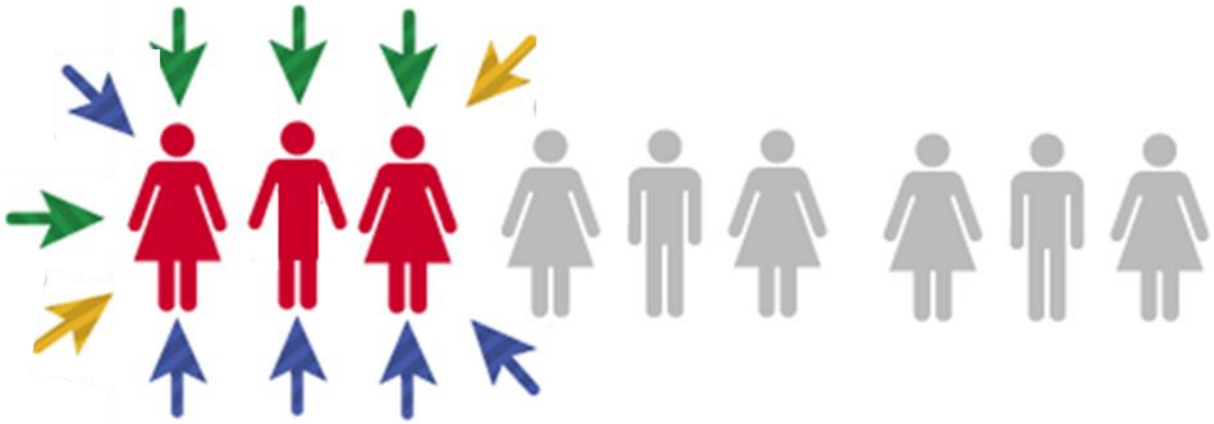
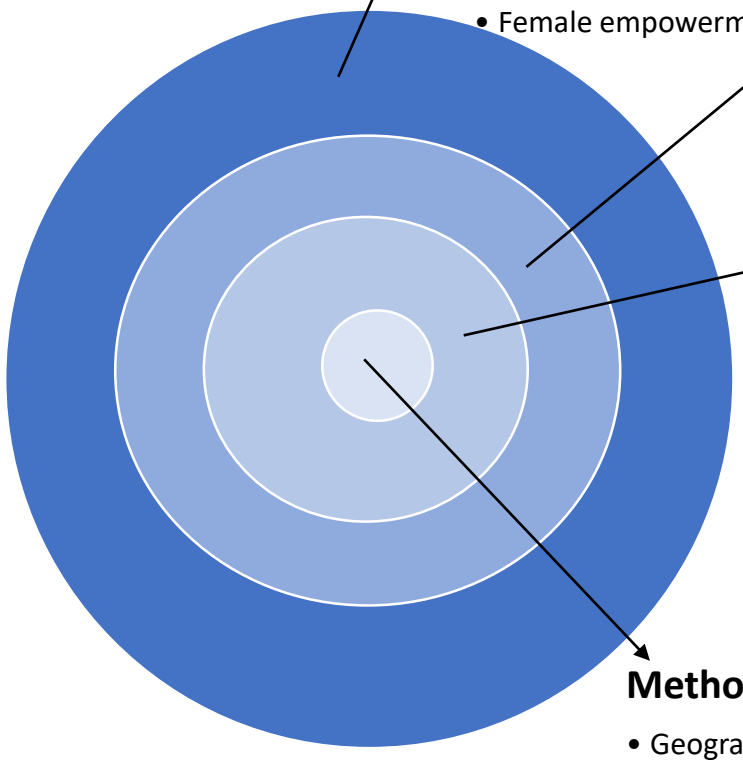


Targeting: Concepts and Practice

SSN Core Course: October 30th, 2019

To Target or not to Target



Policy Level

- Poverty reduction
- Income support
- Increase demand for services (education/health)
- Female empowerment

Program level

- Generosity
- Identifying the right group
- Budget/ Fiscal space

Implementation

- Take up issues
- Distribution (leakages)
- Following the delivery chain correctly (outreach, assessment of needs and conditions etc)

Methodology

- Geographical?; Categorical? Wellbeing?
- Household vs. Individual
- etc

Traditional discussion: focusing resources on those who need them most.

- For example: a program with a poverty reduction

  Population: 5 million people
  Poor population: 1 million are poor
  Average distance to poverty line: $30
  Budget allocated: $30 million per month

  Universal approach ~ $ 6 per person
  Perfect targeting approach ~ 30 per person

New discussion: Universal Social protection

- Universalism does not require the same benefit to everyone, nor to implement only universal programs.
- Rather, universal social protection may be achieved by a system of programs meant to serve different risks and populations.
- Multiple programs to support achieving policy goals. System approach.

To achieve policy goals we also work with a myriad of social benefits & services to various groups along the life cycle

Cash Transfers (CCTs or UCTs)

