Figure 3

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\begin{figure}[ht]
\caption{Catchment Areas in One Dimension}\label{fig: catchments_r1}
\setlength{\tabcolsep}{10pt}
%\setlength{\tabcolsep}{10pt}
\begin{center}
\begin{tabular}{cc}
$b_o=1 \ \forall \ o$ & $b_o$ vary with $o$ \\
\\
\begin{tikzpicture}[line width=1pt,line cap=round, x = 0.6cm, y = 0.7cm]
   \filldraw [white] (0,0) -- (0,0);
   \begin{scope}[shift={(0, 0.5)}]
      \draw (-6, 4) -- (6.5, 4);
      \draw (-6, 4) -- (-6, 4.5);
      \draw (-3.5, 4) -- (-3.5, 4.5);
      \draw (-1, 4) -- (-1, 4.5);
      \draw (1.5, 4) -- (1.5, 4.5);
      \draw (4, 4) -- (4, 4.5);
      \draw (6.5, 4) -- (6.5, 4.5);
      \filldraw [black] (-4.75,4) circle (2pt);
      \filldraw [black] (-2.25,4) circle (2pt);
      \filldraw [black] (0.25, 4) circle (2pt);
      \filldraw [black] (2.75, 4) circle (2pt);
      \filldraw [black] (5.25, 4) circle (2pt);
      \draw[decorate, decoration={brace,amplitude=3pt}] (-6, 5) {} -- (-3.5, 5)
      node[midway, above = 0.2 cm] {$1$}
      node[midway, below= 0.65 cm] {$(1)$};
      \draw[decorate, decoration={brace,amplitude=3pt}] (-3.5, 5) {} -- (-1, 5)
      node[midway, above = 0.2 cm] {$2$}
```

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      node[midway, below= 0.65 cm] {$(1)$};
      \draw[decorate, decoration={brace,amplitude=3pt}] (-1, 5) {} -- (1.5, 5)
      node[midway, above = 0.2 cm] {$3$}
      node[midway, below= 0.65 cm] {$(1)$};
      \draw[decorate, decoration={brace,amplitude=3pt}] (1.5, 5) {} -- (4, 5)
      node[midway, above = 0.2 cm] {$4$}
      node[midway, below= 0.65 cm] {$(1)$};
      \draw[decorate, decoration={brace,amplitude=3pt}] (4, 5) {} -- (6.5, 5)
      node[midway, above = 0.2 cm] {$5$}
      node[midway, below= 0.65 cm] {$(1)$};
   \end{scope}
\end{tikzpicture}
&
\begin{tikzpicture}[line width=1pt,line cap=round, x = 0.6cm, y = 0.7cm]
   \filldraw [white] (0,0) -- (0,0);
   \begin{scope}[shift={(0, 0.5)}]
      \draw (-6, 4) -- (6.5, 4);
      \draw (-6, 4.0) -- (-6, 4.5);
      \draw (-3.57, 4.0) -- (-3.57, 4.5);
      \draw (-2.84, 4.0) -- (-2.84, 4.5);
      \draw (-2.19, 4.0) -- (-2.19, 4.5);
      \draw (2.72, 4.0) -- (2.72, 4.5);
      \draw (3.32, 4.0) -- (3.32, 4.5);
      \draw (4.04, 4.0) -- (4.04, 4.5);
      \draw (6.5, 4.0) -- (6.5, 4.5);
      \filldraw [black] (-4.75,4) circle (2pt);
      \filldraw [black] (-2.25,4) circle (2pt);
      \filldraw [black] (0.25, 4) circle (2pt);
      \filldraw [black] (2.75, 4) circle (2pt);
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    \filldraw [black] (5.25, 4) circle (2pt);
    \draw[decorate, decoration={brace,amplitude=3pt}] (-6, 5) {} -- (-3.57, 5)
    node[midway, above = 0.2 cm] {$1$}
    node[midway, below= 0.65 cm] {$(1)$};
    \draw[decorate, decoration={brace,amplitude=3pt}] (-3.57, 5) {} -- (-2.84, 5)
    node[midway, above = 0.2 cm] {$3$};
    %node[midway, below= 0.65 cm] {$(0.98)$};
    \draw[decorate, decoration={brace,amplitude=3pt}] (-2.84, 5) {} -- (-2.19, 5)
    node[midway, above = 0.2 cm] {$2$}
    node[near end, below= 0.65 cm] {$(1)$};
    \draw[decorate, decoration={brace,amplitude=3pt}] (-2.19, 5) {} -- (2.72, 5)
    node[midway, above = 0.2 cm] {$3$}
    node[midway, below= 0.65 cm] {$(1.145)$};
    \draw[decorate, decoration={brace,amplitude=3pt}] (2.72, 5) {} -- (3.32, 5)
    node[midway, above = 0.2 cm] {$4$}
    node[near start, below= 0.65 cm] {$(1)$};
    \draw[decorate, decoration={brace,amplitude=3pt}] (3.32, 5) {} -- (4.04, 5)
    node[midway, above = 0.2 cm] {$3$};
    \draw[decorate, decoration={brace,amplitude=3pt}] (4.04, 5) {} -- (6.5, 5)
    node[midway, above = 0.2 cm] {$5$}
    node[midway, below= 0.65 cm] {$(1)$};
  \end{scope}
\end{tikzpicture} \\
\vspace{-2cm}
\end{tabular}
\parbox[c]{17.5cm}{\scriptsize \textbf{Notes:} The figure presents the catchment areas, as defined in (\ref{eq: catchment}), for the one-dimensional case where 5 plants are located in a line. The left plot presents the case where all locations are equally productive, while the right plot presents a case where plant 3's location is more productive. Each dot in each plot corresponds to the location of a plant. Each number on parenthesis under each dot corresponds to the value for $b_o$ for that dot. The number
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above each brace indicates which plant serves that location, i.e. the catchment area of a particular plant.}

\end{center}

\end{figure}