, education; number children)
 - Farm factor (farm size; farming type)
 - Awareness of financial incentives
 - Farmer values
 - Different policy tools
- Probabilistic model predicting the likelihood of farmer planting based on the above factors

Theoretical background: policy tools

Groups of policy tools (Schneider and Ingram 1990)

Authority tools: people cooperate without tangible payoffs in order to obey an authority, i.e. internal motivation to comply

Incentive tools: people cooperate in order to maximize their utility; e.g. farm afforestation scheme

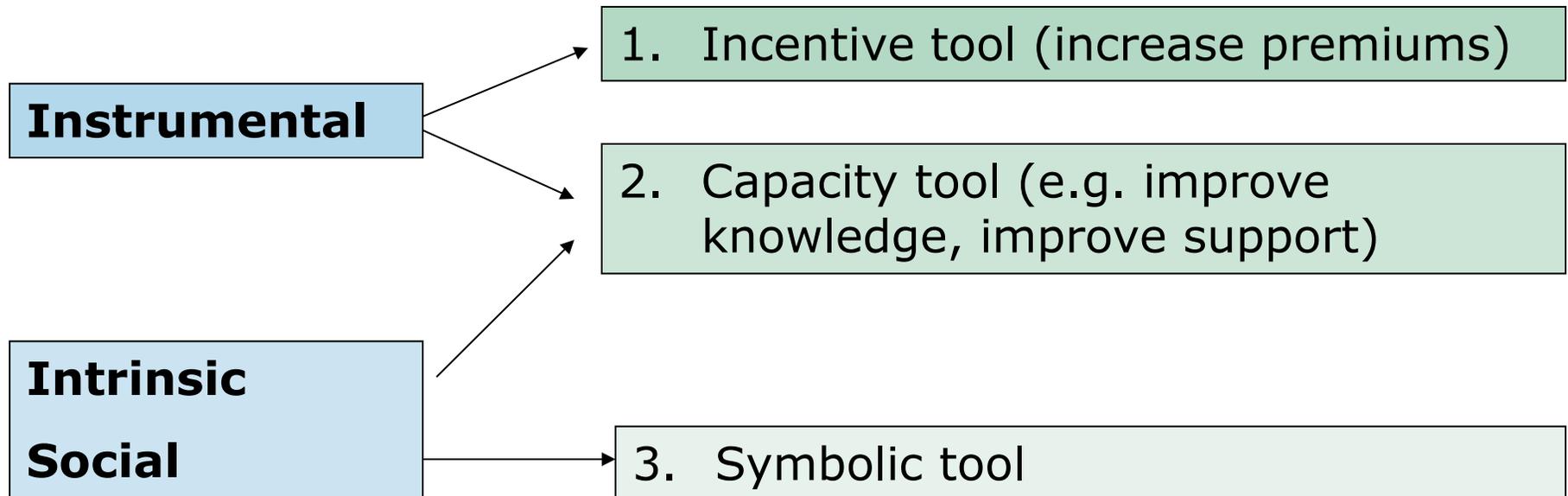
Capacity tools: people do not cooperate because of a lack of information, time or other resources

Symbolic tools: people do not cooperate because policy targets are not in line with their goals and values

Learning tools: used when a problem is recognized but the solution is unclear

Conclusions

Values and appropriate afforestation policy tools



Conclusions

“We await the results of the quantitative survey”