Food Stamps

Housing & Utility Subsidies

Emergency Assistance

Birth, Child Allowances

Maternity Benefits

Nutrition Supplements

School Feeding, Supplies, Transport

Scholarships

In-Work Benefits

Unemployment Benefits

Wage Subsidies

Public Works

Disability Benefits

Care-Giver Allowance

Sickness & Injury Benefits

Social Pensions

Contributory Pensions

Survivor & Death Benefits

Health Benefits

Transport Subsidies

Intermediation, Referral, Counseling, Psycho-Social Support Services

Family Services

Emergency Services

Legal services

Parenting Services

Child Care Services

ECD & Nutrition

Child Protective Services

Services for At-Risk Youth

ALMP / Activation Services

Training & Skills

Financial & Productive Inclusion Services

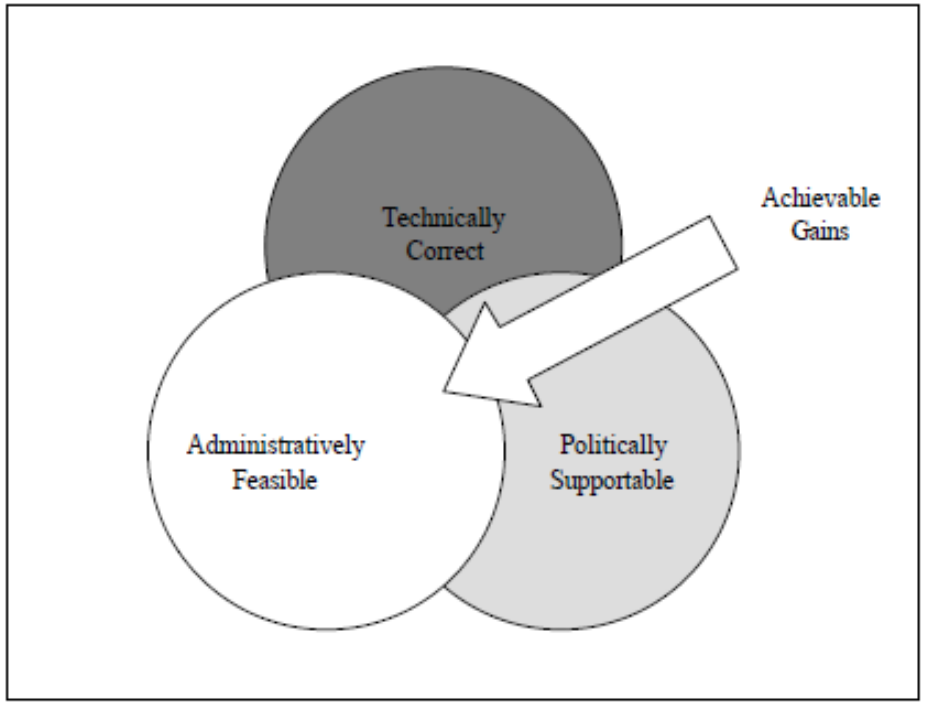
Disability Services

Active Aging Services

Social & Long-Term Care Services

5 dimensions for considering targeting (Prittchet, 2005)

- Electoral processes
- Emergency or long term
- Perception of social justice
- Reconcile implementation and, centralized control and decentralized controls
- Institutional arrangements



Methods are NEVER perfect

- Never 100% accurate
- What do these errors cost?
  - Efficiency
  - Social and political capital
    - ➢ Inclusion: Media attention
    - ➢ Exclusion: disenfranchisement

- What does it take to address them?

A fine balance between the costs of accuracy and errors and the goals of targeting.

Targeting has costs

Administrative cost

1. Intake and Registration
2. Lots of set-up costs, ↘ as programs scale-up
3. Difficult to measure b/c of shared staff and functions

Private costs

1. Documents (IDs, proof of status)
2. Need to go to an office, spend time
3. Work requirement in workfare
4. Stigma (public list)

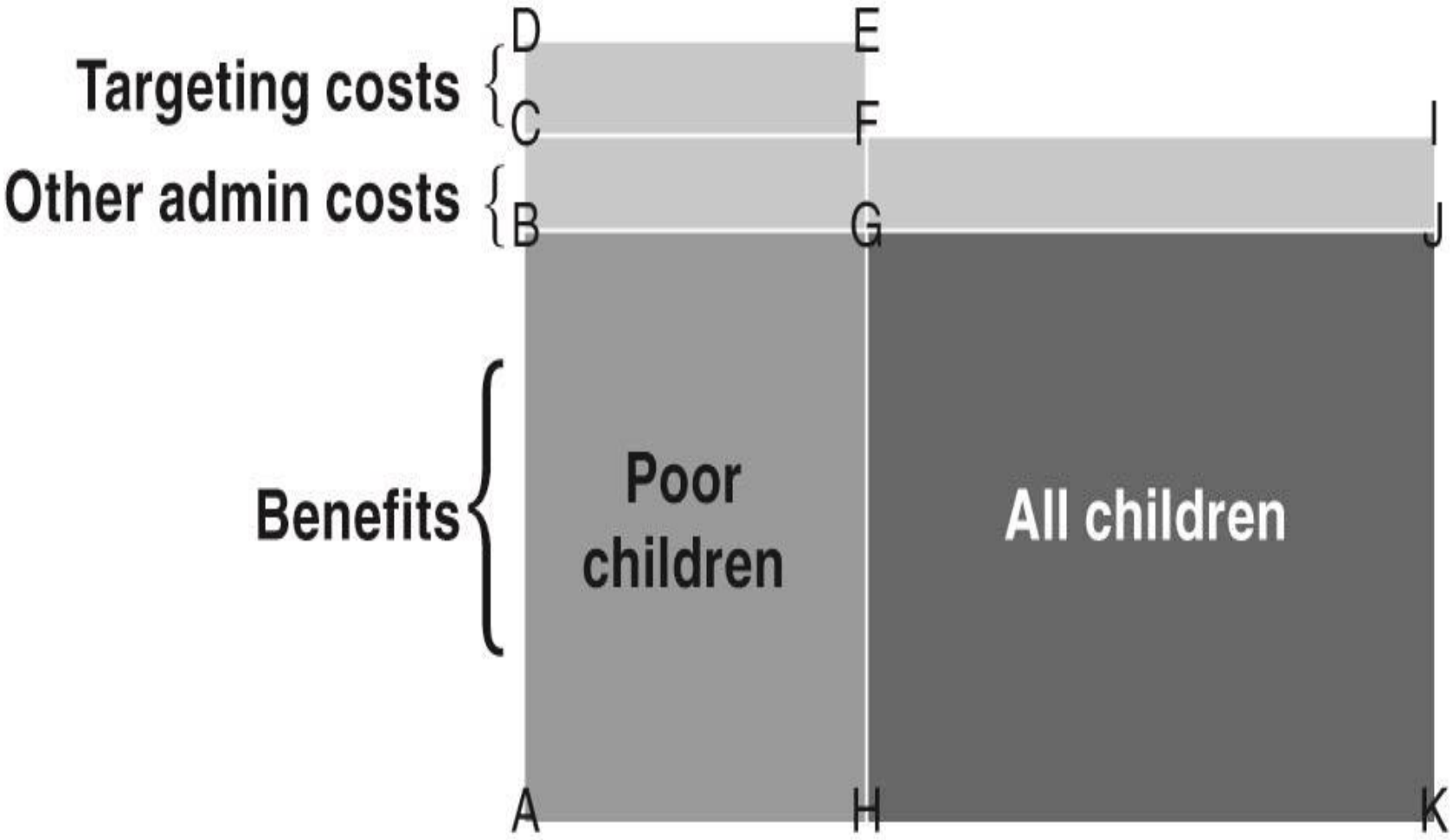
Incentive costs

1. Change behavior in attempt to become beneficiaries
2. Crowding out private transfer or complementing it

Political bias

1. Is a program for the poor a poor program?
2. Political manipulation
3. Political sustainability

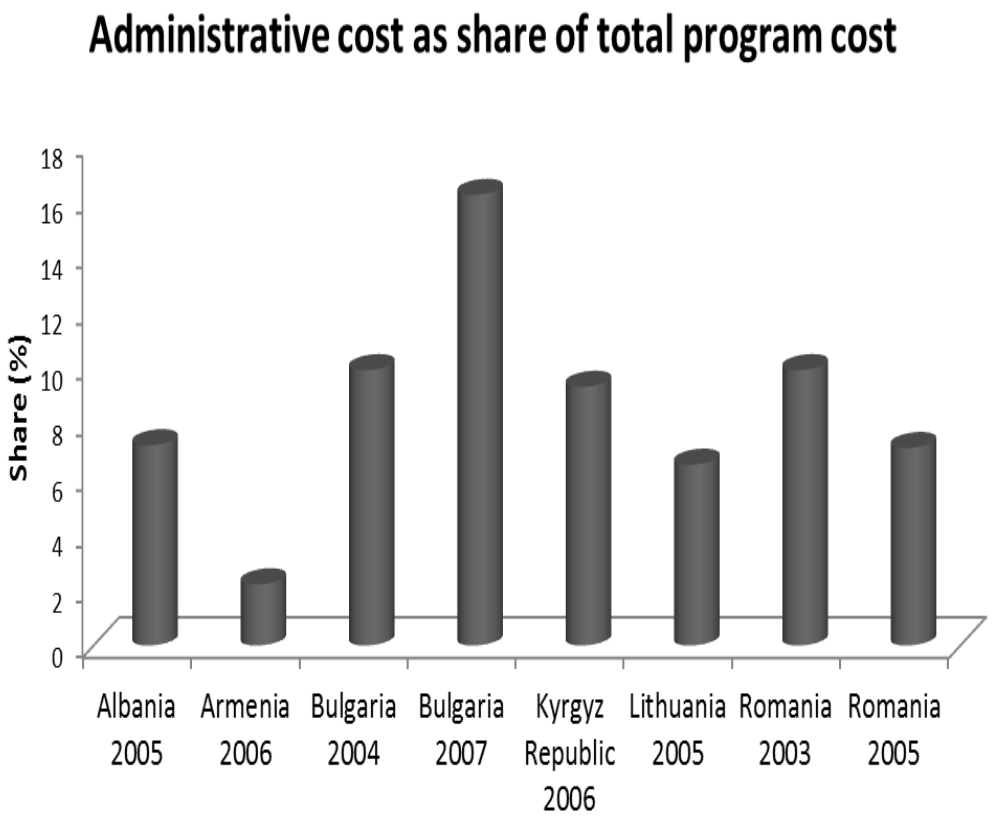
Conceptualizing Administrative Costs: Implications on the process



Conceptualizing Administrative Costs: Implications on the process

Country	Number of administrative-territorial tiers, and total population	Subnational tiers involved in program administration	
		Regional level	Local level
Albania	2 tiers, 3.6 million	12 Regional Service Administrations	385 offices;
Armenia	2 tiers, 3.2 million	11 Departments	55 Centers
Bulgaria	2 tiers, 7.2 million	28 Regional Directorates	272 Directorates
Kyrgyz Republic	3 tiers, 5.2 million	7 oblast Departments	40 rayon Departments; 477 rural local governments
Lithuania	2 tiers, 3.5 million	No role	60 Departments; 550 wards
Romania	2 tiers, 21.5 million	42 Directorates of Social Assistance	3,176 local governments
Uzbekistan	3 tiers, 25 million	12 Oblast Departments	382 rayon Departments; 12,000 mahalla committees

Administrative costs:
Despite the programs' complexity, admin costs are low to moderate



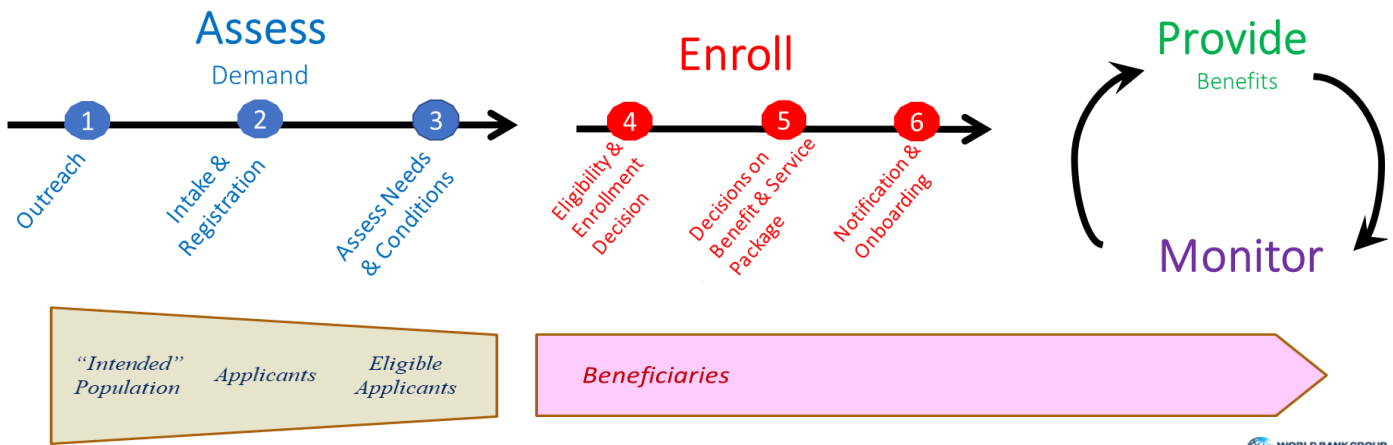
Niger experiment:
US$ 5.4-6.8 per household (Premand and Schnizter 2018)

Tanzania Productive Safety Net roll out:
Cost-effectiveness ratio of 4:1 in first year
US$ 12 per questionnaire administered;
US$ 13 benefit per month;

Mali Jigisemejiri: 8% of program costs
Congo Lisungi: 10% of program costs

Process

- Despite the method, implementation matters a LOT for optimizing targeting outcomes
- Moving from population to beneficiary is not simple.
  - General population
    - Budget implications, coordination, administration and transparency
  - Target population
    - Budget, outreach, intake and registration, assessment of needs and conditions, enrollment, Monitoring and Information system...



Outputs of each phase ARE inputs to next phase (benefits example)

Assess
Demand

1 Outreach

2 Intake & Registration

3 Assess Needs & Conditions

Enroll

4 Eligibility & Enrollment Decision

5 Decisions on Benefit & Service Package

6 Notification & Onboarding

Provide
Benefits

Monitor

Inputs: Messages, communication tools

Outputs: IP and VGs informed and understand program; willing to engage, apply, provide information (including making sure that VGs are not missed)

Inputs: People apply, register, and provide information (including IP & VGs); Data pulled from other admin. Systems

Outputs: Complete information on the applicant(s) that is verified & validated that can then be used for assessment of needs and conditions.

Inputs: Complete & verified information on the applicant; Social worker, employment officer assessment

Outputs: Applicant(s) profiled or categorized according assessment tools (welfare measures, risk profiles)

Inputs: Applicants profiled or categorized according to assessment + additional program-specific information + program eligibility criteria + program budget

Outputs: Applicants classified as IN (enrolled), WAITLISTED, or OUT (non-eligible); all notified; beneficiaries onboarded & initial payroll established

Inputs: Initial & updated payroll for that cycle with information on bank accounts, mobile wallets, payment points

Outputs: Beneficiaries informed of amounts, receive payments

Inputs summary: Basic information updating & corrections + Conditionalities monitoring + **GRM cases resolved**

Outputs: updated payroll for next cycle (feedback to provision of payments)

A good targeting method provides…

Transparency and consistency

- Clear and consistent application of centralized criteria
- Low political interference and manipulation

Maximum inclusion of the desired population

- People who think they are eligible should be able to apply on an on-going basis
- Budget and outreach

Minimum leakage to the "not desired"

- As technically possible to the near poor, errors rather than fraud

Cost-efficiency

- Under 10% of administrative costs at scale

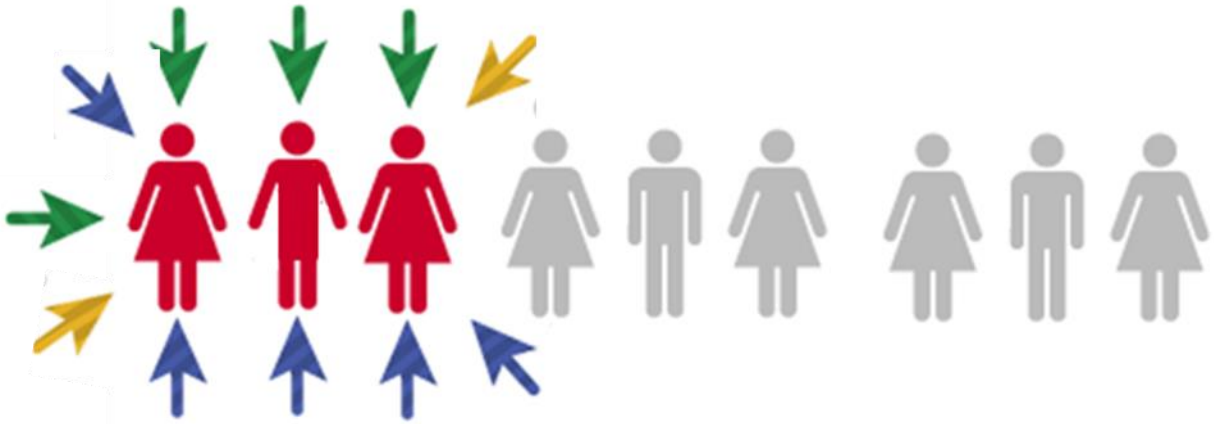
Summary of basic contexts

FYI

Hypothetical Scenario:

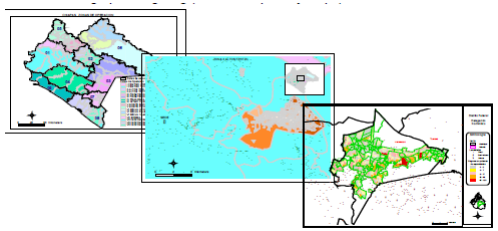
- Economy of 100 people
- 60 are from the targeted group
- Budget for transfer program is $600

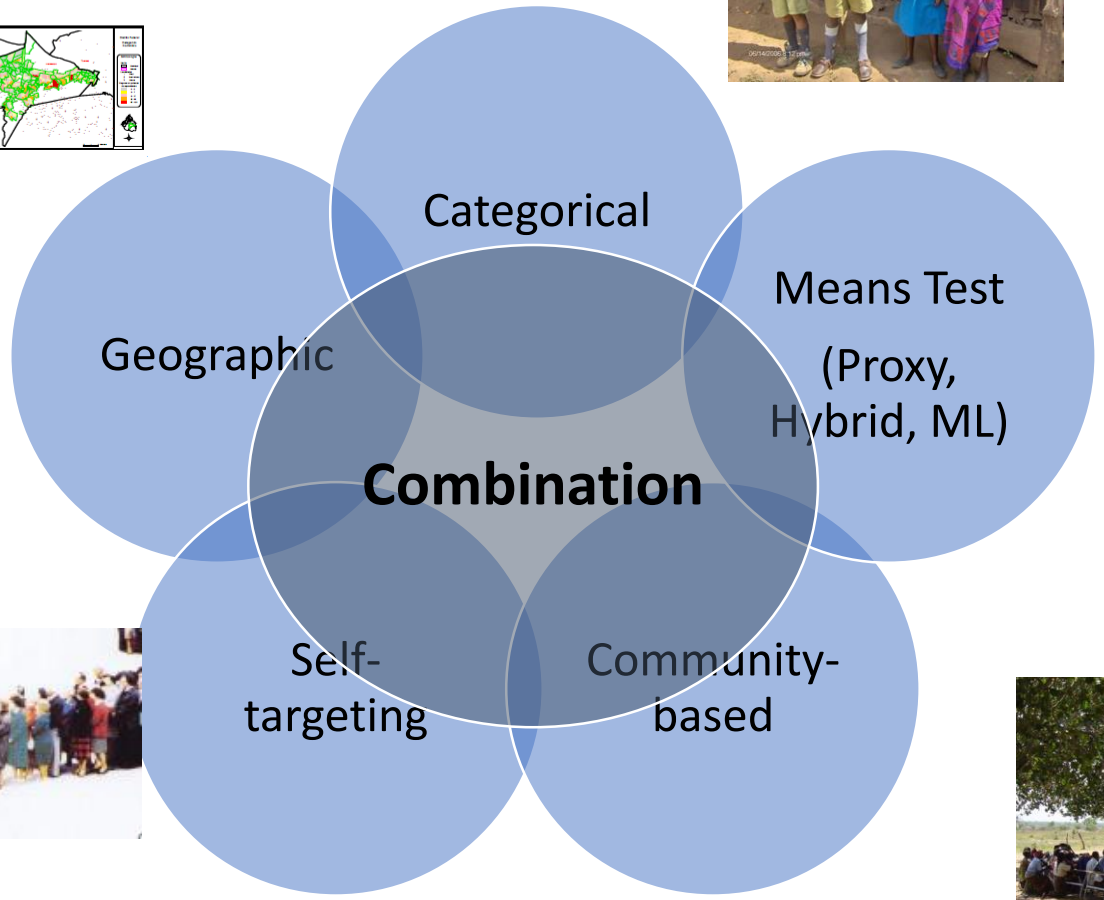
No Targeting	Option 1	Option 2	Option 3
Universal •**Each person gets $6** • Budget is $600 •40% of $➔ error •$ going to the targeted group: 360	**Perfect information** (unlikely to happen) • **Each targeted person gets $10** • Budget is $600 •$ going to the targeted group: 600	**Perfect information** (unlikely to happen) •**Each targeted person gets $6** •Budget is cut to $360 • $ going to the targeted group: 360	• **Imperfect Information: Participants: 65** •10 of them are from "not-targeted" group ("Errors of inclusion") •5 from "targeted" group are not selected ("Errors of exclusion") •Administrative cost is estimated at $0.5 for gathering information : total $ 50 •Therefore: each participant gets $8.45 •Budget is $600 but 15% of $ ➔ error $ going to the targeted group: 464.8



How to apply eligibility criteria? Methods

Targeting methods





Geographic

What is it	• A method where location determines potential eligibility for benefits. • When working in isolation, all population living in the desired area of intervention is considered eligible. • However, it is commonly used in conjunction with other eligibility criteria, as a first phase of targeting and for planning.
What is for	• To identify geographic areas in which development has been lagging behind. • Not only for targeting, but to be used to spatially allocate different resources to areas with more needs. • Can be used for (a) supporting planning and outreach strategies to identify intended population to treat, (b) defining priorities and phasing in strategy for program implementation, (c) defining geographic quotas for program, (d) for monitoring program.
Minimum conditions	• Requires small area statistics to provide a spatial representation of the population of interest and their needs, and expertise on geospatial analysis technologies/methods. • Data to build geospatial analysis on indicators as wellbeing, poverty, social development, access to services, infrastructure, climate, soil…, including “big data”,
Pros	• Simple to apply and does not create social tensions. • Help understand geographic variations, display different dimensions of poverty and vulnerability, and display simultaneously spatial correlations to support policy design and strategies
Cons	• Requires knowledge of geospatial statistics and modeling when more than one indicator or different levels of geographic information is used • Can encourage migration to the program treated areas

Categorical (demographic and other catergories)

What is it	• Uses demographics or other characteristic determines potential eligibility for benefits. • Commonly used for “universal programs”. • Can be applied in isolation or as an additional criterium in mixed methods.
What is for	• To address right base approach (e.g. Survivor benefits, old-age social pensions…) • To support social security (e.g. unemployment benefits, labor market activation..) • To incentivize behavioral changes as family allowances /child raising/birth grants that promotes increase of fertility rates • To mitigate constraints caused by certain social vulnerabilities (e.g. age, race/minorities/women head of household, disability, etc).
Minimum conditions	• Good coverage of Identification (e.g. birth certificate for minors and IDs for adults) and other documents such as disability assessments, Possession of labor cards/labor status certificates for unemployment benefits. • For poverty reduction, monetary poverty or vulnerability must be highly correlated with the pre-defined category. • Needs a dynamic and open system for intake and registration, and interoperability with other systems as civil registration as eligibility cab be daily affected by life events
Pros	• Universally appealing, and consequently quite popular. • Some categories address right based view and stigma is not that prevalent • Address social vulnerability.
Cons	• Some eligibility criteria hurt the poor. Ex. age vs possession of ID; disability assessment requirements. • Lack of integration with the civil registration does generate errors

Self-targeting

What is it	• Anyone can benefit for but program dimensions, i.e. rules, benefits or conditions are not attractive to the individual, i.e., the private participation costs associated to the program do only encourage those in need.

What is for	• Subsidies
	  • Helps policymakers to deal with economic crisis that would increase unemployment or price increases of certain goods.
	• Temporary employment
	  • Promote temporary employment while generating and/or maintaining some basic infrastructure/social services.

Minimum conditions	• Subsidies:
	  • Clear dichotomy in place so that the selected goods is not attractive to the non-intended population.
	  • For food subsidies, when an inferior good subsidy is considered, a suitable market chain must be in place.
	• Temporary employment
	  • type of work or benefit amount goods is not attractive to the non-intended population.

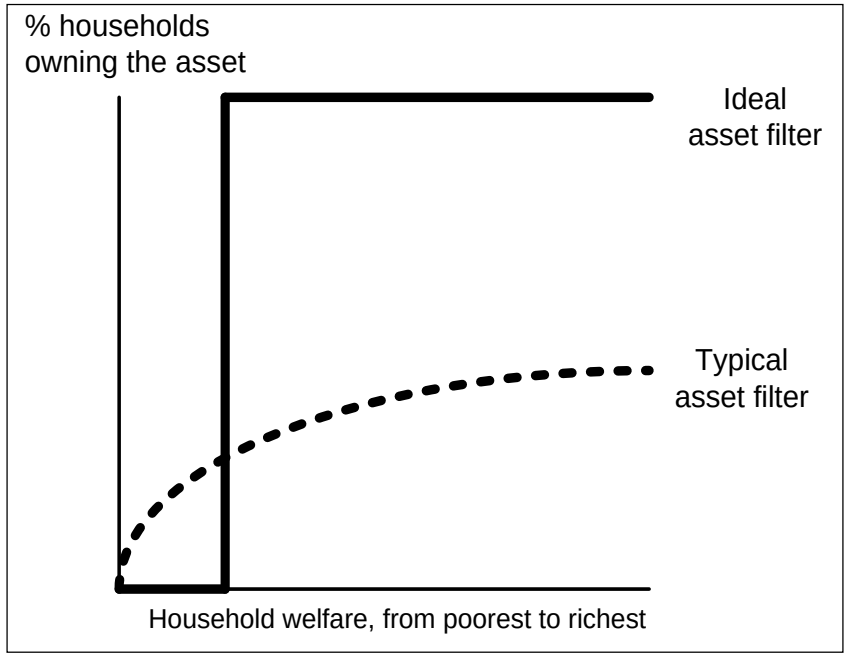
Pros	• Places the “responsibility” on the hands of the applicant • Considered administratively simple as communications drives the process.
Cons	• Appropriated communication channels must be in place to inform program dynamics for population. • When population needs are too large, demand for the program can be larger than initially planned so that additional layers or filters or other eligibility criteria are to be used to screen a subgroup for participation.

Community Based

What is it	• Organized local level groups composed by local leaders, civil society, government officials…that are from and very active member of the "community" decide who in the "community" should benefit.
What is for	• To address program administrators myopia and lack of knowledge about community. • To promote community engagement and improve accuracy at lowest level.
Minimum conditions	• Requires a strong, small and cohesive community structure • Requires effective outreach and capacitation to local actors that will be running the process and supporting program implementation • Requires proper Grievances and Redress mechanism to deal with implementation failures.
Pros	• Benefits from the locals and their knowledge of the community to identify the population of interest. • Generates local level buy-in because the locals feel part of the process, • Improves acceptability of the program.
Cons	• Local actors can have own preferences and consequently biases the process towards certain groups (including against women) • Reinforces existent power structures and promote patters of exclusion. • Between communities' program intake heterogenous due to perceptions. • Social tensions within the population and local actors can rise. • Hard to be used for larger groups where knowledge of one-another is not that clear.

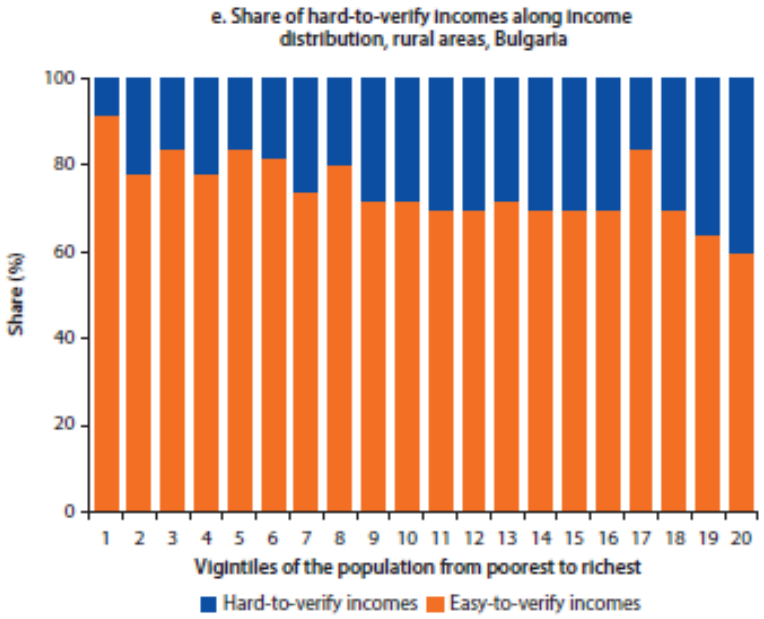
Wellbeing measurements

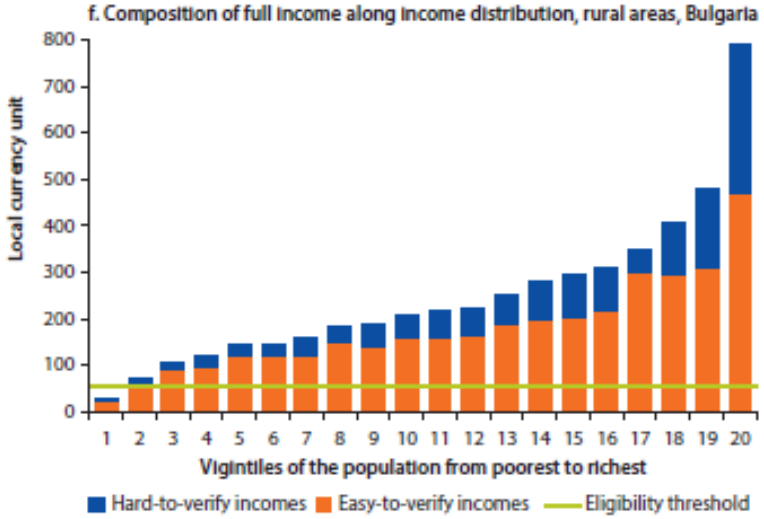
Ideal estimation case



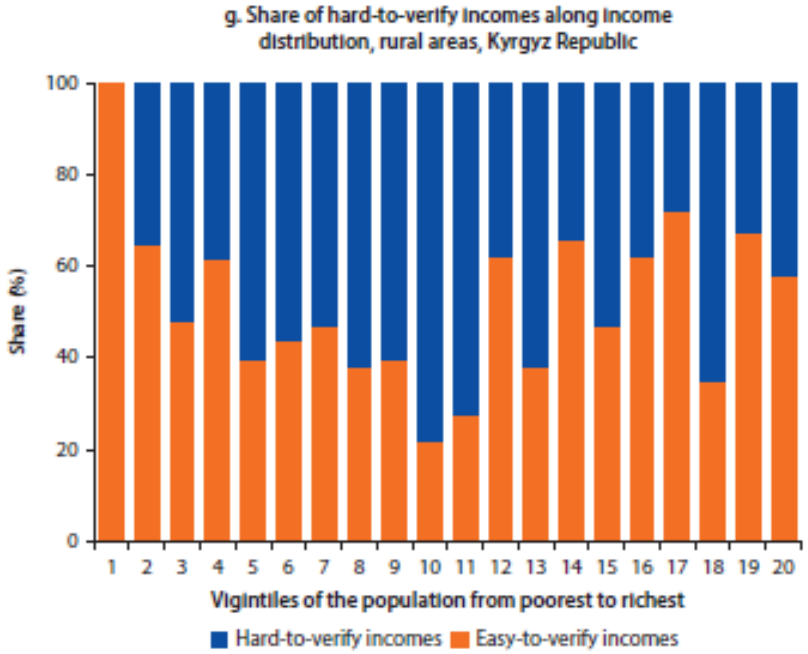
Hard & Easy to Verify Income

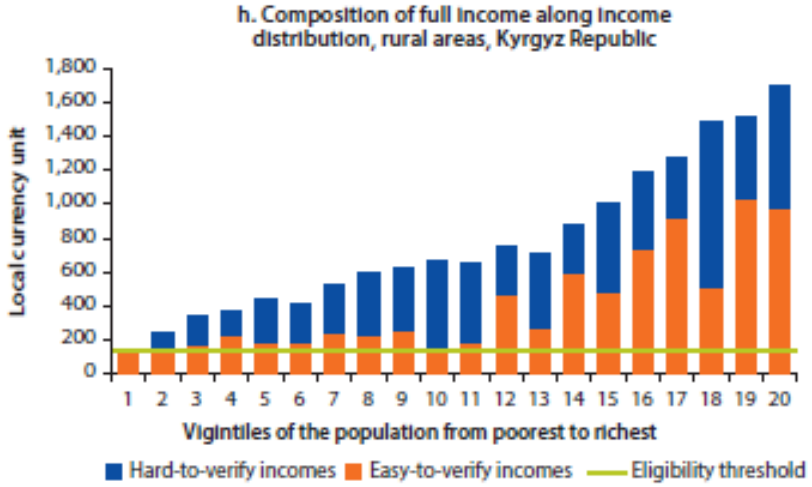
Bulgaria





Kyrgyz Republic





Means-Test (MT)

What is it	• A method that use targeting unit's complete and verifiable set of information either (a) grouped as a wealth and or asset index .
What is for	• Considered the gold standard of methods for identification of intended population to treat based on a wealth index and/or assets possession. • Commonly used for programs designed for a group of population as the poor or middle-class when using wellbeing as wealth metric. • It can be also used for programs aiming to improve food security when eligibility is determined by living a food insecure index below an acceptable level • For determining affluence testing
Minimum conditions	• High levels of literacy and documentation that can be used as counterproof of declared information. • High capacity levels of staff to capacity to properly collect the information required and to digitize the self-declared information. • Have effective verification process, including home visits and interoperability.
Pros	• Accurate metric for wellbeing when its development follows basic standards and minimum conditions. • It is sensible to quick changes in wellbeing, as in a crisis or in some transition countries
Cons	• Relies on quality of data (both household survey, admin, studies and declared information) • Relies on qualified administrative staff

Hybrid-Means Test (HMT)

What is it	• A method that use targeting unit's notion of **administrative income** composed of all household gains from formal activities, which are verifiable by the administrators, and an **estimation of income** from informal activities. • Weights of each variable for estimation fo income can be derived from statistics/econometric models (e.g. OLS, quantile and probit/logit regressions, PCA, regression tree or cluster analysis) or average elasticity known from administrative records/studies (e.g. marginal productivity gain per hectare on agriculture)
What is for	• Considered one alternative method for identification of intended population to treat based on a wealth index and/or assets possession when formal income represents a large share of total household income.
Minimum conditions	• High levels of literacy and documentation that can be used as counterproof of declared information. • High capacity levels of staff to capacity to properly collect the information required and to digitize the self-declared information. • Have effective verification process, including home visits and interoperability.
Pros	• Reliable metric for predicting full wellbeing when its development follows basic standards and minimum conditions. • Reliable for predicting household administrative income and it is the closest to the means test metric. • It is sensible to quick changes in wellbeing, as in a crisis or in some transition countries
Cons	• Relies on quality of data (both household survey, admin, studies and declared information) • Relies on qualified administrative staff

Proxy-Means Test (PMT)

What is it	• A method that use targeting unit's partial and easy to verify set of information to "**predict**" the monetary wellbeing level of the applicant. The information used are considered "proxies" for household monetary wellbeing. • Weights derived from statistics/econometric models (e.g. OLS, quantile and probit/logit regressions, PCA, regression tree or cluster analysis) developed using the most recent household survey data and ancillary data ("Big data")
What is for	• Considered one alternative method for identification of intended population to treat based on a wealth index and/or assets possession.
Minimum conditions	• High levels of literacy and documentation that can be used as counterproof of declared information. • High capacity levels of staff to capacity to properly collect the information required and to digitize the self-declared information. • Have effective verification process, including home visits and interoperability.
Pros	• Reliable metric for predicting permanent wellbeing when its development follows basic standards and minimum conditions. • Reliable for predicting chronic poverty and applicants "permanent income", which measures long term consumption patterns. • Final PMT score is an easy, transparent (verifiable) and may allay concerns over politicization or randomness of benefit assignment.
Cons	• Relies on quality of data (both household survey and declared information) • Insensitive to quick changes in wellbeing

Machine Learning (ML) – new horizon

What is it	• A method that use targeting unit's partial and easy to verify set of information to "**predict**" the monetary level of the applicant. The information used are considered "proxies" for household. • Weights are derived from **algorithm** and models based on most recent household survey data and ancillary data ("Big data") • Uses AI as algorithms are given data and are asked to process without a predetermined set of rules and regulations, assuming that the systems are smart enough to adapt and learn as and when a new set of data is added
What is for	• Effective for improving geotargeting and starting to be considered a alternative method for identification based on a wealth index and/or assets possession **(PMT 2.0???)**.
Minimum conditions	• High capacity levels of staff to capacity to determine key data, properly collect the information required and to digitize the self-declared information. • Have effective verification process, including home visits and interoperability. • High capacity to collect and add new data **at household/individual level beyond household surveys**, as well as geographically at regular basis to "feed" AI needs
Pros	• Reliable metric for predicting geographic level poverty and vulnerability. • As data becomes available the ability to incorporate new data sources into the process improves outcomes
Cons	• Data driven and high heterogeneity among algorithms/model. • Algorithm is calibrate for a single outcome, and same algorithm can perform bad for a different outcome. • Model is not interpretable and a true black box. • Relies on qualified administrative staff

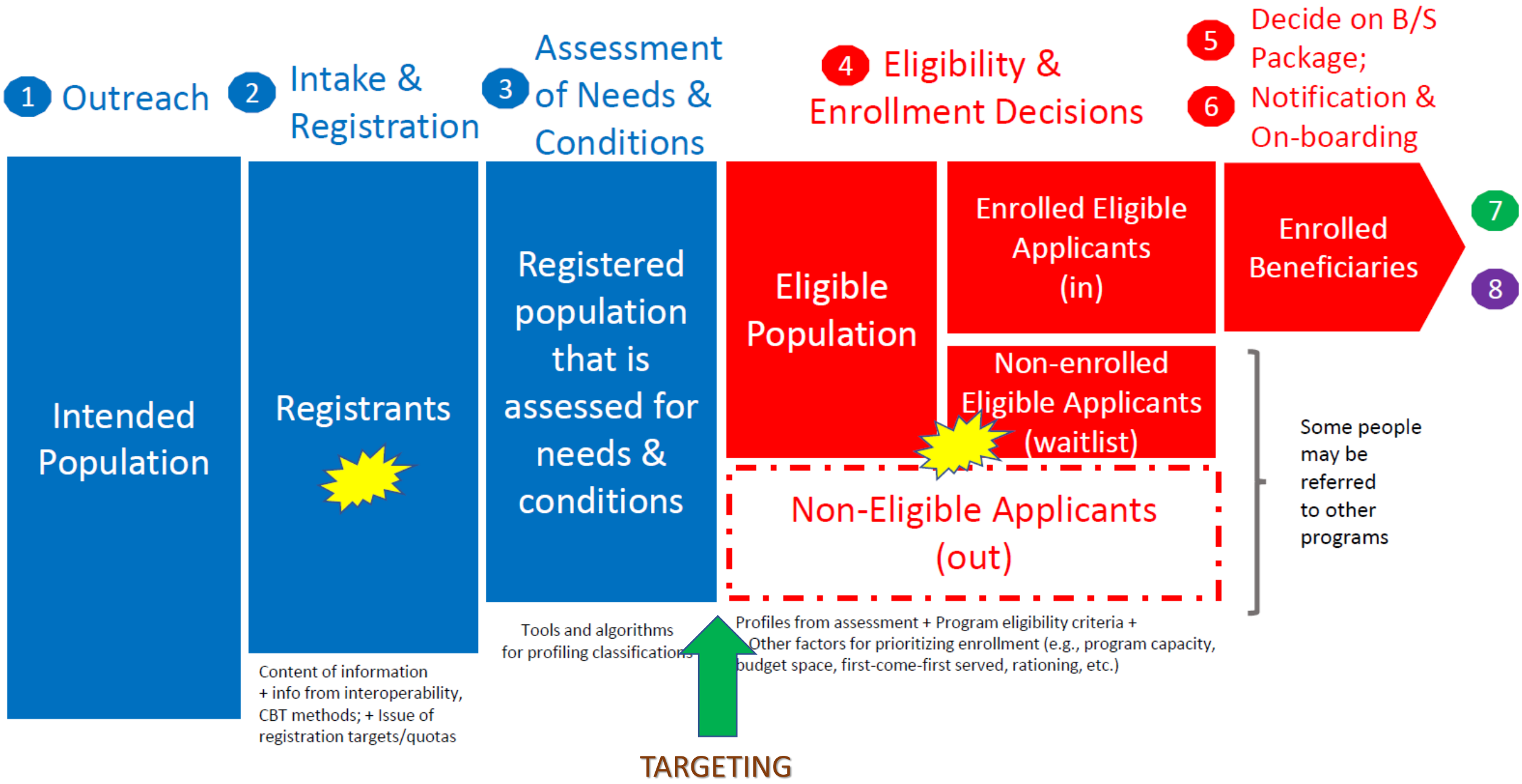
Predictive models main differences

PMT

- Uses basic descriptive statistics for prediction based on current and past information and correlations.
- Makes use of existent information and researcher knowledge of the problem
- Requires a data scientist to run the model and analyse the results, perform different calibrations and adjusts as it is case driven.
- It is a study, not a technology, that requires good data mining and skilled researcher to take decisions.

Machine Learning

- Devise and generates algorithms and use models to lead to a prediction.
- AI ➔ algorithms are given data and are asked to process information without a predetermined set of rules and regulations
- Requires systems smart enough to adapt and learn as and when a new set of data is added, without the need of being directly programmed.
- It is a data driven technology, and the problem to be solved needs to be very descriptive to find the right algorithm in order to apply an ML solution .


1 Outreach
2 Intake & Registration
3 Assessment of Needs & Conditions
4 Eligibility & Enrollment Decisions
5 Decide on B/S Package;
6 Notification & On-boarding
7
8
Intended Population
Registrants
Registered population that is assessed for needs & conditions
Eligible Population
Enrolled Eligible Applicants (in)
Non-enrolled Eligible Applicants (waitlist)
Non-Eligible Applicants (out)
Enrolled Beneficiaries
Some people may be referred to other programs
Content of information + info from interoperability, CBT methods; + Issue of registration targets/quotas
Tools and algorithms for profiling classifications
Profiles from assessment + Program eligibility criteria + Other factors for prioritizing enrollment (e.g., program capacity, budget space, first-come-first served, rationing, etc.)
TARGETING

Summary

- Implementation matters
  - Lowering barriers to participation
    - Effective dissemination of information about the program
    - Minimize visits and waiting for application
    - Minimize documentation required, free-of-charge provision of documents attesting eligibility
    - Introduction of one-stop or one-window system; Single application for multiple benefits
  - Lowering errors
    - Combine multiple targeting methods
    - Cross-check the information provided by applicants against other public databases;
    - Perform home-visits to assess the means of the households and Frequent re-certification
    - Outreach, re-certification, quality control, system design, staffing, etc.
  - Improving program administration
    - MIS, Staff training, Coordination,....
    - Investment in outreach and Intake and registration
    - Triangulate from several sources:
      - Respondent
      - Community
      - Administrative records at local and central level
      - Grievance and redress mechanisms

More information

- www.worldbank.org/safetynets

  - Enrollment in the Safety Net, How-to Note
  - Grosh, del Ninno, Tesliuc & Ouerghi (2008) “From Protection to Promotion: The Design and Implementation of Effective Safety Nets”,
  - Del Ninno and Mils (2015) “Effective Mechanisms to Reach the Poor and Most Vulnerable”
  - Tesliuc, Pop, Grosh & Yemtsov (2015) “Income Support for the Poorest: A review of experience in Eastern Europe and Central Asia”
  - The State of Social Safety Nets (2018) - World Bank Group
  - Coady, Grosh and Hoddinott (2004) “Targeting of Transfers in Developing Countries: Review of Lessons and Experience”
  - Devereux, Masset, Sabates-Wheeler, Samson, Rivas & Lintelo (2017) “The targeting effectiveness of social transfers”
  - Governance and service delivery, in SSN working papers series

Thank you!

Source: Bolsa Familia municipal manager manual